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## Conference Paper

# Getting to Bail-in: Effects of Creditor Participation in European Bank Restructuring

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# Getting to Bail-in: Effects of Creditor Participation in European Bank Restructuring

## Abstract

The declared intention of policy makers is that future bank restructuring should be conducted through bail-in rather than bail-out. Over the past years there have been a few cases of European bank restructuring where bail-in was implemented. This paper exploits these events to investigate the market reactions of stock prices and credit default swap (CDS) spreads of other European banks in order to gauge the evolving expectation that bail-in will indeed become the new regime. We find evidence of increased CDS spreads and falling stock prices after bail-in most notably after the events in Cyprus. We also find that bail-in expectations seem to depend on the sovereign's strength, i. e., reactions are stronger for banks in countries with little fiscal space for bail-out. Conversely, bail-out expectations seem to have hardly declined in fiscally stronger countries, such as Germany.

**JEL classifications:** G21, G28.

**Keywords:** Bail-in; bank restructuring; Single Resolution Mechanism; creditor participation; event study.

## 1. Introduction

“Never again” was the collective determination of governments after being forced to back-stop the financial system and provide guarantees and capital to avert systemic collapse. The financial and political capital involved continues to be mind-boggling. The UK put up 40 percent of its GDP in guarantees; many other countries provided a multiple of that through assurances for the entire deposit base. It is true that the back-stops broadly worked, the guarantees were often not used and bank capital injections by the state – e. g. under the TARP program – turned out to be profitable for the state. However, TARP and its cousins in other countries are hugely unpopular, as is the idea of bail-outs in general. Therefore, the regulatory community has worked hard to establish a new regime in which bail-out is to be replaced by bail-in.

In Europe, several countries quickly adopted special resolution regimes, which provided mechanisms for dealing with failing banks while protecting both the financial system as well as the taxpayer. Large banks have to submit recovery and resolution plans (living wills), which have to spell out the actions that would be taken in case of deteriorating capital ratios. Their purpose is to make banks more resolvable and to ensure that shareholders and creditors will be carrying the losses rather than taxpayers.<sup>2</sup> The legislative culmination so far has been the adoption of the Bank Recovery and Resolution Directive (BRRD) and the agreement on a Single Resolution Mechanism (SRM) for the euro area, which both subscribe to the bailing-in philosophy.

At the same time, sometimes cautiously sometimes audaciously, policy makers have already embarked on the route towards bailing in. Certainly, the most famous and controversial experience was the bail-in of bank creditors in Cyprus. Before and after Cyprus there had been a few other cases. We propose to use these events to study the change in creditors’ expectations of bail-out as well as differential effects across banks and countries.

In particular, we are interested in the reactions of credit default swap (CDS) spreads and stock returns to the announcement of a bail-in. If a bail-in event reduced bail-out expectations across European banks, risk premia for all banks should rise, which would then be reflected in a rise in CDS spreads and a drop in stock returns. We then ask: do these reactions differ across the types of bail-in events? We classify events according to their bail-in basis (junior, senior debt) and to the strength of the political spillover effects on other banks in Europe. Finally, we ask whether the effects differ across different types of banks, such as systemically important banks and banks

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<sup>2</sup> In addition, several countries adopted extra capital measures and as well as trading prohibitions, ring-fencing etc. See Schäfer, Schnabel, and Weder di Mauro (2015) for an assessment of the main national reform streams.

from European crisis countries (GIIPS). The latter is of particular interest because it is possible that bail-in events have a stronger political spillover effect in countries that are already perceived as vulnerable and that have little fiscal capacity for bailing out their banks. Conversely, the expectation of a bail-out may remain higher in fiscally stronger sovereigns.

To answer these questions we analyse the reactions of CDS spreads and stock returns in response to the bank bail-in precedents in Denmark, Spain, Holland, Cyprus, Portugal, as well as to the implementation of the Single Resolution Mechanism (SRM). We employ an event study analysis on a broad sample of stock return and CDS spreads of banks in the European Union. Our results show that creditor bail-in events indeed lead to an increase in CDS spreads and hence to a reduction in bail-out expectations of European Banks. We also find decreasing stock returns, although results are not as pronounced as for CDS spreads. Moreover, we find the strongest effects when a comparatively large bail-in basis is combined with a strong political spillover effect. Finally, we find evidence that the rise in CDS spreads is more pronounced for systemically important banks and for banks in GIIPS countries.

