The stock market reactions of the potential dismantling of the Dodd-Frank Act

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Master Thesis

This research examines the stock market reaction of large US-based financial firms to key events that suggest a potential dismantling of the Dodd-Frank Act. Using small and foreign financial institutions as control groups, I find that larger financial institutions respond positively to the key events suggesting that the investors have a positive attitude toward a possible rollback of the Dodd-Frank Act. The cross-sectional results present results that various firm-specific variables influence the magnitude of the cumulative average abnormal return. Surprisingly, size, leverage, and return on assets have a negative effect on the market reaction, while book-to-market has the opposite effect. In addition, the type of financial institution affects the magnitude of the market reaction. These results improve the understanding of the effectiveness of the Dodd-Frank Act and the consequences of deregulation of the financial sector as they indicate that investors react positively to these events thus indicates that the investors are pleased about the potential rollback of the Dodd-Frank Act.

Keywords: Dodd-Frank Act, Financial Institutions, Market Reaction, Event Study, Deregulation.

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1. Introduction

During his election campaign, Trump suggested that the financial overhaul of the Dodd-Frank Act went too far and made it impossible for the small and medium-size firms to get loans from banks (Goss, 2016). The Dodd-Frank Act was enacted by President Obama in 2010 as a response to the financial crisis, which was experienced as the worst crisis since the Great Depression. The Act promotes the financial stability of the United States by improving accountability and transparency in the financial system and to end 'Too-big-to-fail' (US Government, 2010a). An important component of the Act is that large banks and other large financial institutions are mandated to disclose a detailed plan that describes the measures taken in case the institution is in financial distress (US Government, 2010b).

As soon as Trump was elected as President and installed in the White House he began his quest for the deregulation of the financial sector. On February 3, 2017, he signed an executive order in which he orders the Treasury to examine a potential rollback of the Dodd-Frank Act (Associated Press, 2017). This event was the first step in the process of the potential dismantling of the Dodd-Frank Act as more measures were taken during 2017.

This research examines the stock market reaction around the five key events leading up to a potential dismantling of the Dodd-Frank Act and attempts to answer the following research question:

"How are the announcements of a potential rollback of the Dodd-Frank Act perceived by investors?"

To examine this relation, I make use of five key events that suggest a potential dismantling of the Dodd-Frank Act and analyse their market reactions. This study focuses on systemically important financial institutions as they are subjected to the Act with the aim to improve financial stability.

The dependent variable is cumulative average abnormal return measured by the market-adjusted return model in four separate event windows per event. In addition, a cross-sectional test is adopted to evaluate the effects of firm-specific characteristics on the market reactions. In order to validate the results, the non-parametric Wilcoxon signed rank test is applied.

The market reactions as a response to the potential rollback of the Dodd-Frank Act are interesting, as there are two possible outcomes that could arise. The announcements could be positively valued by shareholders as firms are able to relocate the funds that were previously used to draw up the living wills to engage in more profitable projects making the institutions more attractive for investors (Easterbrook & Fischel, 1984). In addition, it could be that the investors question the effectiveness of the Act and thus the living wills as a mean to end the too-big-to-fail and promoting the financial stability. Therefore they see the end of the Dodd-Frank Act as a positive improvement (Conti-Brown, 2012; Pakin, 2014; Carmassi & Herring, 2013).

On the other hand, these events could be valued as negative developments by the investors as less disclosure leads to more information asymmetry and less transparency regarding the risks that the financial institutions take (Verrecchia, 2001). These contradicting scenarios make this an interesting research.

Using small and foreign financial institutions as control groups, the results show that large financial institutions experience positive cumulative average abnormal returns during three out of five events. This indicates that the cumulative returns for the SIFIs and control groups significantly differ and that the investors of larger financial institutions value the events more positively. In general, these results imply that a rollback of the Dodd-Frank Act is appreciated and could enhance the financial performance for large financial institutions according to the investors. The results for the other two events have opposite outcomes for the small and foreign financial institutions. Compared to the smaller financial institutions the market reaction for the SIFIs is lower and therefore the cumulative average abnormal return negative. For the other group, these results are the opposite, where the market reaction of the foreign institutions is less than that of the SIFIs, which results in a positive return.

Overall, these results suggest that investors do find the Dodd-Frank Act effective and therefore respond positively to the key events that signify a potential rollback of the Act.

The results from the cross-sectional test provide more insights into the firm characteristics that affect the market reaction. The results reveal that an increase in size of the financial institution negatively impacts the cumulative average abnormal returns. This is contradictory to the results of Turk & Swicewood (2012) as they find that large banks responded positively to the enactment of the Dodd-Frank Act and hence more positively than their control group. For this research, the negative coefficient implies that the market reactions becomes smaller the larger the institutions become thus contradict previous literature.

It is interesting to see the effect the institution type has on the cumulative average abnormal returns. The results for the depository and insurance firms show a negative effect on the abnormal returns, which are significant for some event windows. For real estate firms, the results are inconclusive. In general, the results for the institution types display differences and thus the market responses differ among the various institution types.

Furthermore, the effect of the return on assets is not as expected. Despite that this variable is exclusively significant for the last event, overall the results indicate that an increase in the return on assets has a negative effect on the market reaction by lowering it. Prior studies showed that a higher return on asset percentage demonstrate a higher profitability and therefore positively influence the stock return (Pastor & Veronesi, 2003; Wahab, How, & Verhoeven, 2007).

In addition, the results of leverage are mixed. For two out of five events the results are significantly negative, implying that a higher leveraged firm is more risky, while for one event the results are positive. For the other events, the results are insignificant and therefore cannot be decisive for the overall effect leverage has on the market reaction. .

Moreover, firms that are riskier, and thus have more non-performing loans, experience a lower market reaction than less risky firms do. This corresponds with the current literature. Overall, these results show that the market is positive about the potential rollback of the Dodd-Frank Act although most of the firm-specific variables seem to have a (surprising) negative impact on the investors' reactions.

This study contributes to the existing literature on the Dodd-Frank Act. Previous research focused on the effects of the instalment of the Act. The results of those studies are mixed as some find that the instalment of the Act had a positive outcome and thus increased the financial stability (Turk & Swicewood, 2012; Akhidge et al., 2016; Balasubramnian & Cyree, 2014; Schäfer et al., 2016) while other find negative outcomes (Switzer & Sheahan-Lee, 2013; Dimitrov et al. 2015; Gao et al., 2018), suggesting that the Act did not create more financial stability and prevented banks from becoming too-big-to-fail. This study presents evidence that approximately seven years after the instalment investors respond positively to a possible rollback of the Dodd-Frank Act. This suggests that investors consider the Act not to be efficient and agree with President Trump that a rollback could improve the stability in the financial sector. This is the first research that examines this potential rollback.

In addition, the results contribute to the literature regarding the rollback of regulation or deregulation. This stream of literature is limited and noticed that the nature of the deregulation has a substantial influence on the results. This research shows that a potential rollback of the Dodd-Frank Act and thus deregulation of the financial industry is positively received by investors. These results indicate that a potential rollback could be desirable. Hence, this complements this literature on the effects of deregulation.

The rest of this paper is structured as follows. Section 2 presents a detailed overview of the existing literature that is connected to this research. In section 3 the hypothesis for this research is developed based on this literature. Section 4 describes the data and methodology that is used to examine the stock market reactions. Section 5 provides the results of the event study, cross-sectional test and Wilcoxon signed rank test as a robustness test. Finally, section 6 concludes the main results, gives the limitations of this research and outlines the recommendations for future research.

2. Literature review

The following section presents the literature review that is connecting to a broad range of literature regarding the Dodd-Frank Act, deregulation and mandatory disclosure. The existing literature provides assistance to define the gaps in the literature regarding the Dodd-Frank Act and deregulation that this research could examine.

2.1. Dodd-Frank Act and its consequences

The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act in short) was enacted by President Obama in 2010 as a response to the financial crisis, which was experiences to be the worst crisis since the Great Depression. The US Government states that "the Dodd-Frank Act promotes the financial stability of the United States by improving accountability and transparency in the financial system, end 'too-big-to-fail', to protect the American taxpayer by ending bailouts and to protect consumers from abusive financial services practices" (2010, p. 1).

The Dodd-Frank Act is an extensive act with a total of 845 pages including 225 new rules that involve eleven different agencies across the United States and is therefore one of the largest pieces of financial regulation since the 1930's (Acharya & Richardson, 2012). These rules cover among other things the identification and regulation of systematic risk, proposing and ending the too-big-to-fail, expanding the responsibilities and authority of the Federal Reserve and regulating the derivatives market making it more transparent (US Government, 2010c). For instance, it proposes that financial institutions should have more conservative capital requirements and that over-the-counter (OTC) derivatives and asset-backed securities should be executed through public exchanges. Furthermore, it requires a resolution plan, also known as a living will, from the systemically important financial institutions (hereafter SIFIs) regarding reorganization or liquidation in the event of financial distress, in order to prevent bailout from the government (Meyerowitz & Wharton, 2012). More information about the Living Wills is provided in section 1.2.

Previous research focused on the various effects of the implementation of the Dodd-Frank Act as it is far-reaching and impacts numerous institutions. Akhigbe et al. (2015) study the relation between risk and the enactment of the Dodd-Frank Act and find after the passage that the discretionary risk-taking of large financial institutions has decreased and that banks have increased capital ratios and reduced the level of non-performing loans. These results imply that the reduction of the risk in the financial system has decreased with the instalment of the Dodd-Frank Act and thus the Act has been proven to be effiecient.

Moreover, Balasubramnian and Cyree (2014) study the change in market discipline with the introduction of the Dodd-Frank Act and find evidence that the Act has been effective in reducing the size and too-big-to-fail discounts on the yield spread. Subsequently, the market discipline has improved and thus the market has become less risky for investors due to more disclosure of information. However, the discount for too-big-to-fail is not totally eliminated thus the Act did not completely have the desired effect.

Loon and Zong (2016) suggest with their evidence that as a result of the Dodd-Frank Act the liquidity of OTC derivative trade increased and that the trading costs decreased for certain types of OTC trades. Therefore these results indicate that the enactment of the Act has the desired result. Schäfer et al. (2016) investigated the reactions of stock returns, and the spread of credit default swaps to the Dodd-Frank regulatory reform in aftermath of the crisis in 2007-2009. Their evidence shows that the CDS spreads significantly increased while the equity prices decreased, with more pronounced effects for investment banks, systematic banks and, weaker banks. This outcome implies that there has been a reduction in bailout expectations and a lower profitability for banks after the instalment of the Dodd-Frank Act.

Concluding, these studies show that the implementation of the Dodd-Frank Act overall had the desired outcome and was able to increase the transparency and reduce risk in the financial systems through various channels. However, one paper found negative consequences regarding the implementation of the Dodd-Frank Act. Dimitrov et al. (2015) examined the corporate bond rating issued by credit rating services (CRAs) before and after the instalment of the Act. They expect to find that the CRAs provide more accurate and informative credit ratings after the passage of the Dodd-Frank Act. However, they find that CRAs issue lower ratings and give more false warnings making the credit ratings less informative. This suggests that CRAs

have become more protective of their reputation after the instalment of the Act as a result of increasing regulatory costs, making their ratings less useful for investors or regulators.

The focus of this research is the reaction of the perceived rollback of the Dodd-Frank Act, thus the change in shareholders' value. Hence it is relevant to examine the effect of the implementation of the Dodd-Frank Act on shareholders' value. The evidence from previous literature examining the relation between the passage of the Dodd-Frank Act in 2010 and shareholders' value is mixed. Turk and Swicegood (2012) find using an event study that the market showed positive reactions on nine out of twelve important dates in the process of the implementation of the Dodd-Frank Act and that only the large banks reacted to the passage of the Act, as they are most impacted by it. The milestones include the first proposal of the bill in 2009 and the passing of the bill in the House on June 30, 2010.

Gao et al. (2018) perform a similar study and find that financial institutions experience the opposite reaction as the Turk and Swicewood (2012) research for most events, which is an overall negative abnormal stock return following these important milestones. The difference in outcome could be due to a difference in the estimation of stock return or the difference in samples as Turk and Swicewood (2012) look at more specific at the two-digit SIC codes instead of the financial sector as a whole. Andriosopoulos et al. (2017) examine the equity reaction of U.S. financial firms around the key legislative events leading to the passage of the Dodd-Frank Act. They find significant negative results that are similar to the evidence of Gao et al. (2018) and some insignificant results that are comparable to the outcome of Turk and Swicegood (2012). The difference in the industry type is negligible in this research. More detailed results from the latter three pieces of research are displayed in Table 1.

With regards to the OTC markets, Switzer and Sheahan-Lee (2012) perform an event study with five important dates with regards to OTC regulation that is part of the Dodd-Frank Act. Their evidence proposes that the Dodd-Frank Act OTC regulation has a negative effect on bank shareholders for four out of five dates. This outcome is stronger for US-based banks than for financial banks outside of the US. Overall, the effect of the implementation of the Dodd-Frank Act on shareholders' value is inconclusive and is therefore interesting for further investigation, especially for the research of a potential rollback.

Table 1:
Overall stock market reactions to important events surrounding the passage of the Dodd-Frank Act from the research of Turk and Swicewood (2012), Gao et al. (2018) and Andriosopoulos et al. (2017)

Date	Description	Turk and Swicewood (2012)	Gao et al. (2018)	Andriosopoulos et al. (2017)
June 17, 2009	The Obama administration proposed a comprehensive financial regulatory reform plan, including a speech from President Obama	Positive***	Negative***	-
November 10, 2009	Senator Dodd introduced the regulatory reform bill to the Senate	Positive	Positive	-
December 2, 2009	Congressman Frank introduced a version of the proposed legislation in the House	Negative	Negative	Negative
December 11, 2009	The House passes its version of the bill	Negative	Positive***	Negative
January 20, 2010	President Obama endorsed the Volcker Rule	Positive***	Negative	-
March 15, 2010	Senator Dodd introduced a version of the proposed legislation in the House	Positive**	Positive	-
March 22, 2010	The Senate banking committee passed the financial regulation bill	Negative	Positive	-
April 15, 2010	Senator Lincoln proposed sweeping changes in the derivative market	Positive	Positive	-
May 20, 2010	The Senate passed its version of the bill	Positive	Negative	Negative
June 25, 2010	Conference committee reconciled the House and Senate versions of the bill	Positive***	Negative	Positive**
June 30, 2010	The final bill passed the House	Positive***	Negative	Negative
July 15, 2010	The final bill passed the Senate	Positive	Negative	Negative***
Overall		Positive	Negative	Negative

***, ** and * represent 1%, 5% and 10% significance levels.

2.2. Living Wills

As the Dodd-Frank Act is an extensive law it is too broad to study the effects of the Act as a whole in this research. An important section of the Dodd-Frank Act is the ending of the too-big-to-fail by establishing the livings wills. For these reasons, the rest of this study will exclusively investigate the mandatory disclosure in the form of living wills.

In the Dodd-Frank Act bank holding companies with a total consolidated assets of $50 billion or more and nonbank companies designated by the Financial Stability Oversight Council (FSOC) for supervision by the Federal Reserve need to periodically submit resolution plans to the Federal Reserve and the Federal Deposit Insurance Corporation (Board of Governors of the Federal Reserve System, 2017). These companies are also acknowledged as systemically important financial institutions or SIFIs. The resolution plans are called living wills and are a form of mandatory disclosure imposed by the US Government. Not adhering to the rules will result in (additional) sanctions from the government, such as more stringent capital, leverage or liquidity requirements, or even restrictions on growth or operations of the company until the resolution plan adheres to the standard (US Government, 2010c).

A living will contains a description of ownership structure, assets, liabilities and contractual obligations of the company, information about the approach taken to protect the firm from risk arising from activities of any nonbank subsidiaries of the company, identification of major counterparties and the process for determination to whom the collateral of the company is pledged (US Government, 2010c). The goal of these living wills is to mitigate risk to the financial stability of the United States and encourage last-resort planning, which will allow for an effective response in the event of an emergency (Cohen, 2011). It enables the firms to intervene in a timely fashion in order to prevent government bailout and becoming too-big-to-fail. The living wills are publicly available[1] so interested parties are able to use that information. For instance, investors could use the wills to gain more insight into the financial institutions and value their stock accordingly.