This paper is structured as follows. The next chapter outlines the selected bail-in cases and formulates the hypotheses regarding expected market reactions. Chapter 3 covers the methodology. We introduce our identification procedure for the event selection, describe the data sample and present our empirical model. The fourth chapter contains the empirical results for the bail-in events, putting particular emphasis on the events in Cyprus. Chapter 5 provides a robustness analysis. Chapter 6 summarizes and concludes.

## **2. Bail-In Event Classification and Expected Market Reactions**

A bail-in procedure aims at letting investors participate in a bank's losses at time of bankruptcy. The strength of market reactions of a bail-in on other banks is likely to depend on two aspects: first, the bail-in basis and second, the strength of the signal the event sends to other countries. The size of the bail-in basis plays a crucial role for market participants because it determines which investors participate in the losses. If the announced bail-in comprises hybrid capital and subordinated debt only, we classify its basis as **junior debt**. In this case, the bail-in basis is considered as relatively small. If in addition senior unsecured debt and parts of customer deposits

are included, we define the basis as **senior debt**.<sup>3</sup> In this latter case, the bail-in basis is wide and affects a broader group of investors.

We also consider the likely strength of the signal for future regime change emanating from a particular event (called “political spillover” in the following). We suggest that a bail-in event is likely to emit a stronger signal for a future bail-in regime (i) if it happened within the period when the European SRM was being designed, or (ii) if there was Eurogroup involvement. The decision to involve bank creditors then depends on the stance of the Eurogroup leaders. We define the period in which the SRM was being negotiated from June 2012 until April 2014, the time when the European Parliament adopted the SRM.<sup>4</sup>

### Outline of the Bail-in Cases

In the following, we outline five selected European precedents of creditor bail-in and the implementation of the European Single Resolution Mechanism.<sup>5</sup>

Our first case is the creditor bail-in of the **Danish institute Amagerbanken**. The small retail bank – with total assets of only 4.5 bn euro – was wound up in early 2011 under the Danish national resolution procedure “Bank Package III”.<sup>6</sup> The Danish resolution procedure aimed at protecting taxpayers from bank losses and included a bail-in of senior debt. Hence, depositors and other unsecured creditors of this distressed bank could not be sure to receive full coverage of their claims.<sup>7</sup> On Sunday, 6 February 2011, the bank announced the transfer of its assets to a state-owned bank. *CreditSights* estimated that holders of senior debt and unsecured deposits would face a haircut of 41 percent.<sup>8</sup> This case is of particular interest since it was the first European bank in our sample whose bail-in basis included senior unsecured debt as well as larger deposits. Note that the authorities in Denmark, which is not part of the eurozone, decided to bail in bank creditors long before the decision for a European banking union and the creation of a SRM.

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<sup>3</sup> For further information about the bail-in basis, see Dübel (2013a) and Dübel (2013b).

<sup>4</sup> See Financial Times of 12<sup>th</sup> June 2012 “Barroso pushes Banking Union”.

<sup>5</sup> The European Banking Union consists of three pillars: the Single Supervisory Mechanism (SSM), the Single Resolution Mechanism (SRM), and the Harmonized Deposit Insurance (DGS), of which the latter has not yet been finalized. We do not investigate events attached to the construction and the implementation of SSM since it does not contain any specific rules concerning bail-in.

<sup>6</sup> See Dübel (2013b).

<sup>7</sup> See Denmark’s Nationalbank (2013).

<sup>8</sup> See Financial Times, 8th February 2011, p. 27.

**Spain** applied for ESM assistance in bank restructuring and recapitalization in June 2012.<sup>9</sup> At this time recapitalization needs of Spanish banks were estimated at 100 bn euro. The largest bank in distress was **Bankia** with a balance sheet of about 300 bn euro. At the insistence of euro area finance ministers, the Memorandum of Understanding (MoU) included the participation of junior creditors in the losses of the Spanish institutes as a necessary condition for granting bank aid. Subordinated Liability Exercises (SLEs) included hybrid capital and subordinated debt and were either voluntary or – where necessary – mandatory.<sup>10</sup> In the second half of the year 2012 the Spanish government implemented a national law on the restructuring and resolution of their credit entities.<sup>11</sup>

Case number three is the creditor bail-in of the **Dutch bank SNS Reaal**, which had total assets of about 80 bn euro. After the bank had suffered from substantial write-downs on its real estate portfolio during the year 2012, the Dutch government nationalized SNS Reaal on 1 February 2013. In the context of nationalization, the state injected 2.2 bn euro, shareholders and junior creditors were both wiped out. One billion of subordinated debt was expropriated with zero compensation under a new Dutch law.<sup>12</sup> While this case happened during the negotiation of the SRM, its political spillover effect was probably magnified for an additional reason: the responsible Dutch finance minister had just been appointed as the president of the Eurogroup. Hence, his involvement in the decision to bail in creditors in the Netherlands was a strong indication for the future stance of the Eurogroup, including in their negotiations with the incipient case, Cyprus.<sup>13</sup>

**Cyprus** is a key bail-in event because it clearly transported the signal that the euro area was going for a bail-in of creditors in bank restructurings and moreover that the bail-in basis could be very wide, including senior unsecured debt and even deposits. Apart from the early Danish case, retail investors had not yet faced haircuts. The different bail-in options became public in February 2013. On March 18, the government of Cyprus and the eurozone Finance Ministers announced that all deposits, including those below 100 000 euro (the legal deposit guarantee limit of the EU) would be facing losses. Following an uproar and a week of further frantic negotiations, the deal finally announced on 25 March 2013 bailed in senior unsecured debt and large deposits but not retail deposits under 100 000 euro.

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<sup>9</sup> See Financial Times – European Edition on 25<sup>th</sup> June 2012. This event date is not examined since a creditor bail-in was not discussed at this early stage.

<sup>10</sup> See Memorandum of Understanding (2012).

<sup>11</sup> See Ashurst (2012).

<sup>12</sup> See Dübel (2013b), p.40.

<sup>13</sup> See also the article of the Financial Times – European edition „Dutch moralist sends stern message“, on 26<sup>th</sup> March 2013, p. 2.

The last country case focuses on the creditor bail-in of the **Portuguese bank Banco Espírito Santo**, which had total assets of about 85 bn euro. For a few days, this event dominated the news and raised the spectre of renewed turbulence in the euro area. On July 10, fears over this bank briefly triggered a stock sell-off across European financial markets. Portugal's PSI 20 share index closed down by 4.3%, the biggest drop in more than a year.<sup>14</sup> In September 2014 the bank posted record losses for the first half of the year. On 4<sup>th</sup> August 2014, the bank was split up into a “good bank” and a “bad bank” after a frenzied weekend of discussions between Portuguese and European Union officials. The good bank, Novo Banco, received all sound assets, deposits and senior debt plus a capital injection of 4.9 bn euro. The bad assets were transferred to the bad bank and its losses had to be borne by junior creditors.<sup>15</sup>

Finally we analyse the market reactions in response to the implementation of the European Single Resolution Mechanism (SRM), determining bail-in rules for the European Banking Union. The purpose of the SRM is to ensure that potential future bank failures in the European Union are managed efficiently, such that taxpayers and the real economy are burdened with minimal costs. One of its key elements is the centralized competence to wind down distressed banks. It is therefore endowed with more comprehensive and effective arrangements to tackle cross-border banking failures than national supervisory authorities.<sup>16</sup> The SRM has access to a European Single Resolution Fund, which is supposed to be sourced from the banking sector instead of the taxpayer. Regarding the design of creditor bail-in, the SRM applies the rules established under the Bank Recovery and Resolution Directive (BRRD). According to the BRRD, creditors are primarily supposed to bear the costs of the bank failure in order to minimise the burden for taxpayers. The possible bail-in basis under the BRRD ranges from junior to senior unsecured debt and can involve uninsured customer deposits. Deposits from small and medium-sized enterprises as well as from natural persons, including in excess of hundred thousand Euros, will be preferred over senior creditors.<sup>17</sup> It is noteworthy, however, that the bail-in basis will depend on the respective case of a bank resolution. Therefore the BRRD is an integral part of the SRM and will be also considered in our event search. The EU Finance ministers agreed upon the BRRD in June 2013, thereby preparing the bail-in rules for the SRM. A milestone was passed in March 2014 when the European Parliament and the Council reached a provisional agreement on the proposed SRM. In April 2014 the SRM was finally adopted by the European Parliament.