[1] On the website of the Board of Governors of the Federal Reserve System (https://www.federalreserve.gov/supervisionreg/resolution-plans-search.htm)

As mentioned earlier living wills are a form of mandatory disclosure and thus comes with both costs and benefits for the SIFIs that could potentially be harmful or profitable for firms and their shareholder value. Mandatory disclosure can be an approach to provide more transparency to the investors by making the firms provide at least the same minimum of information (Verrecchia, 2001; Healy & Palepu, 1999). As a result, the information asymmetry decreases and the risk of firms can be better estimated. In addition, mandatory disclosure might cause information to be reflected in the market prices more quickly or at fewer costs and thus increases market liquidity (Mahoney, 1995; Brown & Hillegeist, 2007). Thus more disclosure can lead to a higher firm value, lower cost of capital and as a response positive stock returns (Diamand & Verrecchia, 1991; Botosan, 2000; Greenstone et al., 2006).

However, extra mandatory disclosure rules pose additional costs on the firm as they have to exercise effort to draw up these disclosures with the preparation, certification, and dissemination of the accounting reports (Ribstein, 2005). These monetary resources could not be used elsewhere in the firm, for example, to engage in profitable projects, and therefore there is a possibility that growth opportunities could not be pursued. In addition, the litigation costs for the firms increase as there is an increased possibility that a firm is sued for not distributing the required disclosure (Botosan, 2000). Furthermore, there are indirect costs as a result of an increase in disclosure, such as the revelation of private information that is interesting for the competition (Healy & Palepu, 2001). These prospects may induce negative returns as these costs could create inefficiencies due to the increase of information as a result of more mandatory disclosure rules.

Besides the costs and benefits of mandatory disclosure researchers are critical about the effectiveness of the living wills. Several researchers question the effectiveness as it is virtually impossible to predict the future in order to construct a rescue plan for a firm when it is in financial distress and therefore do not adequately end the too-big-to-fail problem (Conti-Brown, 2012; Pakin, 2014; Carmassi & Herring, 2013). Freixas and Rocket (2013) even developed a model to regulate the too-big-to-fail SIFIs as a solution to the living wills, which incorporates systemic tax needed to cover the costs of future crisis and a systemic risk authority that is endowed with special resolution powers to be the supervisor. If investors share this opinion it could be that they value a dismantling of the Dodd-Frank Act as a positive matter.

2.3. Deregulation and shareholder value

The executive order President Trump signed to examine a potential rollback of the Dodd-Frank Act shows his desire to deregulate the banking industry, as he previously stated during his election campaign (McKendry, 2016). In his opinion, the financial overhaul of the Dodd-Frank Act went too far and made it impossible for small and medium businesses to get a loan from banks and that should change by rolling back the Dodd-Frank Act (Egen, 2017).

Deregulation in the banking industry has occurred in the past and researchers gratefully took the opportunity to examine the effects. Semaan and Drake (2011) examined the relation between deregulation and risk. For the financial industry, they observe that in case of four different deregulation incidents the systematic risk significantly declines while the idiosyncratic risk significantly increases in the short term. In a longer period of post-deregulation, they find that the total risk decreases. These results are consistent with the theory that firms in deregulated industries learn to adapt and deal with the increased competition (Winston, 1993).

Existing literature suggests that the deregulation of the banking industry could have both negative and positive consequences for shareholders value depending on the regulation that is altered. Millon-Cornett and Tehranian (1989) investigated a series of announcements leading up to the passage of the Depository Institutions Deregulation and Monetary Control Act of 1980 applying an event study methodology. This Act enabled banks to assign their own appropriate rate of interest on their demand and savings deposits and was a final step in the deregulation of the depository institution industry. They find that large commercial banks show positive abnormal returns while the stocks of small commercial banks and small saving and loans institutions show the opposite reaction with negative abnormal returns. Explanations for these results could be that large banks benefit to a larger extent from the increased competition or that the costs that smaller banks incurred with the reform are relatively higher according to Miller-Cornet and Tehranian (1989).

On the contrary, Carow and Heron (2002) find evidence that with the passage of The Financial Services Modernization Act in 1999 both small and large banks generate neither positive nor negative significant returns, but larger non-depository firms benefit from the new Act and show positive abnormal returns. The Financial Services Modernization Act replaced The

Banking Act of 1933[2] and gave the opportunity for bank and nonbank financial companies to consolidate. The potential gains for the non-depository firms could be greater than for the other institutional firms as there are more benefits from economies of scale or more market power after the instalment of the Act.

In a more recent study, Wagner et al. (2017) show that the abnormal return for the banking industry between the market close on November 8, the day before the election results were known, and the end of 2016 was positive. They suggest that this is due to the promise Trump made during the elections to deregulate the financial sector. Remarkably, the abnormal returns from election to year-end differ from the immediate response after the election as they are significantly lower, but still remain positive. Wagner et al. (2017) suggest two possible explanations for this weakening reaction. First, the attenuated return at year-end could be due to the overreaction of the market immediately after the election results. They valued the prospects for certain industries too optimistic. Second, they propose that the market assessment about the likelihood of future administration policies changed after the election or took more time for the information to be incorporated into the prices as the processing of this information was more difficult.

Concluding, these studies, that investigate the consequences of the deregulation of the banking industry on shareholders' value, show that the nature of the deregulation is important for the reaction from investors. Investors will respond more excessive if the deregulation affects the firms in which they invested in stocks.

[2] Also known as the Glass-Steagall Act

3. Hypothesis development

The previous section discussed three streams of literature: The Dodd-Frank Act, deregulation and the cost and benefits of mandatory disclosure and their consequences regarding shareholder value. This literature leads to the research question and hypothesis that is discussed in this section.

This research examines the stock market reaction in order to assess the market expectations regarding a potential rollback by analysing five key events and attempts to answer the following research question:

"How are the announcements of a potential rollback of the Dodd-Frank Act perceived by investors?"

There are two possible scenarios that could arise examination of the event events. The first scenario could be that the investors perceive these events that indicate a potential dismantling of the Dodd-Frank Act as a positive event and thus the stock price increases. Suppose that the Act is rolled back, firms do not have to incur the disclosure cost. These funds could be used to engage in profitable projects increasing the growth opportunities to which investors, in general, react positively to as it increases the firm's profitability. Furthermore, when the Dodd-Frank Act is rolled back the banks are able to take on more risk, which makes the shareholders more interested in the banks as more risk requires more return (Fama & MacBeth, 1973). As stated earlier, the research of Wagner et al. (2017) showed that the statement Trump made during the election to deregulate the financial sector possibly generated positive abnormal returns after he was elected as the 45th President, which implies that investors would react positively to the rollback of the Dodd-Frank Act.

However, investors could perceive the potential rollback as a negative development. The Dodd-Frank Act was originally enacted to prevent banks and other financial institutions from taking excessive amounts of risk and cause a new financial crisis. By abolishing Act and thus the living wills, the information asymmetry could increase and the investors have fewer insights into the risks that financial institutions take (Verrecchia, 2001). Diamond (1985) suggest that when there is a decrease in the level of disclosure the costs for investors to gather information will increase and uninformed investors could be driven out of the market making the market less

efficient. This results in stock prices revealing less of the new information (Bloomfield, 2002). As a result the stock returns could be negative due to the change.

As a result of these two scenarios and the mixed evidence on the market reaction on the instalment of the Dodd-Frank Act it is challenging to predict the outcome of this research. In addition, Trump has previously backed away from his promises making his announcements less reliable. For example, he vowed in his election program that he would break up the largest banks and restrict the power of Wall Street. After he was elected as President he turned the tables as he installed multiple Wall Street veterans in his administration (Borak, Trump gives banks (a lot of) what they want, 2017) and to date does not intend to break up these banks in the near future. Therefore his statements could be perceived as not credible and investors do not respond to it.

Taking these arguments into consideration this will lead to the following null hypothesis:

H_o*: The announcement of the potential rollback of the Dodd-Frank Act has no effect on the market reaction.*

The alternative hypotheses for this research would be that the announcement has either a positive or negative effect on the stock returns. In the case that the alternative hypothesis is accepted, I predict that the larger financial institutions will be affected more than the smaller financial firms, based on the results from Turk and Swicewood (2012) and on the ground that the SIFIs do not have to compose the living wills if the Dodd-Frank Act is rolled back.

4. Research Design

The following section gives a detailed explanation of the statistical methods and techniques used to answer the research questions. First of all, the key events for the event study are defined and the method for measuring the abnormal returns is explained, including the cross-sectional regression and the robustness test. Thereafter the data and a detailed sample selection are provided.

4.1. Key events

To examine a possible association between the events associated with the potential dismantling of the Dodd-Frank Act and the reaction of the investors a traditional event study is used. The first step in an event study is the identification of the event(s) of interest. In this study, there are five key events that could influence the SIFIs stock market reaction with regard to the potential rollback of the Dodd-Frank Act. These dates are stated in Table 1 and described in more detail below.

Table 2
Key event dates and description

Event date	Description
February 3, 2017	Trump signs an executive order in which he orders the Secretary of the Treasury to examine a potential rollback of the Dodd-Frank Act
April 21, 2017	Trump signs an executive order to investigate the FSOC processes
June 8, 2017	House passes legislation to erase core financial regulations included in the Dodd-Frank Act
June 12, 2017	The release of a report by the Treasury Secretary Steven Mnuchin as a response to the executive order on February 3, 2017, regarding banks and unions[3]
October 2, 2017	The release of a second report by Steven Mnuchin regarding possible regulatory changes concerning the capital markets[4]

[3] U.S. Department of the Treasury. (2017). *A Financial System That Creates Economic Opportunities: Banks and Credit Unions.* Washington DC: U.S. Department of the Treasury.

[4] U.S. Department of the Treasury. (2017). *A Financial System That Creates Economic Opportunities: Capital Markets.* Washington DC: U.S. Department of the Treasury.

During his election campaign, Trump vowed to deregulate this banking industry and abolish the Dodd-Frank Act. On February 3, 2017, he kept his election promise and signed an executive order in which he orders the Secretary of Treasury Steven Mnuchin to examine a potential rollback of the Act in order to comply with the Core Principle that he formulated. These principles include the prevention of taxpayer-funded bailouts, restore accountability within the Federal financial regulatory agencies and to foster economic growth and vibrant financial markets through more rigorous regulatory impact analysis (The White House, 2017). This is the first event in which Trump takes action in rolling back the Dodd-Frank Act. Therefore I predict that the reaction of this event will be somewhat stronger than the stock markets reactions of the other events based on the Gao et al. (2018) and Turk and Swicewood (2013) paper. They observed a significantly large reaction to the first announcement on the introduction of the Dodd-Frank Act while the reaction to the latter events was less pronounced and some even insignificant.

On April 21, 2017, Trump signed a second executive order concerning the Dodd-Frank Act in which he is more specific. He demands the Secretary of the Treasury Steven Mnuchin to examine the transparency and adequacy of the processes within the FSOC with regards to the determination of the SIFIs and the threats they could pose for the financial stability of the United States (The White House, 2017). In other words, this suggests that President Trump feels that the FSOC is not an efficient institution and that improvements can be made in order to align the Core Principles with the processes within the FSOC. As the FSOC is responsible for the determination of the SIFIs investors could react to this event as it creates uncertainty about this institution's future. Therefore it could have a negative impact on the investors' reaction.

The first step in the process to change the Dodd-Frank Act was on June 8, 2017, when the House approved of new legislation called the Financial Choice Act. The Financial Choice Act is able to erase a number of core financial regulations that the Dodd-Frank Act put in place (Rappeport, 2017). This Act would exempt certain financial institutions to meet capital and liquidity requirements that were set in the Dodd-Frank Act with the intent to limit risk-taking. In addition, it focuses on ending the too-big-to-fail, altering the content of the living wills and capital markets improvements (115th Congress, 2017). According to the Republicans, the Financial Choice Act is capable of creating a healthy economic growth, something the Dodd-Frank Act failed to accomplish in their eyes. However, the Democrats do not agree with these

arguments and see the new Act as a ticket back to the Stone Age, which will be a disaster to the American financial system (Borak, 2017). The next step for this legislation is to pass the Senate, which has not happened to this date.

A fourth important date for this research is the release of the report of Treasury Secretary Steven Mnuchin on June 12, 2017. The report is the outcome of the investigation Trump demanded with the executive order he signed in February 2017 and it suggests over 100 changes to the regulatory institutions to improve their efficiency and effectiveness. These changes include easing up restrictions for big banks, reduce the number of annual stress tests the banks have to undergo and expand the authority of the FSOC in order to achieve a more tailored regulatory approach (U.S. Department of the Treasury, 2017a). As this report proposed actual regulatory changes it gives a more realistic idea how Trump could change the Dodd-Frank Act in the future and makes the chance of actual rollback more likely. Therefore this will give investors more assurance about the future and is it likely that they will respond to the release of this report.

The last event that is relevant for this study is the release of a second report of the Secretary of Treasury on October 2, 2017, which focuses on possible changes that can be made on the capital markets. The objective is to strengthen the capital markets while maintaining high investors' protection by increasing the liquidity. In particular, the report suggests that the streamlining and tailoring of disclosure requirements is necessary in order to reduce costs for companies while providing the same amount of information investors need to make investments decisions (U.S. Department of the Treasury, 2017b). This could result in fewer disclosure costs for SIFIs while maintaining the same amount of disclosure and creating the ability to engage in profitable investments. If this is how the report is perceived by investors they will react in an appropriate manner that will result in a positive abnormal return.

In short, these five events directly target the livings wills and thus the SIFIs. Therefore it is interesting to see to what extent the investors react to these events in an abnormal fashion compared to the control groups.

4.2. Methodology

In section 4.1 the events that are relevant for this research are identified. The next step in the event study methodology is to determine the method that is able to measure the abnormal return following these key events. In this study the market-adjusted return approach is used. Furthermore, this section describes the dependent, independent and control variables that are used in the cross-sectional test. Finally, the Wilcoxon signed rank test is defined that is able to test the robustness of the results.

4.2.1. Event study

The event study methodology is widely used in various economic fields, such as finance and accounting. The purpose of an event study is to isolate the incremental impact of an event on security price performance (Khotari & Warner, 2007). The event study methodology is based on the theory of Fama (1970) regarding the efficient market hypothesis. In this hypothesis, Fama states that the price of a stock is the present value of all the accumulated future cash flows of a firm's stock and that this price will reflect all the possible information about the current and future profitability of a firm (Fama, 1970). Hence the changes in stock prices are seen as the changes in investors' perspective regarding the profitability of the companies they invest in. A positive change in stock price after an event, such as earnings announcements or policy changes, suggests that investors expect more profits in the future and value the stock appropriately. The opposite applies to negative stock price changes.

In order to execute the event study, the event window needs to be specified. The market reaction in this study is measured by four different event windows. The first window is the three-day cumulative market-adjusted return centred on the event date. Therefore the event window will be [-1, +1] with the date of the event being day 0. This is consistent with other research that examined the perceived reaction to a change in regulatory, strategy or announcements (Joos & Leung, 2013; Cox & Peterson, 1994; Armstrong et al., 2010). In addition, a second event window will be used to examine whether the market reaction changes in the days before and especially after the event. Therefore the event window [-3, +3] will be analysed. There is a possibility that there are similar reactions as in the study of Wagner et al. (2017) and that the

investors overreact in the [-1, +1] event window while their reaction weakens in the [-3, +3] window.

A third and fourth window include the five and ten days before and after the events and are included as a robustness check. These event windows are therefore [-5, +5] and [-10, +10]. When the abnormal returns coincide with the four windows the outcome is robust. In addition, these windows are helpful in providing an insight on how efficient the market is and how quickly (or slowly) investors respond to the events.

Subsequently, the abnormal stock returns[5] needs to be specified. For this research, the cumulative markets-adjusted returns are used. The daily market-adjusted returns are calculated as the daily return on a stock from a SIFI minus the return of the control group. Thus the market-adjusted or abnormal return for stock *i* on day *t* is defined as:

$$AR_{it} = R_{it} - R_{ct} \quad (1)$$

where R_{it} is the return of stock *i* on day *t* from a SIFI and R_{ct} is the return of the control group for day *t* (Callaghan, Kleiman, & Sahu, 1999) both scaled to their market share weights.

For this research, two control groups will be used to make the outcome more reliable and robust. The first control group consists of the financial institutions with consolidated assets less than $50 billion following the papers from Goa et al. (2018) and Turk and Swicewood (2012). By creating this control group firm size and industry are controlled for. Moreover, Turk & Swicegood (2012) found that larger banks are more affected than the smaller banks. For this reason, these smaller banks are taken into account within the control group. In addition, foreign banks will be used as a second control group as these institutions are not subjected to the Dodd-Frank Act regulation but have similar business activities as the SIFIs. Thus the firms in this control group are unlikely to be affected by a potential rollback of the Dodd-Frank Act and therefore form a suitable control group.