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<sup>14</sup> See Financial Times, online: “Fear over Banco Espírito Santo trigger stock sell-off”, July 10, 2014, 6:48pm. <http://www.ft.com/intl/cms/s/0/4b0ce5ce-0815-11e4-9afc-00144feab7de.html#axzz3HcLjBF7Y>

<sup>15</sup> See also Reuters (2014).

<sup>16</sup> See European Commission (2014a).

<sup>17</sup> See European Commission (2014b) for more information about the liability cascade in case of a bail-in.

## Expected market reactions

The overarching hypothesis in this paper is that the occurrence of a bail-in event **reduces bail-out expectations across European banks**. We then expect a rise in CDS spreads and a drop in stock returns. Stock prices are affected indirectly since, everything else equal, an increase in banks' financing costs would reduce profits. However, banks have other adjustment margins (e. g. increase loan rates) and therefore the effect of a bail-in event on stock prices may be less pronounced than that on CDS spreads.<sup>18</sup> On the basis of these considerations we now formulate several hypotheses.

As pointed out in the above description, only two country cases incorporate a bail-in of senior debt, namely Denmark and Cyprus. In all other cases, senior unsecured debt holders as well as depositors were spared. Since a bigger bail-in basis increases the burden on *senior* creditors, we would expect stronger market reactions for a bigger bail-in basis, as our CDS spreads refer to senior unsecured debt. Accordingly we formulate the following hypothesis:

### Hypothesis 1:

*A bail-in including senior debt leads to a stronger increase in CDS spreads (drop in stock prices) than a bail-in including junior debt only.*

Moreover, some cases served as a foretaste for the future design of bank bail-ins in the European Union. We assigned a high political spillover effect to a case if it happened amidst the creation of the SRM. Furthermore, we considered the involvement of European leaders in the decision process. Three country cases happened during the implementation process of the SRM, namely those in Spain, the Netherlands and Cyprus. In contrast, Denmark's bail-in happened much earlier and under a pure national scheme, whereas the Portuguese case took place after the completion of the SRM. The three aforementioned cases are therefore assumed to lead to stronger market reactions. Hence, we formulate the following hypothesis:

### Hypothesis 2

*A bail-in that entails a political spillover effect for the other European countries leads to a stronger increase in CDS spreads (drop in stock prices) than other bail-ins.*

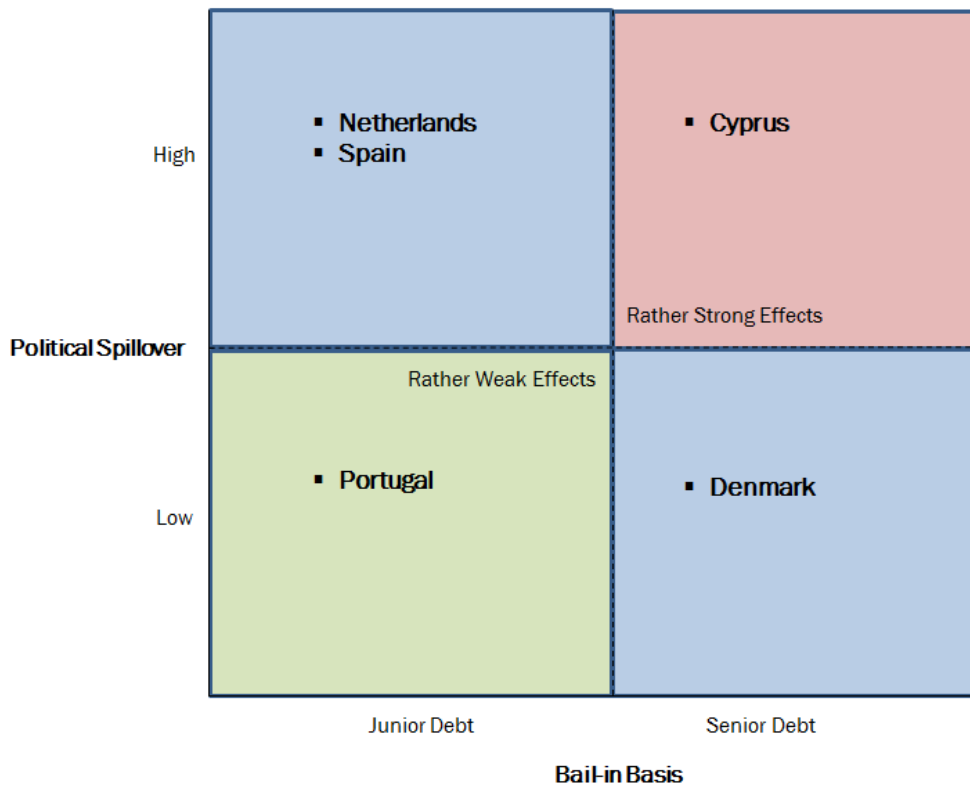
Figure 1 shows the country cases assigned to the two hypotheses. From this we derive more specific predictions for the expected strength of reactions in market prices.