[5] Daily market-adjusted return and abnormal return are used interchangeably

After the market-adjusted return is determined the cumulative market-adjusted return can be calculated. The cumulative market-adjusted return is defined as:

$$CAR_{it} = \sum_{t-k}^{t+l} AR_{it} \quad (2)$$

where *k* and *l* are the number of days before and after the event day (Ritter, 1991). As the data consists of multiple firms the CARs are summed for each event window and the cumulative average abnormal returns are calculated (CAAR). This is defined with the following formula:

$$CAAR_t = \frac{1}{N} \sum_{i=1}^{N} CAR_{it} \quad (3)$$

The null hypothesis states that the cumulative average market-adjusted return is not significantly different from zero. This can be stated as follows:

$$H_0: CAAR_t = 0 \quad (4)$$

In order to test whether $CAAR_t$ is significantly different from zero, a t-test is conducted. In case the cumulative abnormal returns do differ significantly from zero it is possible to reject the null hypothesis. The t-statistic is defined as:

$$t_{caar} = \sqrt{N} * \frac{CAAR}{SD_{CAAR}} \quad (5)$$

As I do not specify a certain direction of CAAR the t-test is two-sided. In case the absolute value of the t-statistic is larger than 1,96 the abnormal return for that event window is significantly different from zero at the 5% level. This suggests that the market reaction for the SIFIs is different than the market reaction for NON-SIFI or foreign financial institutions. For a 1% significance level, the threshold is 2,58.

4.2.2. Cross-sectional test

In this study, a cross-sectional test is included that examines how the market reactions are related to firm characteristics and how the market views the potential rollback of the Act. The outcome of this cross-sectional test is relevant even when the cumulative abnormal returns do not differ from zero as it is possible to compare the abnormal returns with the firm characteristics in order to discriminate among various economics hypotheses (Khotari & Warner, 2007). The Predictive Validity Framework (the "Libby Boxes) is presented in the Appendix that summarizes the research approach.

There are following firm characteristics included in cross-sectional test:

$$CAAR = \beta_0 + \beta_1 * D(Depository) + \beta_2 * D(Insurance) + \beta_3 * D(Real\ Estate) + \beta_4 * D(Other) + \beta_5 * Solvency + \beta_6 * NPA + \beta_7 * Size + \beta_8 * Shareholder\ equity\ ratio + \varepsilon \quad (6)$$

These firm characteristics made an impact on the cumulative abnormal return in previous studies and are therefore included in this research. Below are more detailed descriptions of the dependent, independent and control variables, which are all continuous variables. Further details on the variable measurements and data sources are provided in the Appendix.

4.2.2.1. Dependent variable

The dependent variable in this study is the market reaction to the events identified in Table 2. This is calculated by the cumulative average abnormal stock return of financial firms following equation (3) in the four different event windows per event. Examining the abnormal stock returns provide insight into the stock market reaction as a result of (possible) changes to the Dodd-Frank Act and how investors interpret these changes.

4.2.2.2. Independent variable

There are various independent variables included in the cross-sectional test, including the type of institution, solvency, risk, size and shareholder equity ratio. In Table 14 in the Appendix, the exact calculation of each variable is provided. For all these variables, the book value at the end of 2016 [6] is used for the calculations of the ratios as these values are not affected by the activities during the events of Table 2.

The first variable is linked to the institution type. This study is limited to financial firms with SIC codes between 6000 and 6799. However, there are different kinds of financial institutions included within these SIC codes, such as depository institutions, insurance, real estate and security and commodity brokers. Akhigde et al. (2015) show that the type of financial institution has an impact on the magnitude of the abnormal stock reaction. Therefore these dummy variables are included representing these different types of institutions. D (depository) is one if

[6] For some firm the total assets at November 30, 2016, are used as they do not publish financial statements on December 31, 2016.

the two-digit SIC code is 60 and zero otherwise, D (Insurance) is one if the two-digit SIC code is 63 or 64 or zero otherwise and D (real estate) is one if the two-digit SIC code is 65 and zero otherwise. D (other) is onze if the two-digit SIC code is not 60, 63, 64 or 65 and thus represents the residual institutions.

The second independent variable that is included in the cross-sectional test is solvency, which is defined by total assets divided by total liabilities (Callao, Jose I, & Lainez, 2007). This ratio refers to the firm's capacity to meet its long-term financial commitments or possibility to repay their investments and thus is an indication of a firm's financial health. A high solvency ratio implies that the firm is healthy as the proportion assets to liabilities is (more) positive. The Dodd-Frank Act was primarily enacted to prevent firms to become too-big-to-fail and government bailout. As a result, the SIFIs were required to meet certain solvency standards (Dixon Hudges Advisory PLLC, 2010). With a potential rollback of the Dodd-Frank Act firms face fewer capital restrictions and a higher solvency ratio could have a positive effect on the cumulative abnormal return.

Following Akhidbe et al. (2015) non-performing loans are used as a proxy for risk by dividing the non-performing assets by total assets, are included as a third independent variable. A potential rollback of the Dodd-Frank Act could induce more risk-taking from the financial institutions and therefore attract more non-performing loans. Akhidbe et al. (2015) find with the enactment of the Dodd-Frank Act that the amount of non-performance loans has decreased and hence experienced a decline in their risk. With a possible rollback there are more possibilities for the interconnected firms to being at risk and thus it is expected to have the opposite effect on the cumulative market-adjusted return and thus decrease the cumulative abnormal returns.

In addition, size is taken into account as an independent variable. Both Gao et al. (2013) and Turk and Swicewood (2012) find that larger institutions are more affected by the enactment of the Dodd-Frank Act. Hence, I expect to find the same reaction to the events in this study as the potential rollback is most influential to larger institutions, which results in a positive coefficient. *Size* is measured as the decile ranks of a firm's total assets at the end on 2016.

Ultimately the variable shareholder equity ratio is incorporated as an independent variable. The shareholder equity ratio is defined as the common shareholders' equity, or the difference between total assets and total liabilities divided by the total assets (Gao et al., 2018). The Dodd-Frank Act put also more stringent standards on banks' capital in order to prevent

excessive risk-taking (US Government, 2010c). The potential rollback could imply that the shareholder equity ratio is able to increase due to the less stringent policies. Therefore the potential rollback could have a negative effect on the investors' perception and the cumulative abnormal return.

4.2.2.3. Control variables

It is important to isolate the effects of the perceived rollback and thus exclude the influences of other variables in order to evaluate the market reactions. Therefore the following control variables are included to mitigate for confounding effect: the book-to-market, return on assets and leverage.

The first control variable is the book-to-market because Fama and French (1992) documented that common stock returns are related to firm size and book-to-market ratios. In order to prevent confounding effects, the book-to-market ratio is included as a control variable following Goa et al. (2018). The book value of equity used if the value at the end of 2016. The book-to-market variable is used by investors to identify whether a firm is under- or overvalued by the market. This could be due to a high degree of information asymmetry. As the rollback could increase this information asymmetry, which will make more difficult for investors to value to firms appropriately and therefore the book-to-market will differ from one (Griffin & Lemmon, 2002).

In addition, a control variable that proxies for profitability is included. Firms that are profitable could benefit from a potential rollback of the Dodd-Frank Act as the possibility arises to allocate more monetary resources in order to increase the profitability even further. Therefore the return on assets (ROA) will be included, calculated as the net income before taxes divided by the total assets at the end of 2016, following Dimitrov et al.(2015). As higher profitability increases the stock return I expect that return on assets has a positive effect on the market reaction (Pastor & Veronesi, 2003; Wahab, How, & Verhoeven, 2007).

As third control variable leverage is included, calculated as total debt divided by total equity (Penman, Richardson, & Tuna, 2007). The Dodd-Frank Act requires that bank holdings with at least $50 billion in assets maintain a leverage ratio of no more than 1 to 15 otherwise they will be considered a threat to the financial stability (Acharya & Richardson, 2012). Firms with less leverage are expected to have poorer information environment (Joos & Leung, 2013). If

investors expect that a potential rollback of the Dodd-Frank Act could increase the leverage ratio the stock would become riskier for the investor and thus you could expect that this has a negative outcome for the firm. Demirguc-Kunt et al. (2013) find that firms with more leverage have higher stock returns. Therefore these studies show that there is a connection between leverage and shareholders' returns but they differ in sign.

4.2.3. Robustness tests

To verify the reliability of this research several robustness measures are included. The first measure for robust results is the inclusion of two different control groups. These control groups are likely to be unaffected by the events in this study and therefore give confirmation about the market reaction of the SIFIs. In addition, the four different time windows in the event study is a form of robustness. These event windows should coincide if the study is robust and thus makes the outcome more reliable and precise.

Moreover, the Wilcoxon signed rank test is a nonparametric test and is used to check the robustness of the parametric t-test. The method of this test is described below in more detail.

4.2.3.1. Wilcoxon signed rank test

The Wilcoxon signed rank test is a non-parametric test that relies on the assumption that the abnormal returns have a symmetric distribution with the mean and median being equal and considers both the sign and the magnitude of abnormal returns (Gibbons, 1999). This is in contrast with the majority of the parametric tests applied in event studies. These studies rely on the assumption that returns are normally distributed while it is proven that this is not the case. Therefore this test is used to confirm the t-test statistics that test whether the abnormal returns significantly differ from zero.

The Wilcoxon signed rank test starts with the calculation of the difference between the median, in this case, assumed to be zero, and the cumulative abnormal returns and transforms the outcomes to an absolute value. The (absolute) differences of zero are excluded from the rest of the test. Thereafter the values are ranked from smallest absolute difference to largest absolute difference. In the final step, each rank is given a + or – depending on whether the difference in the first step is positive or negative. The ranks that originally have a positive difference are

called positive ranks and ranks from originally negative differences are negative ranks. These negative and positive ranks are used to test the null hypothesis with the following equation:

$$W^{+}{}_{t} = \sum_{i=t}^{N} rank\ (CAR_{it})^{+} \quad or\ W^{-}{}_{t} = \sum_{i=t}^{N} rank\ (CAR_{it})^{-} \tag{7}$$

where W^{+} is the sum of the positive ranks and W^{-} is the sum of the negative ranks.
Under the null hypothesis, it is expected that W^{+} is equal to W^{-} (Wilcoxon, 1945). The t-statistics is the difference between W^{+} and W^{-}. If the absolute value of this difference is larger than 1,96 the test is rejected and the positive and negative ranks differ from each other. If t-statistic of this test and the parametric test are similar the outcome is robust and therefore more reliable to interpret.

4.3. Data

This research examines the stock market reaction following the specified events of the systemically important financial institutions. The data necessary for this research are available in the databases within the Wharton Research Data Services (WRDS) system. This database contains sources of financial, accounting, economic, banking and insurance data.

The stock prices are retrieved from the CRSP database within WRDS, which are quarterly data. The closing stock prices are transformed to stock returns for the SIFIs and the control groups. Thereafter the stock returns are used to calculate the abnormal returns as specified in equation (1). This research makes use of cumulative market-adjusted return and does not need an estimation period. Therefore I will use the data between January 20, 2017, and October 17, 2017, with weekends and holidays not included as trading days. Table 3 displays the necessary data for each event for all four events windows.

Table 3
Data for separate events

Event date	Event window			
	[-1, +1]	**[-3, +3]**	**[-5, +5]**	**[-10, +10]**
February 3, 2017	February 2 – February 6, 2017	January 31 – February 8, 2017	January 27 – February 10, 2017	January 20 – February 17, 2017
April 21, 2017	April 20 – April 24, 2017	April 18 – April 26, 2017	April 13 – April 28, 2017	April 6 – May 5, 207
June 8, 2017	June 7 – June 9, 2017	June 5 – June 13, 2017	June 1 - June 15, 2017	May 24 – June 22, 2017
June 12, 2017	June 9 – June 13, 2017	June 7 – June 15, 2017	5 June – 19 June, 2017	May 26 – June 26, 2017
October 2, 2017	September 29 – October 3, 2017	September 27 – October 5, 2017	September 25 – October 9, 2017	September 18 – October 16, 2017

It is important to isolate the event that is paramount for this research to prevent biases due to confounding effects. Since Trump was sworn in as the President of the United States on January 20, 2017, he already signed seven executive orders before he signed the order to review the Dodd-Frank Act (Federal Register, n.d.). For that reason, there could be a chance that the market reaction to one of these other executive orders becomes a confounding effect on the first event. This could happen also for the events on June 8 and June 12, 2017, as their events windows are overlapping. However, the event window for this research is too narrow to exclude observations that overlap with other events as Socescu, Warren & Ertekin (2017) suggest. As a result, I have to interpret the results carefully.

The independent and control variables that are defined in the cross-sectional test are collected from the Compustat database through WRDS. The Compustat North America database contains Balance Sheet, Income Statement, Statement of Cash Flows and supplemental data items. As the Balance Sheet numbers differ throughout the year the amounts that are used in this study are from 30 November or 31 December 2016[7]. These amounts are likely to be unaffected by the events in this study and therefore give an unbiased result. Thus, this sample contains financial statement data between November 30, 2016 and December 31, 2016. Table 14 in the Appendix provides more detailed information on the items used to calculate the variables used in this research.

[7] It depends on which was the last disclosure of the year.

The full merged sample consists of 835 financial firms, including 88 SIFIs. Their summary statistics are shown in Table 4. Overall, the SIFI firms have on average more assets, common equity, liabilities, depreciation and non-performing assets compared to the full sample.

Table 4:
Summary statistics
Panel A: Full sample

	N	25th Percentile	Mean	Median	75th Percentile	Standard deviation
Assets	835	1192	53,040	3,656	11,439	233,066
Common equity	835	191	4,966	711	2,449	18,591
Liabilities	835	850	47,279	2,446	8,453	213,776
Depreciation	835	0	26	0	4	127
Non-performing assets	835	0	180	0	13	1,740

Note: all amounts are displayed in millions.

Panel B: SIFI institutions

	N	25th Percentile	Mean	Median	75th Percentile	Standard deviation
Assets	88	87,313	450,504	179,367	539,359	584,379
Common equity	88	11,153	36,071	20,020	42,764	46,794
Liabilities	88	72,987	408,103	159,673	487,494	538,947
Depreciation	88	0	201	52	256	341
Non-performing assets	88	0	1,553	0	642	5,183

Note: all amounts are displayed in millions.

4.4. Sample selection

As mentioned before, the firms that have to comply with the Dodd-Frank Act regarding the living will are bank holding companies with total consolidated assets of $50 billion or more and nonbank companies designated by the Financial Stability Oversight Council (FSOC) after 2008 (Board of Governors of the Federal Reserve System , 2017). The firms that are included in the sample have SIC codes between 6000 and 6799 and have combined assets of $50 billion or more at the end of 2016. These SIC codes represent all the financial industries,

As mentioned before, in order to isolate the confounding effects for the events there are two control groups for this analysis. The first control group exists of US-based financial firms with less than $50 billion in consolidated assets. This group is not subjected to the mandatory disclosure of living wills and therefore are therefore expected to not react to the key events. The

second control group consists of foreign banks and financial institutions. As these banks are not directly subjected to the American legislation but have similar business activities these companies are unlikely to be affected by the events and therefore this group does not respond to the events.

The firms included in the sample that do not have the required price and financial statement data to calculate the (in)dependent and/or control variables will be excluded from the sample. To mitigate the effect of firm-specific confounding news, firms that have (reversed) stock splits or other major firm-specific news overlapping the event window will be excluded from the sample. As a result, eleven firms are excluded from this study.

In addition, to prevent the outlier to influence the results the independent and control variables in the cross-sectional test are winsorized at 1% and 99%.

5. Results

This section presents an overview of the results of the empirical analysis. The first section examines the cumulative average abnormal returns (hereafter CAAR) for the five events and their corresponding event windows and tests whether these CAARs differ from zero. The second section presents the descriptive statistics and the results from the cross-sectional tests to see which firm characteristics significantly influence the magnitude of the different CAARs. Finally, the third section provides the outcome of the robustness test on the results by using the Wilcoxon signed rank test.

5.1. Main results event study

This study examines whether the SIFIs react more strongly to the events that could potentially indicate a rollback of the Dodd-Frank Act than other financial institutions. As this research makes use of the market-adjusted return model there are two different indices incorporated in order to verify the magnitude of the stock market reaction: US-based financial institutions that have consolidated assets of less than $50 billion and foreign financial institutions. The results of this event study are displayed in Table 5. The table gives information about the cumulative average abnormal return for all four event windows. In the first column, the cumulative average abnormal return from the SIFI minus NON-SIFI is presented. In the second column, CAARs from the SIFI minus foreign financial institutions are presented. As the results differ per event these are separately analysed below.

5.1.1. Event 1: February 3, 2017

The first event relevant to this research is the signing of the executive order on February 3, 2017, by President Trump ordering an examination investigating the possibilities of dismantling the Dodd-Frank Act. The results shown in Table 5, indicate the market reaction of SIFIs is more positive, approximately +0,20%, than the market reaction of the control groups resulting in a CAAR is positive for all event windows. However, the CAAR is exclusively significant for the [-10, +10] event window with +1,47%. This suggests that solely for this event window the reaction of the SIFI investors significantly differs from those of the NON-SIFI investors and that they value this event to have positive effects for the SIFIs. In addition, that the CAAR is merely

significant in the last event window could imply that it takes some time for the investors to incorporate the effects of the executive order into the stock price.

The results in the second column, that presents the difference between the SIFIs and foreign financial institutions, are similar to the results in the first column. However, the CAARs are higher and significant for all the event windows, which implies that the SIFIs investors reacted significantly stronger than those of the foreign institutions did. This outcome is in accordance with the expectations that the foreign institutions would respond different to this event as they are not subjected to the same legislation as the SIFIs and therefore do not, or to a lesser extent, respond to the examination that is ordered. The positive CAAR of this event indicates that investors see this executive order and thus a potential rollback as an intervention that could be beneficial for the SIFIs.

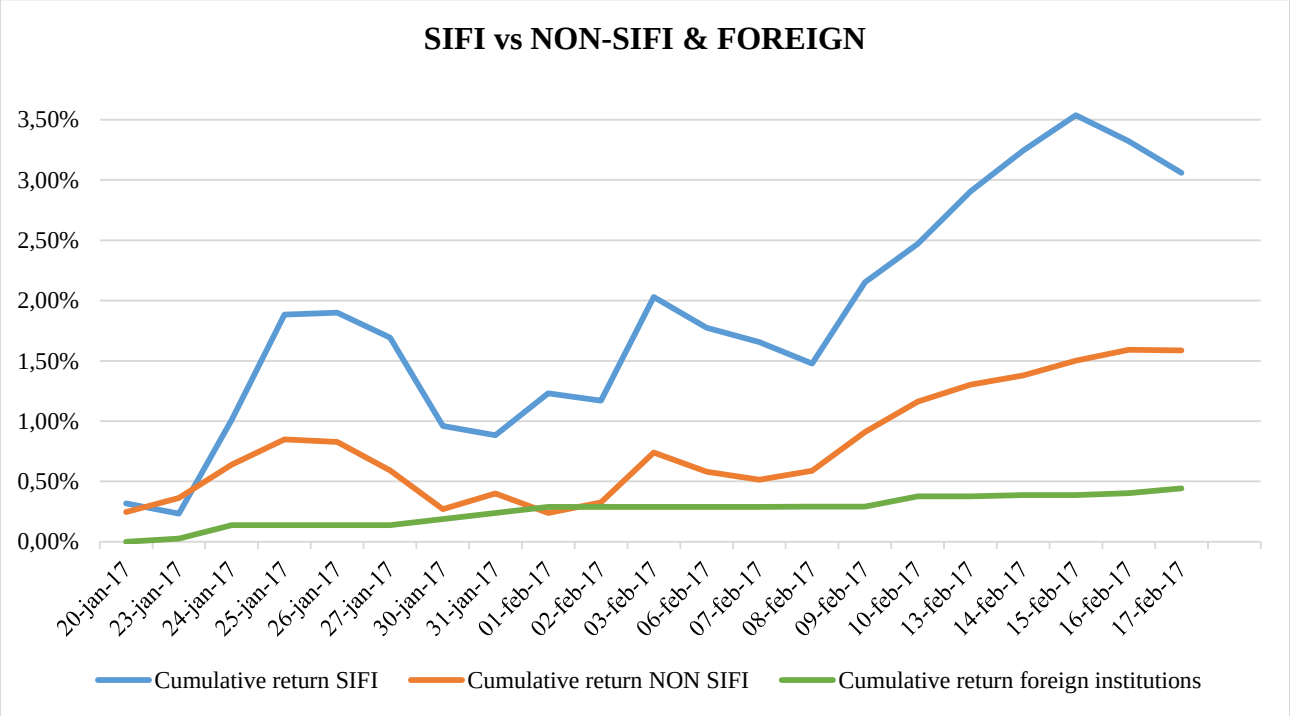

Figure 1: The development of the cumulative average abnormal returns (CAAR) for the first event

It is interesting to see the development of the CAAR to gain a better understanding of the results in Table 5. Figure 1 shows this development for the first event. On the event date, February 3, 2017, there is a peak visible in the cumulative return for the SIFIs and NON-SIFIs. This indicates that the US-based investors immediately react to the executive order. However, this peak is smaller than the peak starting on January 23, 2017. This latter peak and the peak between

February 8 and February 15, 2017 cause the CAAR [-10, +10] window to be significant. However, these events are not included in this research and become confounding to this study. Therefore this event window is less informative about the investors' reaction surrounding the event date than the [-1, +1] and [-3, +3] event windows. Overall, the CAAR of this event is between +0,2% and +0,5% depending on the control group.

In this figure is also visible that the CAAR from the SIFI minus NON-SIFI is lower than the CAAR from the SIFI minus the foreign financial institutions. This explains why the CAAR in the second column of Table 5 is higher than that of column one and why they all are significant.

5.1.2. Event 2: April 21, 2017

During the second event, President Trump signed a second executive order, this time ordering an investigation that screens the FSOC processes. For both groups, the results are similar as the CAAR is positive and significant for all the event windows and thus indicating that the market reaction of SIFI investors differs from those of the other investors. These positive reactions suggest that the investors acknowledge the examination regarding the FSOC processes as mean to improve the financial health of the SIFIs as the FSOC is responsible for the determination of SIFIs and evaluate the threats they pose to the financial stability of the United States. By examining their processes, these processes could be enhanced in order to improve the financial stability in the country.

These results have the same sign compared to the first event although the CAARs are larger in magnitude. This implies that the investors that invest in SIFIs respond more positively to this executive order than they did to the first order. A potential reason for this stronger reaction could be that the investors realize that the rollback is becoming more likely than previously is considered and that they see the positive aspect(s) to rolling back the Dodd-Frank Act. This is contradicting with the results of Goa et al. (2018) and Turk & Swicewood (2012) that suggest that the market reaction of the first event is generally higher than the other events.

Figure 2 displays the development of the cumulative average abnormal returns of the SIFIs, NON-SIFIs, and the foreign financial institutions of the second event. On April 21, 2017, there is a substantial spike in the cumulative return of the SIFI, which is probably a reaction to the executive order. The NON-SIFI stocks respond little to the event thus the difference between the SIFI and NON-SIFI cumulative returns increases, which explains the significant results for the events windows. The increase after April 21, 2017, sustains for the SIFIs while the increase for the NON-SIFIs evaporates.

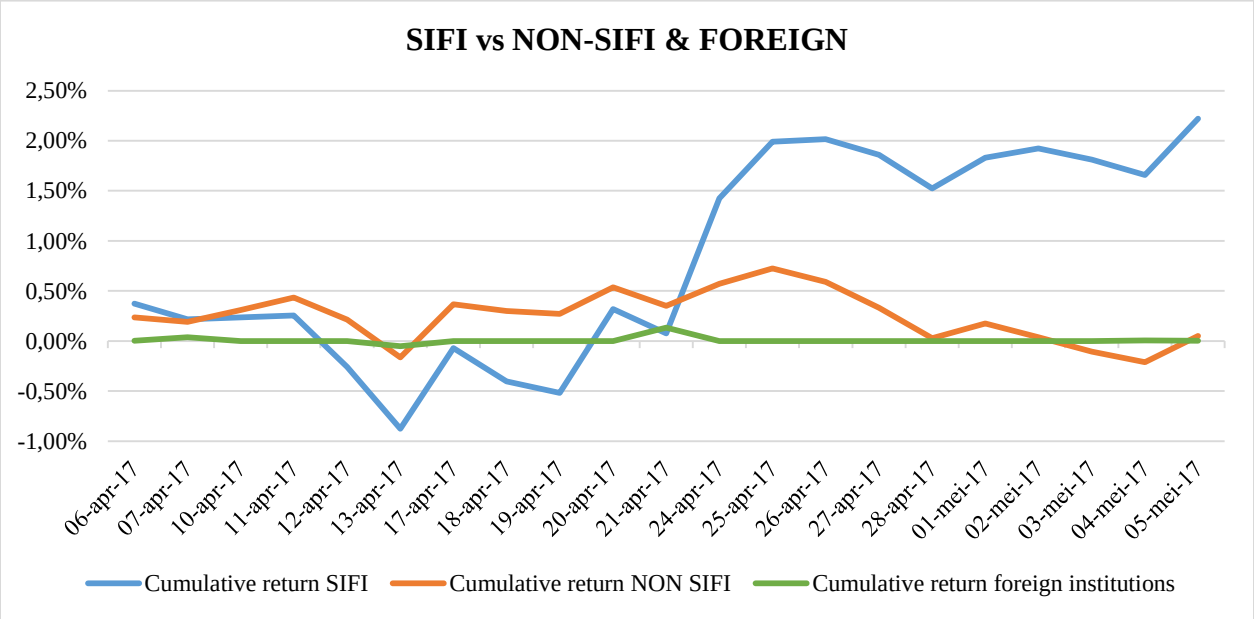

Figure 2: The development of the cumulative average abnormal returns (CAAR) for the second event

Similar to the first event, the foreign stocks do not substantially respond to the event. There is a small increase in their cumulative returns, but this is minimal compared to the increase the SIFIs experiences. This difference results in the highly significant CAARs.

These results indicate that SIFIs respond differently than the control groups, in a positive way. This implies that the investors are positive about the potential rollback.

Table 5:
Cumulative average abnormal returns

	(1) SIFI minus NON-SIFI		(2) SIFI minus Foreign	
	CAAR	T-statistic	CAAR	T-statistic
Event 1: February 3, 2017				
[-1,+1]	+0,20%	1,56	+0,53%***	4,15
[-3,+3]	+0,20%	0,97	+0,51%**	2,53
[-5,+5]	+0,24%	0,95	+0,56%**	2,30
[-10,+10]	+1,47%***	4,04	+2,70%***	7,63
Event 2: April 21, 2017				
[-1,+1]	+1,65%***	10,01	+1,91%***	11,74
[-3,+3]	+1,87%***	8,16	+1,99%***	8,91
[-5,+5]	+1,97%***	7,22	+1,66%***	6,27
[-10,+10]	+2,17%***	6,64	+1,94%***	6,33
Event 3: June 8, 2017				
[-1,+1]	-0,10%	-0,63	+0,84%***	5,19
[-3,+3]	-0,00%	-0,02	+0,86%***	4,47
[-5,+5]	-0,51%**	-2,02	+0,83%***	3,39
[-10,+10]	-1,32%***	-3,13	-0,49%	-1,19
Event 4: June 12, 2017				
[-1,+1]	-0,01%	-0,06	+0,73%***	4,31
[-3,+3]	-0,75%***	-3,11	+0,44%*	1,86
[-5,+5]	-0,36%	-1,51	+0,54%**	2,35
[-10,+10]	-0,83%***	-2,58	+0,03%	0,09
Event 5: October 2, 2017				
[-1,+1]	+0,52%***	3,51	+0,80%***	5,39
[-3,+3]	+1,23%***	5,17	+1,81%***	7,75
[-5,+5]	+0,83%***	3,71	+1,43%***	6,61
[-10,+10]	+1,59%***	4,91	+2,42%***	7,85

The test is a 2 sided test. Therefore the significance levels are for 10% 1,65, 5% 1,96 and 1% 2,58. *, ** and *** represent 10%, 5% and 1% significance level

5.1.3. Event 3: June 8, 2017

On June 8, 2017, legislation in the House has passed that is able to erase core financial regulations included in the Dodd-Frank Act, called the Financial Choice Act. One of the consequences of this Financial Choice Act is to repeal the authority of the FSOC to designate firms as SIFIs in order to end too-big-to-fail (U.S. House of Representatives: Financial Service Committee, 2017).

The results for this event differ compared to the previous two events as the sign of the CAAR for the event windows between the two groups differ. For the first column, the CAAR is -0,10% and insignificant in the first event window while the CAAR is +0,84% and significant at a 1% significance level for the second column. These differences exist for all four event windows. These results suggests that the investors that invest in NON-SIFIs respond more positively to the passing of the legislation than those who invest in SIFIs while the opposite is happening with the foreign institutions. This reaction is visible in Figure 3.

A reason for the difference in reaction could be the effect the new legislation has on the SIFIs and NON-SIFIs. The removal of core financial regulation could be perceived as more valuable for the smaller financial companies than for the larger financial institutions and therefore the investors respond more positively to this news. However, Financial Choice Act is mainly focused on preventing too-big-to-fail among the SIFIs. In addition, during the second event, the SIFI stocks responded more strongly to the announcement of the examination of the FSOC. Taking these two situations into account it would make sense to find the opposite response as presented in Table 5.

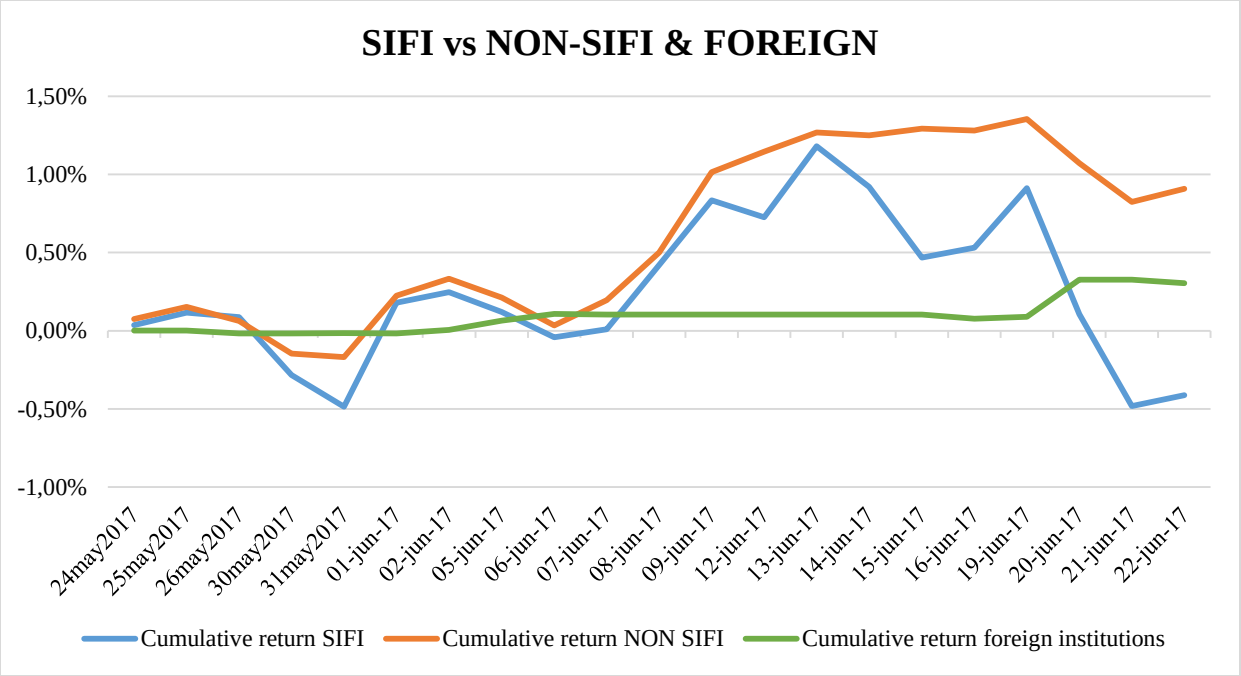

Figure 3: The development of the cumulative average abnormal returns (CAAR) for the third event

Figure 3 presents the development of the cumulative abnormal returns before, during and after the event date. At the beginning of the period, the cumulative returns of all groups are close to each other and start to disperse as of May 30, 2017. On the event date, June 8, 2017, both the cumulative returns of the SIFIs and NON-SIFIs experience an equivalent increase. Because the foreign institutions do not encounter this increase the difference between those returns and the returns of the SIFIs magnifies resulting in higher CAARs. In addition, this figure it is clearly visible where the CAAR from the SIFIs and foreign institutions transitions from a positive CAAR into a negative CAAR for the last event window.

In the last event window, ten days before the event and ten days after the event, the CAAR for the NON-SIFIs is significantly negative. Therefore there is evidence that the returns of the SIFIs respond differently to the event than those of the NON-SIFIs. Remarkable is the rapid decline of the cumulative returns for the SIFIs between June 19 and June 21. As a result, the difference between the SIFIs and NON-SIFIs grows resulting in a significant CAAR of -1,32%. Since the event on June 19, 2017, is outside the scope and transforms the CAAR in the event window [-10, +10] this event window does not provide an accurate representation of the reaction to the event on June 8, 2017, making this result less reliable. Therefore the rest of this paper will not focus on the rest of the results in this event window.