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<sup>18</sup> Schäfer, Schnabel and Weder di Mauro (2015) also consider regulatory events that directly affect banks' profitability, which is then reflected in a drop in stock returns.



**Figure 1.** Hypotheses according to Bail-in Basis and Political Spillover



The Cyprian case combines – as the only one – two prerequisites for a strong expected reaction in market prices, namely a high political spillover effect *and* a large bail-in basis. Compared to the other cases, the Cyprian case is therefore expected to show the strongest rise in CDS spreads and the most severe drop in stock returns. The Spanish, the Dutch and the Danish cases only fulfil one of the postulated conditions for stronger expected changes in market prices. Their market reactions are therefore assumed to be less strong than those in Cyprus. The Portuguese case, however, happened after the completion SRM process, while its bail-in basis is comparatively small. Hence, in this case we expect the smallest effects in market prices.

We furthermore expect different market reactions for different types of banks. Our first group of interest are the systemically important institutions. These banks had benefited most strongly from

implicit public bail-out guarantees under the old regime and are therefore expected to experience a larger reduction in bail-out expectations when it comes to a bail-in decision.<sup>19</sup>

### **Hypothesis 3**

*Banks considered as systemically important are expected to experience a stronger increase in CDS spreads (drop in stock prices) than banks that are not systemically important.*

The last hypothesis refers to banks in those countries that have been predominately affected by the European sovereign debt crises. We expect stronger reactions in market prices for banks from Greece, Ireland, Italy, Portugal, and Spain (GIIPS). As those countries face already high public debt levels, their ability to finance national bank bail-outs on their own is limited, which makes a bail-in more likely. In addition, the probability for those banks to experience a crisis – and hence a bail-in – in the future increases.

### **Hypothesis 4**

*Banks located in the GIIPS states are expected to experience a stronger increase in CDS spreads (drop in stock prices) than banks from non-GIIPS-states.*

## **3. Methodology**

In the following section, we describe the methodology to investigate the effects of bail-in events on market prices. The first subsection outlines the identification process of the events. Then we comment on the data sample and introduce our empirical estimation models.

### **3.1 Identifying Events**

We are interested in the exact point in time when bail-in relevant news reaches the markets. This is of particular importance as we are analysing daily market price data. Negotiations regarding the treatment of distressed banks as well as the political process to form the European SRM are typically extended over a longer timeframe. For this reason it would not be sufficient to rely only on press releases about the final outcomes, as possibly important interim results from longer lasting negotiations have been spread out to the markets before. Following O'Hara and Shaw (1990), we classify an incident as a relevant event if it was published on the front page of an internationally reputable newspaper. The objective of a financial newspaper's editor is to report

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<sup>19</sup> See Ueda and Weder di Mauro (2010) and Ueda and Weder di Mauro (2013) for an analysis of bail-out expectations for systemically important banks.

about the news driving the markets. This is exactly the kind of event we are looking for. For this study we select the Financial Times – European Edition (FT), a reputable newspaper that covers all parts of Europe with a profound reporting on financial markets. We scanned all FT front pages from September 2010 until October 2014, containing a total amount of approximately one thousand and two hundred front pages. If we detect a bail-in relevant article with respect to the above cases on a front page, we check as well the subsequent articles on the following pages to determine the exact timing of the event.<sup>20</sup> This is of particular importance as we need to know whether the respective event, e. g. the consensus of the Eurogroup meeting, was reached before or after markets closed. Table 1 summarizes the identified events according to their dates of occurrence, as well as the respective headlines of the FT article. Typically the relevant event happened one day prior to its publication. However, there are also cases in which the relevant news was produced on a Sunday (e. g. Cyprus) or late at night after markets closed (e. g. SRM) such that the event day coincides with its publication date. Hence, the event date is determined by the day on which markets opened the first time after its release. As can be seen from Table 1, the timeframe of the different cases varies quite substantially. While the Cyprian, the Spanish and the SRM cases include several event dates, Netherlands', Denmark's and Portugal's cases are restricted to one event only.

### **3.2 The Data**

The analysis is based on daily stock returns and CDS spreads for all available banks in Datastream (Thomson Reuters) from the European Union, adding banks from Norway, Switzerland and Liechtenstein due to their closeness to the EU. We downloaded all available banks and removed banks that were inactive and not continuously traded within the sample period. After these adjustments we obtained a sample of 64 banks for CDS spreads and 85 listed banks for stock returns. For CDS spread analysis we use the day-to-day mid-prices (first differences) of 5-year senior tranches on an end-of-day basis. With regard to the equity analysis we use the daily returns of stocks based on their closing auctions and listed at their domestic stock exchanges. Tables 2a and 2b show the summary statistics for the data sample. All bank data is from Datastream (Thomson Reuters). The number of observations for each bank is determined by the estimation window of 80 trading days plus the event window of 3 trading days for each event (excluding overlapping observations). Since we estimate events for all banks simultaneously rather than considering country-specific subsample-events, the number of observations remains constant for all banks across countries. When testing for heterogeneity effects, we split our sample in systemically important banks (G-SIBs) and banks that are not

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<sup>20</sup> We complemented the newspaper search by a comprehensive internet research.

considered as systemically important (non-G-SIBs). The selection is based on the list of twenty-eight globally systemically important financial institutions, published by the Financial Stability Board on 1 November 2012. Matching our sample with this list provides us with sixteen European G-SIBs for both CDS spreads and stock prices. Furthermore we construct a subsample of banks that are based in those countries that have been predominantly affected by the European sovereign debt crisis. Hence, we define banks from Greece, Ireland, Italy, Portugal, and Spain as GIIPS banks whereas the remaining ones are labelled as non-GIIPS banks. For CDS spreads, we end up with a subsample of 22 banks from GIIPS countries while stock price sample comprises a subsample of 27 banks from GIIPS countries. Tables 2a and 2b incorporate our classifications of banks according to the two criteria for each sample bank. We furthermore conduct a number of cross-sectional regressions in order to assess the drivers for the rise in CDS spreads in response to the bail-in in Cyprus. For this purpose we use the country-specific debt over GDP ratios (public debt divided by the gross domestic product) as at 2012, taken from the World Economic Outlook Database by the IMF. Moreover, we construct the following bank-specific control variables: the average equity ratio is defined as average common equity in 2012 divided by average assets in 2012. The net income ratio is calculated as banks net income in 2012 scaled by average assets in 2012 and  $\ln(\text{Assets})$  stands for the natural logarithm of the average assets in 2012. All bank-specific controls variables are retrieved from Bankscope (Bureau van Dijk). Tables 2c and 2d display the summary statistics for the above variables while correlations are given in Table 2e.

### 3.3 Empirical Model

Our purpose is to assess abnormal differences in CDS spreads and stock returns on the identified event dates. The empirical approach is similar to the paper by Schäfer, Schnabel, and Weder di Mauro (2015). We estimate differences in CDS spreads on the basis of the constant return model. Our empirical model for CDS spreads consists of a system of equations in which the first differences in CDS spreads are regressed on a bank-specific constant and a set of dummy variables. Compared to the traditional two-step procedure for event studies as described by Campbell, Lo, and MacKinlay (1996), we include dummy variables in the equations, equal to one at an event date and zero otherwise. Hence, event- and bank-specific abnormal first differences in CDS spreads are captured by the coefficients of the respective dummies.<sup>21</sup> In order to estimate the equations jointly, we apply the seemingly unrelated regression technique by Zellner (1962).