For the foreign financial companies, the CAAR in the [-10, +10] window is negative, but not significant. Thus it is not possible to conclude that their returns react differently than those of the SIFIs. This is interesting because although they are not subjected directly to this legislation they could be impacted by it through their business with US-based banks. The banks in the US could have more possibilities to more business with foreign banks in the future as the new rule deregulates the banking business.

5.1.4. Event 4: June 12, 2017

The reactions to the release of a report by the Treasury Secretary as a response on the executive order on February 3, 2017, regarding banks and unions are comparable to the result of event three as the CAAR from the first group is negative for all four event windows while the CAAR for the foreign institutions is positive in each event window. This indicates that the content of this report triggers (unexpected) reactions. A visual representation of the development of the CAAR is presented in Figure 4, as it shows the development of the cumulative average abnormal returns for the event on June 12, 2017.

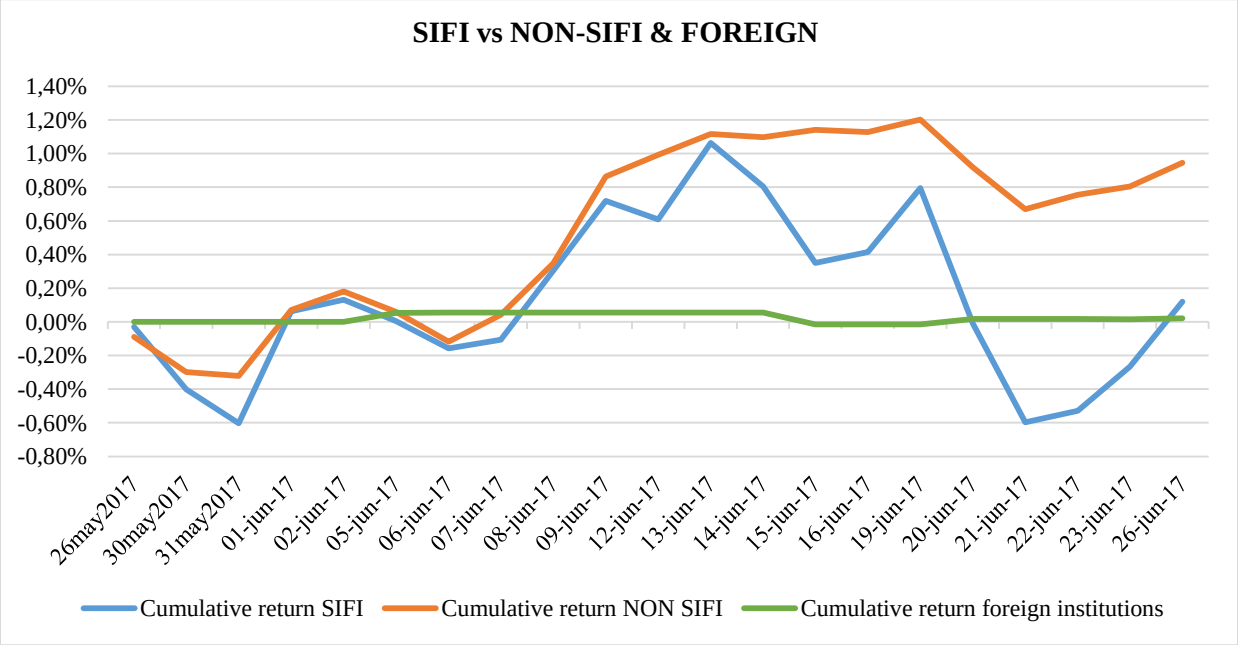

Figure 4: The development of the cumulative average abnormal returns (CAAR) for the fourth event

The sharp increase on June 8, 2017 is due probably to the passing of new legislation discussed in the previous event. On the event date, there is a similar increase in the cumulative return for both SIFI and NON-SIFI stock, although the increase is sharper for the SIFI institutions. The increase

does not persevere and the following day the returns for the SIFIs decrease while the returns of NON-SIFI firms stays constant. This decline results in the negative CAAR for the [-1, +1] and [-3, +3] window.

In addition, same as in Figure 3, there is a considerable decrease in the cumulative return for the SIFI starting on June 19, 2017, and recovering after June 21, 2017. After June 21, 2017, the SIFIs cumulative return increases, which compensates the previous decline and provide a smaller and more reliable outcome than the [-10, +10] window from event three.

The significant negative CAARs in event window [-3, +3] and [-10, +10] for the first column imply that the release of the report has more consequences for the NON-SIFI companies compared to the SIFI companies. This is probably due to the content of the report and the impact these new proposed regulations have on the firms. As the foreign institutions are not subjected to these possible rules there is not a real response visible. This is as expected.

5.1.5. Event 5: October 2, 2017

The last event relevant to this research is the release of a second report by Steven Mnuchin regarding possible regulatory changes concerning the capital markets. The results are similar for the two groups as they are significantly positive for all event windows. This indicates that the investors in SIFI firms value the content of the report more positively than those of NON-SIFI firms or foreign banks. A reaction that could be due to the number of changes that are proposed in the report that are more favourable to SIFI and therefore increase their cumulative returns. The foreign companies in this sample are, again, not subjected to the American regulation and therefore barely respond to the release of this report. The progress of the cumulative returns is displayed in Figure 5.

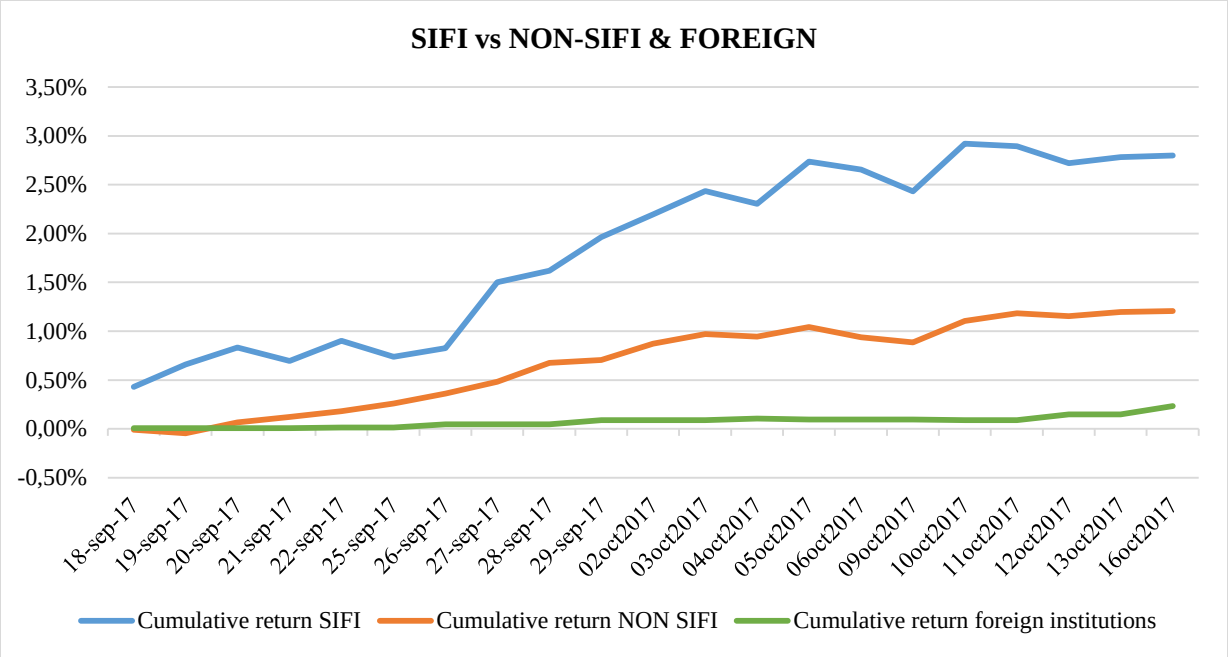

Figure 5: The development of the cumulative average abnormal returns (CAAR) for the fifth event

Figure 5 presents the cumulative average abnormal returns for the fifth event. Unlike the other events, for this event, the returns steadily increase for all three groups. The difference between the indices and the SIFI returns is mainly due to steeper increase throughout the whole period and spike on September 26, 2017. These results suggest that it takes time for the investors to incorporate the new information in the stock price.

5.1.6. Summary

Overall, the results of this event study suggest that the CAARs from both groups are significant for all the events. For event one, two and five the CAARs are significantly positive implying that the events are valued more positively for the SIFIs than for the NON-SIFIs or foreign financial institutions by the market. The other two events attain results are significant, however, the sign depends on the control group that is used as an index. When the NON-SIFIs are used as the control group the CAARs are negative and for the foreign institutions the results are positive.

Due to events that occurred during the event windows, but are not part of this research, some event windows do not give a representative perception of the cumulative returns. Therefore their results are less reliable.

With these results, the null hypothesis can be rejected and concluded that the events trigger a different market reaction from the investors who invest in SIFIs compared to investors who invest in NON-SIFI institutions or foreign financial institutions to the potential dismantling of the Dodd-Frank Act. This evidence implies that the potential rollback of the Act is perceived as valuable for the SIFIs as the positive stock returns reveal an increase in the firm's profitability from an investor's perspective. These results are in line with the results from Wagner et al. (2017) that showed that the deregulation plan Trump announced in his election program received positive market reactions. The next step is to examine the results of the cross-sectional test in order to examine which variables influence the level of the CAARs.

5.2. Results cross-sectional test

In this part, the results of the cross-sectional test are analysed. First, the descriptive statistics and correlation are discussed. Thereafter a regression analysis is executed and interpreted in order to explain the market reaction of each event by the different firm characteristics. The dependent variable for each regression is the CAAR of the corresponding event window. The list of the various independent and control variables can be found in section 4 or Table 13 in the Appendix.

5.2.1. Descriptive statistics

Table 6 shows the mean, standard deviation, median, 25^{th} and 75^{th} percentile for the full sample and the subsample that exclusively contains the SIFIs. Panel A shows the summary statistics for the total sample consisting of 835 firms, of which are 88 institutions with total assets over $50 billion and 747 other financial institutions. Panel B shows the summary statistics of the subset containing the 88 SIFI firms, the institutions with total assets worth more than $50 billion.

The average book-to-market (BTM) for the full sample is 1,85 while the average BTM for the SIFI sample is 1,38. Investors could interpret this as the SIFIs being less overvalued than the total sample. As expected, the average leverage ratio for the SIFI institutions is with 10,43 higher than that of the full sample (5,93) due to the stringent capital requirements the SIFIs have to comply with. The non-performing loans (NPA), measured as the non-performing assets divided by the total assets, and the return-on-assets (ROA) are comparable across the samples. On average, the full sample has a higher shareholder equity ratio (24,2%) compared to the

subsample (11,1%). This suggests that the total sample has more equity in proportion to assets than the SIFI sample. The variable SIZE is considerably larger for the SIFI sample compared to the full sample, which makes sense. The subsample consists exclusively of SIFIs and therefore these companies have at least $50 billion in total assets. The solvency for the full sample is higher compared to the SIFI sample.

The correlation matrix including the independent and control variables for the total sample is displayed in Table 7. Note that this correlation matrix does not imply causation. ROA is positively correlated with the solvency, which implies that these two variables change in the same direction. Previous studies have confirmed this positive relation as it is consistent with the idea that when the solvency of a firm increases their ability to meet long-term financial obligation increases and thus more room for profits and vice versa (Molyneux & Thornton, 1992; Rime, 2001). The positive correlation with ROA applies for the BTM and SHE as well. The correlation between ROA and LEV is negatively significant, which suggest that when profitability increases, the leverage of a firms decreases or vice versa.

Furthermore, there is a strong positive correlation between SHE and SOLV, which makes sense as an increase in the difference between assets and liabilities increases both ratios. In addition, Table 7 shows a high negative correlation between the shareholders equity ratio and leverage, which indicates that those variables move in the opposite direction. Overall, most of the correlation coefficients that are significant are moderate or strong of strength, except the insignificant coefficients and some other correlations.

Table 6:
Descriptive statistics

Panel A: Full sample

	N	25th Percentile	Mean	Median	75th Percentile	Standard deviation
Depository	835	0	0,41	0	1	0,49
Insurance	835	0	0,14	0	0	0,35
Real estate	835	0	0,03	0	0	0,17
Other	835	0	0,42	0	1	0,49
ROA	835	0,2%	0,6%	0,3%	0,6%	1,4%
LEV	835	1,62	5,93	6,10	8,95	4,69
NPA	835	0,0%	0,3%	0,0%	0,5%	0,6%
SHE	835	9,9%	24,2%	13,7%	35,3%	20,3%
BTM	835	1,11	1,85	1,51	2,04	1,57
Solv	835	111,3%	169,8%	116,5%	169,0%	158,0%
SIZE	835	3	5,48	5	8	2,87

Panel B: SIFI institutions

	N	25th Percentile	Mean	Median	75th Percentile	Standard deviation
Depository	88	0	0,44	0	1	0,50
Insurance	88	0	0,34	0	1	0,48
Real estate	88	0	0,02	0	0	0,15
Other	88	0	0,19	0	0	0,40
ROA	88	0,1%	0,2%	0,2%	0,3%	0,4%
LEV	88	6,54	10,43	9,60	14,28	5,60
NPA	88	0,0%	0,3%	0,0%	0,4%	0,6%
SHE	88	6,3%	11,1%	9,2%	13,1%	7,0%
BTM	88	0,88	1,38	1,25	1,60	0,81
Solv	88	107,5%	115,7%	111,6%	115,6%	14,3%
SIZE	88	10	9,93	10	10	0,25

Table 7:
Correlation matrix for the full sample

	Dep	*Ins*	*Real*	*Other*	*ROA*	*LEV*	*NPA*	*SHE*	*BTM*	*Solv*	*SIZE*
Dep	1	**-0,336*** **	**-0,146*** **	**-0,709*** **	**-0,193*** **	**0,537*** **	**0,595*** **	**-0,551*** **	**-0,124*** **	**-0,285*** **	0,011
Ins	**-0,336*** **	1	**-0,071** **	**-0,344*** **	-0,044	**-0,107*** **	**-0,236*** **	**0,063***	-0,046	-0,049	**0,210*** **
Real	**-0,146*** **	**-0,071** **	1	**-0,150*** **	**0,064***	**-0,082** **	**-0,103*** **	**0,065***	**0,066***	**0,101*** **	-0,057
Other	**-0,709*** **	**-0,344*** **	**-0,150*** **	1	**0,201*** **	**-0,431*** **	**-0,391*** **	**0,483*** **	**0,134*** **	**0,283*** **	**-0,140*** **
ROA	**-0,193*** **	-0,044	**0,064***	**0,201*** **	1	**-0,249*** **	**-0,149*** **	**0,318*** **	**0,406*** **	**0,332*** **	**-0,139*** **
LEV	**0,537*** **	**-0,107*** **	**-0,082** **	**-0,431*** **	**-0,249*** **	1	**0,357*** **	**-0,754*** **	**-0,070*** **	**-0,415*** **	**0,225*** **
NPA	**0,595*** **	**-0,236*** **	**-0,103*** **	**-0,391*** **	**-0,149*** **	**0,357*** **	1	**-0,384*** **	**-0,132*** **	**-0,212*** **	**-0,111*** **
SHE	**-0,551*** **	**0,063***	**0,065***	**0,483*** **	**0,318*** **	**-0,754*** **	**-0,384*** **	1	**0,160*** **	**0,687*** **	**-0,281*** **
BTM	**-0,124*** **	-0,046	**0,066***	**0,134*** **	**0,406*** **	**-0,070*** **	**-0,132*** **	**0,160*** **	1	**0,145*** **	**-0,077*** **
Solv	**-0,285*** **	-0,049	**0,101*** **	**0,283*** **	**0,332*** **	**-0,415*** **	**-0,212*** **	**0,687*** **	**0,145*** **	1	**-0,242*** **
SIZE	0,011	**0,210*** **	-0,057	**-0,140*** **	**-0,139*** **	**0,225*** **	**-0,111*** **	**-0,281*** **	**-0,077*** **	**-0,242*** **	1

Note: Statistically significant coefficients are highlighted in boldface. The test is a 2 sided test due to no specification of the direction of CAAR. Therefore the significance levels are for 10% 1,65, 5% 1,96 and 1% 2,58. *, ** and *** represent 10%, 5% and 1% significance level.

5.2.2. Cross-sectional regression results

The results of the cross-sectional regressions diverge hence these are separately discussed below. However, for the first event the dummy variable 'Real Estate' is omitted and for the other events 'Other' is omitted, because of collinearity. The variable 'Other' include non-depository firms, security and commodity brokers and holding and other investment offices. Probably due to the high correlation between CAAR and the variable 'Other', or for the first event 'Real estate', the latter variable is not able to independently determine the value of CAAR. Therefore these variables are omitted from the corresponding regression and do no display values in the tables. In addition to the statistical significance the economic significance is considered in this study. In the results per event this economic significance is described in more detail.

Table 8 shows the regression results for the two groups, the SIFI versus NON-SIFI group and the SIFI versus foreign financial institutions, for the first event on February 3, 2017. In general, the outcomes of the regressions for event one are comparable. The majority of the variables have a negative coefficient implying that these variables decrease the CAAR.

There are some differences between the two regressions, especially in the [-10, +10] window. One of the biggest differences is the significant value for BTM. For the first group, none of the event windows exhibits a significant BTM while for the second group the last event window it shows a negative significant coefficient. This implies that an increase in the book-to-market of one results in a decrease of the market reaction by a maximum of 1%. In addition, the variable SIZE is significant for all event windows in both groups for the second group while it is significant in the first three event windows for the first group. SIZE has a negative impact on CAAR, which would mean that larger firms, based on total assets, experience a smaller CAAR during this event. This decrease is approximately +0,2% for every additional decile. This is contradicting to the expectation based on the Turk and Swicewood (2012) study and the results in Table 5. These outcomes suggest larger financial institutions responded positively to the instalment of the Act and should therefore in this study react more negatively than the smaller firms. This is not the situation in the cross-sectional test as they respond less than the smaller firms according to these results.

Table 8:
Cross-sectional results Event 1

$$CAAR = \beta_0 + \beta_1 * D(Depository) + \beta_2 * D(Insurance) + \beta_3 * D(Real\ Estate) + \beta_4 * D(Other) + \beta_5 * Solvency + \beta_6 * NPA + \beta_7 * Size + \beta_8 * Shareholder\ equity\ ratio + \varepsilon$$

	Event 1: February 3, 2017							
	(1) SIFI vs NON-SIFI				**(2) SIFI vs Foreign**			
	[-1,+1] Coefficient (t-statistic)	*[-3,+3] Coefficient (t-statistic)*	*[-5,+5] Coefficient (t-statistic)*	*[-10,+10] Coefficient (t-statistic)*	*[-1,+1] Coefficient (t-statistic)*	*[-3,+3] Coefficient (t-statistic)*	*[-5,+5] Coefficient (t-statistic)*	*[-10,+10] Coefficient (t-statistic)*
Intercept	0,1898 (1,09)	0,1238 (0,45)	0,1434 (0,44)	0,2363 (0,66)	0,1943 (1,15)	0,1124 (0,43)	0,1330 (0,45)	0,4185 (1,35)
Depository	-0,0548 (-0,74)	-0,0477 (-0,41)	-0,0580 (-0,42)	-0,0816 (-0,53)	-0,0561 (-0,79)	-0,0423 (-0,38)	-0,0537 (-0,43)	-0,1551 (-1,19)
Insurance	-0,0556 (-0,75)	-0,0509 (-0,43)	-0,0508 (-0,37)	-0,1030 (-0,68)	-0,0569 (-0,79)	-0,0457 (-0,41)	-0,0475 (-0,37)	-0,1684 (-1,28)
Real estate								
Other	-0,0527 (-0,71)	-0,0575 (-0,49)	-0,0633 (-0,46)	-0,0930 (-0,62)	-0,0541 (-0,76)	-0,0517 (-0,47)	-0,0590 (-0,47)	-0,1589 (-1,22)
SOLV	-0,0880 (-0,78)	-0,0382 (-0,21)	-0,0441 (-0,21)	-0,0775 (-0,34)	-0,0894 (-0,82)	-0,0304 (-0,18)	-0,0389 (-0,20)	-0,1851 (-0,930
NPA	-0,6563 (-1,41)	-0,9659 (-1,31)	-0,1477 (-0,17)	0,3582 (0,38)	-0,6194 (-1,38)	-0,8851 (-1,27)	-0,0544 (-0,07)	0,4935 (0,06)
SHE	-0,0462 (-0,22)	-0,0470 (-0,14)	-0,0734 (-0,19)	0,0214 (0,05)	-0,0364 (-0,18)	-0,0532 (-0,17)	-0,0662 (-0,18)	0,2443 (0,65)
SIZE	-0,0014 (-1,48)	**-0,0026 (-1,73)***	**-0,0039 (-2,18)****	-0,0031 (-1,57)	**-0,0015 (-1,65)***	**-0,0025 (-1,76)***	**-0,0037 (-2,29)****	**-0,0071 (-4,20)*****
BTM	-0,0018 (-0,56)	-0,0034 (-0,66)	-0,0014 (-0,23)	-0,0102 (-1,52)	-0,0019 (-0,58)	-0,0037 (-0,74)	-0,0020 (-0,35)	**-0,0136 (-2,34)****
ROA	**1,3652 (1,72)***	1,8535 (1,40)	2,2327 (1,52)	2,2710 (1,40)	**1,3255 (1,73)***	1,8409 (1,54)	2,2041 (1,63)	1,5429 (1,10)
LEV	-0,0013 (-1,41)	-0,0003 (-0,23)	-0,0007 (-0,41)	0,0004 (0,21)	-0,0012 (-1,33)	-0,0003 (-0,20)	-0,0004 (-0,27)	0,0021 (1,28)
R^2	0,1745	0,1148	0,1481	0,1360	0,1780	0,1167	0,1521	0,2582
Adjusted R^2	0,0645	-0,0033	0,0345	0,0208	0,0684	-0,0011	0,0391	0,1593

OLS regressions with the cumulative average abnormal return as the dependent variable. The test is a 2 sided test due to no specification of the direction of CAAR. Therefore the significance levels are for 10% 1,65, 5% 1,96 and 1% 2,58. *, ** and *** represent 10%, 5% and 1% significance level. Note: Statistically significant coefficients are highlighted in boldface.

Table 9:
Cross-sectional results Event 2

$$CAAR = \beta_0 + \beta_1 * D(Depository) + \beta_2 * D(Insurance) + \beta_3 * D(Real\ Estate) + \beta_4 * D(Other) + \beta_5 * Solvency + \beta_6 * NPA + \beta_7 * Size + \beta_8 * Shareholder\ equity\ ratio + \varepsilon$$

	Event 2: April 21, 2017							
	(1) SIFI vs NON-SIFI				**(2) SIFI vs Foreign**			
	[-1,+1] Coefficient (t-statistic)	*[-3,+3] Coefficient (t-statistic)*	*[-5,+5] Coefficient (t-statistic)*	*[-10,+10] Coefficient (t-statistic)*	*[-1,+1] Coefficient (t-statistic)*	*[-3,+3] Coefficient (t-statistic)*	*[-5,+5] Coefficient (t-statistic)*	*[-10,+10] Coefficient (t-statistic)*
Intercept	0,0019 (0,06)	-0,0315 (-0,59)	-0,0479 (-0,85)	**-0,1553 (-1,97)****	0,0074 (0,22)	-0,0178 (-0,35)	-0,0479 (-0,85)	-0,0935 (-1,42)
Depository	**0,0149 (2,52)****	**0,0215 (2,27)****	**0,0221 (2,20)****	**0,0376 (2,68)*****	**0,0142 (2,44)****	**0,0192 (2,12)****	**0,0221 (2,20)****	**0,0289 (2,47)****
Insurance	0,0001 (0,01)	-0,0029 (-0,31)	0,0036 (0,36)	0,0122 (0,88)	0,0000 (0,00)	-0,0033 (-0,36)	0,0036 (0,36)	0,0084 (0,72)
Real estate	0,0063 (0,24)	-0,0005 (-0,01)	-0,0151 (-0,34)	-0,0194 (-0,31)	0,0058 (0,22)	-0,0028 (-0,07)	-0,0151 (-0,34)	-0,0232 (-0,44)
Other								
SOLV	-0,0144 (-0,48)	-0,0266 (-0,56)	-0,0057 (-0,11)	0,0449 (0,63)	-0,0145 (-0,49)	-0,0276 (-0,60)	-0,0057 (-0,11)	0,0289 (0,49)
NPA	**0,7389 (1,90)***	0,5040 (0,81)	0,7254 (1,10)	1,4759 (1,60)	**0,7036 (1,83)***	0,3952 (0,66)	0,7254 (1,10)	0,7756 (1,01)
SHE	0,1096 (1,45)	**0,3644 (3,02)*****	**0,2943 (2,30)****	**0,4386 (2,46)****	0,1066 (1,43)	**0,3384 (2,94)*****	**0,2943 (2,30)****	**0,3217 (2,16)****
SIZE	0,0013 (1,57)	0,0019 (1,42)	0,0008 (0,59)	0,0015 (0,79)	0,0009 (1,15)	0,0010 (0,77)	0,0008 (0,59)	-0,0007 (-0,40)
BTM	-0,0034 (-1,23)	-0,0061 (-1,36)	-0,0069 (-1,47)	-0,0061 (-0,92)	-0,0037 (-1,35)	-0,0069 (-1,63)	-0,0069 (-1,47)	-0,0083 (-1,51)
ROA	-0,2520 (-0,37)	-0,7650 (-0,71)	-0,6515 (-0,57)	-0,8029 (-0,50)	-0,2973 (-0,45)	-0,8949 (-0,87)	-0,6515 (-0,57)	-0,9405 (-0,71)
LEV	**0,0023 (3,39)*****	**0,0044 (4,09)*****	**0,0042 (3,68)*****	**0,0068 (4,32)*****	**0,0023 (3,43)*****	**0,0042 (4,07)*****	**0,0042 (3,68)*****	**0,0054 (4,05)*****
R^2	0,4800	0,3869	0,3410	0,3512	0,4663	0,3676	0,3229	0,3098
Adjusted R^2	0,4107	0,3052	0,2531	0,2647	0,3951	0,2832	0,2326	0,2178

OLS regressions with the cumulative average abnormal return as the dependent variable. The test is a 2 sided test due to no specification of the direction of CAAR. Therefore the significance levels are for 10% 1,65, 5% 1,96 and 1% 2,58. *, ** and *** represent 10%, 5% and 1% significance level. Note: Statistically significant coefficients are highlighted in boldface.

Table 10
Cross-sectional results Event 3

$$CAAR = \beta_0 + \beta_1 * D(Depository) + \beta_2 * D(Insurance) + \beta_3 * D(Real\ Estate) + \beta_4 * D(Other) + \beta_5 * Solvency + \beta_6 * NPA + \beta_7 * Size + \beta_8 * Shareholder\ equity\ ratio + \varepsilon$$

	Event 3: June 8, 2017							
	(1) SIFI vs NON-SIFI				**(2) SIFI vs Foreign**			
	[-1,+1] Coefficient (t-statistic)	*[-3,+3] Coefficient (t-statistic)*	*[-5,+5] Coefficient (t-statistic)*	*[-10,+10] Coefficient (t-statistic)*	*[-1,+1] Coefficient (t-statistic)*	*[-3,+3] Coefficient (t-statistic)*	*[-5,+5] Coefficient (t-statistic)*	*[-10,+10] Coefficient (t-statistic)*
Intercept	**0,1255 (2,70)*** **	**0,1512 (2,93)*** **	**0,1569 (2,53)** **	0,0537 (0,81)	**0,1341 (2,97)*** **	**0,1569 (3,24)*** **	**0,1676 (2,98)*** **	0,0679 (1,22)
Depository	0,0083 (0,51)	-0,0069 (-0,75)	-0,0098 (-0,89)	-0,0111 (-0,94)	-0,0058 (-0,72)	-0,0074 (-0,86)	-0,0105 (-1,05)	-0,0096 (-0,97)
Insurance	-0,0019 (-0,23)	**-0,0151 (-1,66)***	**-0,0206 (-1,88)***	-0,0056 (-0,48)	-0,0019 (-0,23)	**-0,0142 (-1,67)***	**-0,0191 (-1,93)***	-0,0060 (-0,60)
Real estate	0,0024 (0,07)	0,0021 (0,05)	0,0246 (0,50)	0,0345 (0,65)	0,0020 (0,06)	0,0016 (0,04)	0,0225 (0,50)	0,0302 (0,68)
Other								
SOLV	-0,0639 (-1,53)	-0,0643 (-1,39)	-0,0794 (-1,43)	-0,0244 (-0,41)	-0,0628 (-1,55)	-0,0618 (-1,42)	-0,0744 (-1,48)	-0,0204 (-0,41)
NPA	-0,2322 (-0,43)	-0,1160 (-0,19)	-1,1690 (-1,61)	**-1,3241 (-1,70)***	-0,2284 (-0,43)	-0,0792 (-0,14)	-0,9888 (-1,51)	-1,0517 (-1,61)
SHE	-0,1037 (-0,99)	-0,1280 (-1,09)	-0,0246 (-0,18)	-0,0018 (-0,01)	-0,1008 (-0,99)	-0,1188 (-1,08)	-0,0268 (-0,21)	-0,0438 (-0,35)
SIZE	0,0007 (0,65)	-0,0014 (-1,09)	**-0,0027 (-1,73)***	**-0,0033 (-2,03)** **	0,0004 (0,33)	**-0,0022 (-1,86)***	**-0,0040 (-2,85)*** **	**-0,0037 (2,70)*** **
BTM	0,0028 (0,72)	0,0050 (1,16)	0,0068 (1,32)	**0,0167 (3,01)*** **	0,0025 (0,66)	0,0040 (1,00)	0,0047 (1,00)	**0,0105 (2,25)** **
ROA	-0,5833 (-0,62)	-1,2095 (-1,17)	-0,5197 (-0,41)	0,8467 (0,63)	-0,6377 (-0,7)	-1,3417 (-1,37)	-0,7667 (-0,68)	0,6791 (0,60)
LEV	**-0,0022 (-2,35)** **	**-0,0029 (-2,77)*** **	**-0,0021 (-1,68)***	-0,0016 (-1,20)	**-0,0021 (-2,29)** **	**-0,0025 (2,60)*** **	-0,0016 (-1,45)	-0,0014 (-1,21)
R^2	0,1421	0,2075	0,1958	0,3875	0,1376	0,2185	0,2294	0,3535
Adjusted R^2	0,0277	0,1019	0,0886	0,3058	0,0226	0,1143	0,1267	0,2673

OLS regressions with the cumulative average abnormal return as the dependent variable. The test is a 2 sided test due to no specification of the direction of CAAR. Therefore the significance levels are for 10% 1,65, 5% 1,96 and 1% 2,58. *, ** and *** represent 10%, 5% and 1% significance level. Note: Statistically significant coefficients are highlighted in boldface.

Table 11
Cross-sectional results Event 4

$$CAAR = \beta_0 + \beta_1 * D(Depository) + \beta_2 * D(Insurance) + \beta_3 * D(Real\ Estate) + \beta_4 * D(Other) + \beta_5 * Solvency + \beta_6 * NPA + \beta_7 * Size + \beta_8 * Shareholder\ equity\ ratio + \varepsilon$$

	Event 4: June 12, 2017							
	(1) SIFI vs NON-SIFI				**(2) SIFI vs Foreign**			
	[-1,+1] Coefficient (t-statistic)	*[-3,+3] Coefficient (t-statistic)*	*[-5,+5] Coefficient (t-statistic)*	*[-10,+10] Coefficient (t-statistic)*	*[-1,+1] Coefficient (t-statistic)*	*[-3,+3] Coefficient (t-statistic)*	*[-5,+5] Coefficient (t-statistic)*	*[-10,+10] Coefficient (t-statistic)*
Intercept	**0,0912 (2,60)*** **	**0,1887 (3,34)*** **	**0,1633 (2,97)*** **	0,0418 (0,66)	**0,0976 (2,89)*** **	**0,1951 (3,70)*** **	**0,1693 (3,43)*** **	0,0585 (1,10)
Depository	-0,0030 (-0,48)	-0,0094 (-0,93)	-0,0051 (-0,52)	-0,0088 (-0,79)	-0,0031 (-0,52)	-0,0095 (-1,01)	-0,0059 (-0,67)	-0,0086 (-0,91)
Insurance	0,0008 (0,12)	-0,0062 (-0,62)	-0,0151 (-1,56)	-0,0098 (-0,88)	0,0009 (0,15)	-0,0055 (-0,59)	-0,0137 (-1,57)	-0,0094 (-1,00)
Real estate	-0,0044 (-0,16)	-0,0069 (-0,15)	-0,0109 (-0,25)	0,0127 (-0,25)	-0,0044 (-0,16)	-0,0078 (-0,19)	-0,0113 (-0,29)	0,0136 (0,32)
Other								
SOLV	-0,0336 (-1,07)	**-0,0888 (-1,75)***	-0,0679 (-1,38)	0,0089 (0,16)	-0,0329 (-1,09)	**-0,0847 (-1,79)***	-0,0642 (-1,45)	0,0057 (0,21)
NPA	-0,5462 (-1,33)	-0,5497 (-0,83)	-0,4681 (-0,73)	-0,8068 (-1,10)	-0,5206 (-1,32)	-0,4928 (-0,8)	-0,3507 (-0,61)	-0,6260 (-1,01)
SHE	-0,1151 (-1,45)	-0,1192 (-0,93)	-0,1008 (-0,81)	-0,1258 (-0,88)	-0,1115 (-1,46)	-0,1135 (-0,95)	-0,0932 (-0,84)	-0,1310 (-1,09)
SIZE	**-0,0025 (-2,91)*** **	**-0,0033 (-2,37)** **	**-0,0031 (-2,26)** **	**-0,0036 (-2,33)** **	**-0,0027 (-3,22)*** **	**-0,0040 (-3,03)*** **	**-0,0044 (-3,64)*** **	**-0,0041 (-3,13)*** **
BTM	0,0002 (0,07)	0,0024 (0,50)	0,0070 (1,53)	**0,0096 (1,83)***	0,0000 (0,00)	0,0017 (0,38)	0,0049 (1,19)	0,0050 (1,14)
ROA	-0,6216 (-0,88)	-0,7901 (-0,69)	-0,9157 (-0,83)	0,7049 (0,55)	-0,6473 (-0,95)	-0,8858 (-0,83)	-1,1394 (-1,14)	0,5066 (0,47)
LEV	-0,0011 (-1,52)	**-0,0027 (2,42)** **	**-0,0028 (2,57)** **	-0,0017 (-1,34)	-0,0010 (-1,45)	**-0,0024 (-2,30)** **	**-0,0023 (-2,310** **	-0,0014 (-1,27)
R^2	0,2056	0,2054	0,2415	0,2695	0,2241	0,2367	0,2901	0,2750
Adjusted R^2	0,0996	0,0995	0,1403	0,1721	0,1206	0,1349	0,1954	0,1784

OLS regressions with the cumulative average abnormal return as the dependent variable. The test is a 2 sided test due to no specification of the direction of CAAR. Therefore the significance levels are for 10% 1,65, 5% 1,96 and 1% 2,58. *, ** and *** represent 10%, 5% and 1% significance level. Note: Statistically significant coefficients are highlighted in boldface.

Table 12
Cross-sectional results Event 5

$$CAAR = \beta_0 + \beta_1 * D(Depository) + \beta_2 * D(Insurance) + \beta_3 * D(Real\ Estate) + \beta_4 * D(Other) + \beta_5 * Solvency + \beta_6 * NPA + \beta_7 * Size + \beta_8 * Shareholder\ equity\ ratio + \varepsilon$$

	Event 5: October 2 , 2017							
	(1) SIFI vs NON-SIFI				**(2) SIFI vs Foreign**			
	[-1,+1] Coefficient (t-statistic)	*[-3,+3] Coefficient (t-statistic)*	*[-5,+5] Coefficient (t-statistic)*	*[-10,+10] Coefficient (t-statistic)*	*[-1,+1] Coefficient (t-statistic)*	*[-3,+3] Coefficient (t-statistic)*	*[-5,+5] Coefficient (t-statistic)*	*[-10,+10] Coefficient (t-statistic)*
Intercept	-0,0305 (-0,95)	-0,0206 (-0,45)	0,0477 (1,00)	**0,1224 (1,74)***	-0,0270 (-0,85)	-0,0118 (-0,27)	0,0509 (1,17)	**0,1109 (1,78)***
Depository	-0,0015 (-0,27)	0,0003 (0,03)	-0,0107 (-1,26)	**-0,0245 (-1,96)****	-0,0016 (-0,29)	-0,0001 (-0,02)	-0,0101 (-1,30)	**-0,0226 (-2,04)****
Insurance	-0,0089 (-1,57)	**-0,0174 (-2,15)****	**-0,0153 (-1,81)***	**-0,0304 (-2,45)****	-0,0089 (-1,59)	**-0,0166 (-2,17)****	**-0,0138 (-1,80)***	**-0,0246 (-2,24)****
Real estate	-0,0410 (-1,60)	-0,0321 (-0,88)	-0,0122 (-0,32)	-0,0627 (-1,12)	-0,0406 (-1,62)	-0,0313 (-0,91)	-0,0113 (-0,33)	-0,0540 (-1,10)
Other								
SOLV	0,0240 (0,83)	0,0235 (0,57)	-0,0081 (-0,19)	0,0025 (0,04)	0,0238 (0,84)	0,0233 (0,60)	-0,0058 (-0,15)	0,0079 (0,14)
NPA	-0,0522 (-0,14)	**-0,9736 (-1,82)***	**-1,6543 (-2,97)*****	**-1,6602 (-2,02)****	-0,0339 (-0,09)	**-0,8692 (-1,72)***	**-1,4240 (-2,80)*****	-1,1166 (-1,54)
SHE	0,0228 (0,31)	0,0871 (0,84)	0,0134 (0,12)	-0,2277 (-1,43)	0,0229 (0,32)	0,0819 (0,84)	0,0101 (0,10)	-0,1651 (-1,17)
SIZE	0,0004 (0,34)	-0,0002 (-0,20)	-0,0014 (-1,18)	-0,0020 (-1,15)	0,0002 (0,25)	-0,0011 (-1,01)	**-0,0022 (-2,03)****	**-0,0050 (-3,27)*****
BTM	**0,0048 (1,78)***	**0,0075 (1,97)****	**0,0076 (1,90)***	-0,0013 (-0,22)	**0,0046 (1,74)***	**0,0066 (1,83)***	**0,0065 (1,80)***	-0,0029 (-0,55)
ROA	0,0382 (0,06)	-1,4138 (-1,53)	**-2,1472 (-2,23)****	**-2,3769 (-1,67)***	0,0245 (0,04)	**-1,4538 (-1,66)***	**-2,1263 (-2,42)****	**-2,3470 (-1,87)***
LEV	0,0002 (0,23)	0,0007 (0,71)	-0,0010 (-1,05)	-0,0022 (-1,54)	0,0002 (0,32)	0,0009 (0,99)	-0,0007 (-0,75)	-0,0006 (-0,52)
R^2	0,1567	0,1934	0,2592	0,2135	0,1545	0,1975	0,2737	0,2551
Adjusted R^2	0,0442	0,0858	0,1604	0,1087	0,0417	0,0904	0,1768	0,1558

OLS regressions with the cumulative average abnormal return as the dependent variable. The test is a 2 sided test due to no specification of the direction of CAAR. Therefore the significance levels are for 10% 1,65, 5% 1,96 and 1% 2,58. *, ** and *** represent 10%, 5% and 1% significance level. Note: Statistically significant coefficients are highlighted in boldface.

Another prediction made in the research is the effect of the institution type. For this event, there are no significant coefficients for the various institution types. Thus for this event, I cannot conclude that the type of institution has an effect on the magnitude of the CAARs.

The economic magnitude[8] of the coefficients of event one is large overall. For example, all else being equal, a one standard deviation increase in size (2,87 decile) would imply a on average a -0,40 % (2,87 * -0,14%) decrease in the cumulative average abnormal return in the first event window for the first column. For an average firm in the sample, this would result in a decrease of total assets (with a mean of $50.040,3 million as shown in Table 4 in Panel A) of $215 million. In contrast, all else being equal a one standard deviation increase in ROA (1,40%) would imply a +1,90% (1,4% * 136,52%) increase in CAAR. Despite the high economic significance of the statistically significant coefficients the adjusted R^2 for the most events window of event one in both regressions is moderately low, which indicates low explanatory power for each event window.

The regression results for the second event are presented in Table 9. The variable Depository is significant for each event window for both groups. This dummy variable is one for commercial banks, credit unions and savings institutions and zero for other types of institutions. These depository firms have a positive beta and thus positively impact the CAAR, for example with +1,5% in event window [-1, +1]. These results confirm that the type of institution could affect the magnitude of the CAAR.

In addition, leverage is positively significant in all event windows. These coefficients indicate that when the leverage increases with one the market reaction will increase between the +0,2% and +0,7% depending on the event window. This result is slightly surprising as an increasing leverage ratio indicates a growing amount of debt in proportion to equity. This increase in leverage could be used to finance or expand operations, however, it could also indicate that the firm is in trouble and it needs external financing in order to keep things going. For this event, I assume that the investors value an increasing leverage ratio as a positive aspect and therefore CAAR increases. This is consistent with Demirguc-Kunt et al. (2013), as they find higher stock returns for more leveraged firms. The variable SIZE is not significant for this event

[8] Economic significance is calculated as one standard deviation multiplied by the coefficient.

although the results in Table 5 indicate that the SIFIs have significantly higher CAARs surrounding the event.

Furthermore, for most event windows the shareholder equity ratio (SHE) is significantly positive. A 1% increase in SHE results in an increase of the market reaction between +29,4% and +43,8%. Such an incline in the shareholder equity ratio implies that the gap between the assets and liabilities is enhancing, which is favourable for the investors as they would receive more in case of a company-wide liquidation. This could explain the positive coefficients. All else being equal, one standard deviation increase in shareholder equity ratio (20,3%) would imply a one average +5,97% (20,3% * 29,43%) increase in the market reaction. For an average firm in the total sample the total equity (with a mean of $4.966,2 million shown in Table 4 in Panel A) would increase with nearly $300 million (5,97% * 4.966,2 million). For leverage the economic significance is relatively lower than that of shareholder equity but is still significant with an increase of 2,00% (4,69 * 0,44%) with one standard deviation increase.

The adjusted R^2 for this event is highest in the [-1, +1] event window and declines slightly when the window becomes wider. A reason for this could be the difference between the lowest and highest cumulative returns displayed in Figure 2. As a result, it becomes increasingly difficult for the regression to estimate the variables in order to explain most of the CAAR. Overall, the explanatory power of this event exceeds that of the first event.

Table 10 presents the results of the cross-sectional regression for the event on June 8, 2017. For this event, there is not one variable that is significant for all event windows or both regressions. This is are a contrast with the previous two events. Insurance is negatively significant at the 5% significance level for the [-3, +3] and [-5, +5] event windows, which implies that insurance companies have an approximately 2% lower CAAR. This again confirms the expectation that the type of institution could affect CAAR.

Swice and Turkwook (2012) found that larger firms are more impacted by the enactment of the Dodd-Frank Act. Therefore these results are starting point for this research. For this event, SIZE is negatively significant in a few event windows indicating that when a firm's total asset goes up one decile in size this negatively impacts the CAAR with about -0,3% thus decreasing the market reaction. Therefore these results and those of event one contradict previous studies

Another interesting result is for the variable BTM. In the [-10, +10] window the book-to-market variable is significantly positive for both groups. These results are opposite to those for event one in Table 8, where the book-to-market coefficient is significantly negative. The book-to-market ratio is used by investors to differentiate the true value and investor's speculation to base their investment behaviour on. A possible explanation for this difference could be the contradicting signs in the event study results in Table 5. For event one, the market reaction in this event window is positive while it is negative for event three as shown in Table 5. The outcome implies that with a negative market reaction an increase in the book-to-market ratio decrease the CAAR. Table 6 displays that the full sample has a higher BTM than the larger financial institutions. Combining that with these results, smaller financial firms experience an increasing market reaction while larger firms experience a decrease due to a smaller book-to-market and increasing size.

In addition, leverage is negatively significant for both groups for certain event windows. These results imply that an increase in leverage of 1% tempers the market reaction with about -0,2%. This is contradictory to the results in Table 9, where the coefficients for leverage were positive. Furthermore, this is the first event that experiences a significant coefficient for NPA, the proxy for risk. Here NPA has a negative effect on CAAR as it decreases the dependent variable with -132% if the non-performing loans increase with 1%. From Table 6 it is possible to conclude that this would not happen, as the NPA is never above 1%. Hence the absolute effect from NPA, in reality, would be smaller. This result suggests that the investors perceive an increase in the non-performing assets as an increase in the firm's riskiness and therefore adjust their expectations regarding the firm's profitability downward.

The economic magnitude of this event is negative for leverage. All else being equal, a one standard deviation (4,69) increase in leverage results on average in a -1,00% (4,69 * -0,22*%) decrease of the three-day cumulative abnormal return around the event date. For an average firm (with mean liabilities of $47.278,5 million as shown in Table 4 in Panel A) this -1.00% decrease translates into a decrease $485 million in liabilities. A one standard deviation increase in book-to-market (1,57) would result in an result of maximum increase of the market reaction of +2,6% (1,57 * 1,67%). For an average firm from this sample (with mean assets of $50.040,3 million as shown in Table 4 in Panel A) this +2,60% increase in the market reaction would result in an increase of $1.389 million in assets.

The results for the fourth event are disclosed in Table 11 and are similar to a certain extent to the previously discussed events. Previous events showed significant results for size however, this is the first event where SIZE is negatively significant at a 5% or 1% significance level for all event windows and both groups. The coefficients are roughly -0,3% for the first group and -0,4% for the second control group. This outcome confirms that the CAAR decreases as the firm becomes larger. The economic magnitude of size is larger than for the first event. All else being equal, a one standard deviation increase (2,89) would imply, on average, a decrease of -1,00% (2,89 * -0,33%) in the cumulative average abnormal return. For an average firm with mean asset of $55.040,3 million (as shown in Table 4 in Panel A) this decrease in CAAR decreases the assets with a little over $500 million.

In addition, leverage is comparable to the results of the previous event where the ratio has a negative effect of on average -0,2% on the CAAR. This reinforces the interpretation drawn from Table 10 that an increase in leverage is negatively valued by investors. The economic significance of this coefficient is comparable that in event three.

Moreover, this event is the first event for which solvency is significant. In the [-3, +3] window, a significantly negative coefficient is presented for both regressions. Solvency, defined as total assets divided by total liabilities, is the second proxy for risk in this study. A higher solvency implies that the firm has more assets compared to liabilities, which should be a good sign for investors. However, these results indicate that an increase in solvency is negatively valued by investors and hence decreases the market's reaction of approximately -8,5%. The economic magnitude for solvency is considerable. All else being equal, a one standard deviation increase in solvency (158,00%) would imply a decrease in the market reaction of -14% (158,00% * -8,88%). For an average firm (with mean liabilities of $47.278,5 million as shown in Table 4 in Panel A) this decrease would result in a decline of the total liabilities with $6,6 billion.

Interesting for this event is the difference in the adjusted R^2 . For the previous events, the adjusted R^2 of both groups are approximately equal. For this event, this is not the case, as the adjusted R^2 for the larger firms compared to foreign firms is substantially higher than that for the larger firms compared the smaller firms. This could be due to the difference in market reaction, shown in Table 5.

Table 12 shows the results of the last event relevant to this study. For this event, insurance is again negatively significant for most event windows and for the [-10, +10] window depository is significant, validating the results from Akhigde et al. (2015) that the type of institution affects the market reaction.

The proxy for profitability (ROA) is significantly negative for the majority of the event windows, which suggests that an increase in profitability negatively affects the market reactions. This outcome is surprising as a higher return on assets would indicate that a firm is more profitable and therefore it is possible to invest in new profitable investments where investors can profit from. Thus it would make sense that an increase in return on assets is awarded with an increase in the stock return as the stock price will reflect all the possible information about the current and future profitability of a firm (Fama, 1970). However, the results show that the opposite is true for this event. For the other events, the results are similar but are not significant. The economic significance for this event is on average -3,10% (1,40% * -214,72%) of there is a one standard deviation increase (1,40%).

In addition, NPA is negatively significant for the majority of the event windows. An increase in the non-performing loans has a negative effect on the CAAR in that corresponding event window. This suggests that the investors do not appreciate an increase in risk and therefore the stock prices drop by approximately- 95% to -165% for each additional percent of non-performing loans, which is comparable to the results of event four but with a larger magnitude. As explained before, this increase in NPA is not realistic and therefore this effect will be smaller in reality according to these regressions. The economic magnitude for this coefficient is moderate. All else being equal, a one standard deviation increase in NPA (0,60%) implies a -0,90% (0,60% * -165,43%) decrease in the cumulative average abnormal returns. An average firm (with mean non-performing assets of $180,1 million as shown in Table 4 in Panel A) would experience a decrease of $1,65 million in total non-performing assets.

Furthermore, BTM is positively significant for all event windows, except for the [-10, +10] window. An increase in the BTM generates an average increase between +0,60% and +0,70%, depending on the control group. This suggests that investors positively value the increase of the book-to-market value. The economic significance for this event is lower than that established for event three. For this event, with all else being equal, a one standard deviation increase in book-to-market (1,57) would imply on average a 1,2% (1,57 * 0,76%) increase in the

market reaction. For an average firm in this sample (with mean equity of $4.966,2 million as shown in Table 4 in Panel A) this increase in the market reaction would result in an increase of equity of nearly $60 million.

The adjusted R^2 for this event is comparable with that of event four and are highest in the [-5, +5] window.

5.2.3. Summary

The results for the cross-sectional regressions are presented in Tables 8 till 12. The expectations for this study were that size would have a positive effect on the market reaction and that the institution type would impact the CAAR in a non-specified direction. However, the regressions revealed that the size does the opposite in this study and that an increase in size negatively impacts CAAR tempering the market reaction instead of increasing it. In addition, the distinction between the various kinds of financial institutions provides a deeper insight into the formation of the CAAR. It appears that insurance companies and depository firms decrease the CAAR, while for one event it indicates real estate firms experience a slightly higher CAAR.

Furthermore, leverage significantly influences market reaction in a negative manner for two out of the five events and positively for one event. Due to these mixed results, it is not possible to conclude what effect leverage has on the market reaction. The book-to-market variable BTM is significantly positive for three out of five events, suggesting that a higher book-to-market ratio is positively valued by investors and thus increases the CAAR.

The remaining variables are significant for some events in few event windows. Therefore it is not possible to draw a conclusion on how these affect the CAAR as they are mostly insignificant. Interesting are the negative results from the return on assets. Previous studies show a positive relation between market returns and the return on assets, however, these results present opposite evidence. Overall, most of the results were as expected with opposite reactions for size and return on assets.

The economic magnitude is important to consider as it examines the magnitude and the sign of the coefficients. The coefficient that are statistically significant in this study are also economically significant. This implies that the coefficients do affect the market reaction and makes the results more credible.

5.3. Robustness test

Throughout this study, multiple robustness measures are incorporated, such as the four event windows and the two control groups. In this section the results of the Wilcoxon signed rank test, which are presented in Table 13, are discussed. This test is a non-parametric test that does not rely on the assumption that the returns are normally distributed like the t-test does. Moreover, it takes both the sign and the magnitude of the returns into account. Therefore it verifies the results of the event study results displayed in Table 5.

Overall, the results of the Wilcoxon signed rank test are similar to those in Table 5. The main difference between these results is the significance levels for event one in column one. In the previous results, solely the CAAR of [-10, +10] was significant. However, with this test, all the event windows have statistically significant results and therefore it is possible to suggest that the market reaction of SIFIs and NON-SIFIs respond differently from each other. This difference could be due to the different assumptions the models make.

The same difference occurs for event four in the second column. The CAARs where previously significant, however, the significance levels increased with this robustness test and even the CAAR of [-10, +10] window that had a t-statistic close to zero is now significant as well.

Overall, the outcome of the Wilcoxon signed rank verifies the results in Table 5 and therefore increases the robustness of these results. There are some minor differences between the significance levels of the t-test and the Wilcoxon signed rank test, nevertheless, these are negligible. Hence, these results conclude that in general, the market reactions of the larger financial institutions are different than those of the smaller and foreign financial institutions.

Table 13
Cumulative average abnormal return with Wilcoxon signed rank test

	(1) SIFI vs. NON-SIFI		(2) SIFI vs. Foreign	
	CAAR	T-statistic	CAAR	T-statistic
Event 1: February 3, 2017				
[-1,+1]	+0,20%***	2,68	+0,53%***	6,36
[-3,+3]	+0,20%***	2,73	+0,51%***	5,49
[-5,+5]	+0,24%***	2,80	+0,56%***	5,24
[-10,+10]	+1,47%***	7,00	+2,70%***	10,37
Event 2: April 21, 2017				
[-1,+1]	+1,65%***	10,29	+1,91%***	11,21
[-3,+3]	+1,87%***	9,25	+1,99%***	10,01
[-5,+5]	+1,97%***	9,88	+1,66%***	9,21
[-10,+10]	+2,17%***	8,61	+1,94%***	8,58
Event 3: June 8, 2017				
[-1,+1]	-0,10%**	-2,10	+0,84%***	4,81
[-3,+3]	0,00%	-1,53	+0,86%***	4,40
[-5,+5]	-0,51%*	-1,95	+0,83%***	4,76
[-10,+10]	-1,32%**	-2,09	-0,49%**	2,33
Event 4: June 12, 2017				
[-1,+1]	-0,01%	-0,18	+0,73%***	6,60
[-3,+3]	-0,75%***	-3,35	+0,44%***	2,32
[-5,+5]	-0,36%*	-1,76	+0,54%***	3,41
[-10,+10]	-0,83%**	-2,07	+0,03%***	3,02
Event 5: October 2, 2017				
[-1,+1]	+0,52%***	7,26	+0,80%***	8,98
[-3,+3]	+1,23%***	7,27	+1,81%***	9,31
[-5,+5]	+0,83%***	5,06	+1,43%***	7,60
[-10,+10]	+1,59%***	5,26	+2,42%***	8,07

The test is a 2 sided test. Therefore the significance levels are for 10% 1,65, 5% 1,96 and 1% 2,58. *, ** and *** represent 10%, 5% and 1% significance level

6. Conclusion and limitation

6.1. Conclusion

This research examines the stock market reaction of large US-based financial firms to key events that indicate the potential dismantle of the Dodd-Frank Act. These results are able to assess the market's expectations regarding the effectiveness of the Act. The large financial institutions, better known as SIFIs, are ordered to the disclosure of living wills by the Dodd-Frank Act, in which they are obligated to draft a rescue plan might they approach bankruptcy. The living wills are a measure to prevent banks from becoming too-big-to-fail in order to avoid government bailouts. Previous studies examined the effects of the instalment of the Dodd-Frank Act. However, this is the first research to focus on the potential dismantling of the Act.

In total five events are selected in order to measure these reactions using a traditional event study. These events include the release of two reports by the Treasury Secretary regarding financial markets, the signing of two executive orders by President Trump and the approval of the new financial legislation. The investors' response is measured as the cumulative average abnormal returns (CAARs) that are calculated with the market-adjusted return model. The hypothesis for this research is that the investors of larger firms respond similarly to those of smaller or foreign financial institutions.

Using small and foreign financial institutions as control groups, the results show that large financial institutions experience significant positive cumulative average abnormal returns during three out of five events. This indicates that the cumulative returns for the SIFIs and control groups significantly differ and that the investors value the events more positively for the larger financial institutions. The results for the other two events have opposite outcomes for the small and foreign financial institutions. Compared to the smaller financial institutions the market reaction for the SIFIs is smaller and therefore the cumulative average abnormal return negative. For the other group, the results are the opposite, where the market reaction of the foreign institutions is less than that of the SIFIs, which results in a positive return. Therefore the outcome of these events is inconclusive. Overall, these results imply that a rollback of the Dodd-Frank

Act is appreciated and will enhance the financial performance for large financial institutions although there is less disclosure necessary. Therefore the null hypothesis can be rejected and is shown that the event indicating a potential rollback of the Dodd-Frank Act are perceived positively.

I further investigate the market reaction to several firm-specific variables in order to evaluate the perceived effectiveness of the Dodd-Frank Act. The results reveal that the size of the financial institution negatively impacts the cumulative average abnormal returns. This is contradictory to the results of Turk & Swicewood (2012) as they find that large banks responded positively to the enactment of the Dodd-Frank Act. In this research, the negative coefficient implies that the market reactions for larger institutions are less than those of smaller institutions and are therefore less affected by the events, which contradicts the results of previous studies.

It is interesting to see the effect the institution type has on the cumulative average abnormal returns. The results for the depository and insurance firms show a negative effect on the abnormal returns, which were significant for some event windows. For real estate firms, there are no conclusive results. Depending on the event, the coefficient is either positive or negative and mostly not even significant. In general, the results for the institution types display that it influences the market reaction and thus I can suggest that the market responses could be different among the various institution types. This is in accordance with Akhidge et al. (2016).

Furthermore, the effect of the return on assets is not as expected. Despite that this variable is exclusively significant for the last event, overall the results indicate that an increase in the return on assets has a negative effect on the market reaction by lowering this reaction. Prior studies showed that a higher return on asset percentage demonstrate a higher profitability and therefore positively influence the stock return.

The results of leverage are mixed. For two out of five events the results are significantly negative, implying that a higher leveraged firm is more risky, while for one event the results are positive. For the other events, the results are insignificant and therefore cannot give be decisive for the overall outcome.

Book-to-market has a positive effect on the investors' reactions. This implies that a higher book-to-market results in a higher cumulative average abnormal return. In addition, firms that are riskier, and thus have more non-performing loans or a higher solvency ratio, experience lower returns than less risky firms do due to their negative coefficient.
Overall, these results show that the market is positive about the potential rollback of the Dodd-Frank Act although most of the firm-specific variables seem to have a (surprising) negative impact on the investors' reactions. These results coincide with the results Wagner et al. (2017) find in their study that show that the deregulation plans are received well by the market.

This study contributes to the existing literature on the Dodd-Frank Act. Previous research focused on the effects of the instalment of the Act. The results of those studies are inconclusive as some find that the instalment of the Act had a positive outcome (Turk & Swicewood, 2012; Akhidge et al., 2016; Balasubramnian & Cyree, 2014; Schäfer et al., 2016) while other find negative outcomes (Switzer & Sheahan-Lee, 2013; Dimitrov et al. 2015; Gao et al., 2018), suggesting that the Act did not create more financial stability and prevented banks from becoming Too-big-to-fail. This study presents evidence that approximately seven years after the instalment investors respond positively to a possible rollback of the Dodd-Frank Act. This suggests that investors consider the Act as not effective and agree with President Trump that a rollback could improve the financial sector.

In addition, the results contribute to the literature regarding the rollback of regulation. This stream of literature is limited and find that the nature of the deregulation has a substantial influence on the results. This research shows that a potential rollback of the Dodd-Frank Act and thus deregulation of the financial industry is positively received by investors as the market reaction is positive.

6.2. Limitations and future research

The established results in this paper are constricted by a set of limitations which are left as recommendations for future research. The first limitation is the inability to fully eliminate confounding effects. As mentioned previously in this study, due to the incapacity to remove certain observations without altering the current results and keeping the results valid it is difficult to eliminate all confounding effects. Some of these effects are mitigated by the adoption of two

distinct control groups, four event windows and the Wilcoxon signed rank test as robustness test. However, this is not enough to completely abolish the influences of confounding effects. For example, the results of event three and four are influenced in some event windows by the occurrence of another event resulting in a considerable decrease in the market reaction for SIFIs. Due to this decrease during the event, the results of the [-10,+10] window to do not show the true value of the market's reaction making the results less reliable.

Furthermore, the low adjusted R^2 for the regressions on CAAR implies that there is a omitted variables bias possible. Although the independent and control variables are carefully considered, it might be possible that there are omitted correlated variables that influence the cumulative average abnormal return. Hence, the current results could present a biased outcome. Future research could implement additional control variables to mitigate the omitted correlated variable issue.

In addition, the data constraint is a limitation of this research as panel data often has missing values. In the total dataset, there are many firms that exclusively have return data for the event study or financial statement data that is necessary for the cross-sectional tests. Therefore these firms cannot be used for this research and thus are excluded from the dataset. As a result a bias could occur and affect the results.

The main recommendation for future research is to examine the implications for several additional areas, such as for credit risk ratings, OTC markets and other interesting financial aspects to detangle the effects of a potential rollback of the Dodd-Frank Act. A great deal of research has been done to those fields when the Dodd-Frank Act was installed, however, this has not been done for the potential rollback of the Act. I consider it interesting to examine this as investors and other institutions that are involved in those areas might have changed their minds on the effectiveness of the Act after experiencing its consequences for a few years.

Moreover, the stock market responds rapidly to new information as this information is quickly available through the internet, news, social media etc. In order to find the stock market reaction to the key events an analysis of hourly data would be interesting. To what extent do investors react in the hour after the announcement or after a few hours? Due to the unavailability of this data, for this study it was not possible, however, there should be hourly data available in order to execute this future research.

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8. Appendix

Figure 6: Predictive Validity Framework ("Libby Boxes) for the event study

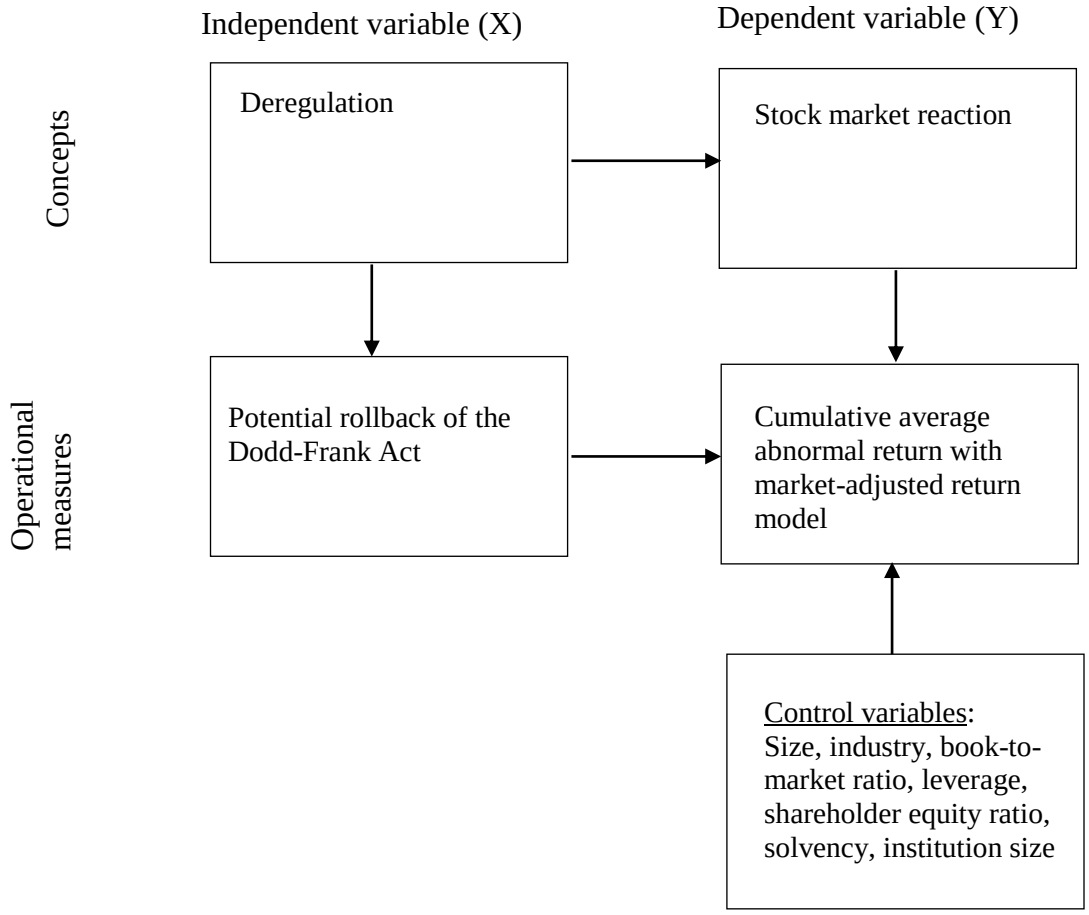

Table 14
Overview of variables used in this research

Variable	Description	Database	Item name
Dependent variable			
Abnormal return	The difference between the firm's stock return and return of the control group	CRSP	retx
Independent variable			
Institution type	Dummy variable	Compustat[9]	SIC
Solvency	Total assets divided by total liabilities	Compustat	atq / ltq
Non-performance loans	Value of the non-performance assets divided by total assets	Compustat	npatq / atq
Size	Decile ranks of total assets in $	Compustat	atq
Shareholder equity ratio	Common shareholders' equity divided by total assets	Comupstat	(atq-ltq) / atq
Control variable			
Book-to-market ratio	Book value of equity, which is the total assets minus the total liabilities, divided by the market value of equity, defined as the share price times the number of shares	Compustat	prccq / (ceqq/chsoq)
ROA	Net income before taxes divided by total assets	Compustat	ibq / atq
Leverage	Total debt divided by total common equity	Compustat	ltq / ceqq

[9] Data from Compustat. (n.d.). *Chapter 2: Understanding the COMPUSTAT (North America) Database.* Retrieved from http://web.utk.edu/~prdaves/Computerhelp/COMPUSTAT/Compustat_manuals/user_02.pdf