The system of equations then looks as follows:

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<sup>21</sup> See Binder (1985) and Karafiath (1988) for further information.

$$\Delta CDS_{1t} = \mu_1 + \sum_{n=T-1}^{T+1} \tau_{1n} D_{1nt} + \varepsilon_{1t}$$

...

$$\Delta CDS_{jt} = \mu_j + \sum_{n=T-1}^{T+1} \tau_{jn} D_{jnt} + \varepsilon_{jt}$$

...

$$\Delta CDS_{Jt} = \mu_J + \sum_{n=T-1}^{T+1} \tau_{Jn} D_{Jnt} + \varepsilon_{Jt}$$

The expression  $\Delta CDS_{jt}$  denotes the first difference of CDS spreads,  $\mu_j$  stands for the mean of first differences of bank  $j$  within the estimation window, whereas  $D_{jnt}$  indicates the vector of dummy variables for all events. For each of our identified events in Table 1 we define three dummies: a dummy for the event date itself  $T$ , a dummy for the following date  $T+1$ , and finally a dummy for the day prior to the event  $T-1$ . All of our regressions are calculated on the basis of an 80 trading days estimation window. If an event occurs in an estimation window, it will be “dummied out” by incorporating it into the regression. The estimation window length will be enlarged accordingly, such that we conduct every regression with exactly 80 trading days.

We model normal returns of bank’s stock prices using the market model.<sup>22</sup> In order to proxy the market return with a broad based benchmark, we use a widely diversified and globally structured index, namely the Stoxx Global 1800, denominated in euro. In doing so, we avoid the distortion of effects due to the interdependency of financial and non-financial firms within our sample.<sup>23</sup> We rerun the regressions for stock returns in the robustness section on the basis the Stoxx Europe 50 index, which, in contrast to the former, is a purely European index.

The difference compared to the model above consists of the inclusion of the market return  $R_M$ :

$$R_{1t} = \alpha_1 + \beta_1 R_{Mt} + \sum_{n=T-1}^{T+1} \tau_{1n} D_{1nt} + \varepsilon_{1t}$$

...

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<sup>22</sup> See Campbell, Lo, and MacKinlay (1996)

<sup>23</sup> See for example Ongena, Smith, and Michalsen (2003).

$$R_{jt} = \alpha_j + \beta_j R_{Mt} + \sum_{n=T-1}^{T+1} \tau_{jn} D_{jnt} + \varepsilon_{jt}$$

...

$$R_{Jt} = \alpha_J + \beta_J R_{Mt} + \sum_{n=T-1}^{T+1} \tau_{Jn} D_{Jnt} + \varepsilon_{Jt}$$

Coefficients  $\alpha_j$  and  $\beta_j$  denote the bank-specific intercept and the beta factor attached to the market return, respectively. Apart from those differences, the regression technique is conducted in the same way as before.

On the basis of our regressions we run a number of tests. We start by evaluating the impact on the full European bank sample. This coefficient is obtained by calculating the average abnormal difference in CDS spreads (stock returns) of all banks in our sample. Furthermore we display the coefficients for the segment of the G-SIBs, for their counterparts and as well as for the difference in abnormal return between those two subgroups. Finally we repeat this procedure for banks from the GIIPS countries and the remaining banks. The enlarged event window [0+1] shows the cumulated coefficients of the event date and the following date. We also check for anticipatory effects on the day prior to the announcement and post them only when they are significant. We display for each coefficient the respective p-value. Tables 3 to 16 contain our main results for CDS spreads and stock returns, respectively. The tables in the appendix A1 to A6 show the results for stock price regressions when using the Stoxx Europe 50 index as benchmark index for the market return.

## 4. Results

As was explained above, the strongest reactions are expected to be found for the events in Cyprus. Therefore, we start by extensively discussing the Cyprus case before moving on to briefly describe the results from the other events in chronological order. We conclude by discussing the effects of the reform process concerning the implementation of the Single Resolution Mechanism (SRM).

### 4.1 Cyprus

The Cyprian country case is of particular importance for the analysis because it combines two important features that we assume to be essential. First, the bail-in basis is wide due to the involvement of senior debt and even large customer deposits. Second, the decision to expand the

bail-in basis to senior debt and retail depositors was backed by the Eurogroup after protracted negotiations. This was a watershed in the way to deal with distressed banks. We identify three events for the Cyprian case: First, the outcome of the eurozone finance minister meeting on 11 February 2013. At this early stage, the bail-in of senior debt was considered as one of three possible alternatives of the meeting. The second event on 18 March 2013 is characterized by the Cyprian proposal to introduce a levy on all depositors, even if their claims were below the insured amount of one hundred thousand euro.<sup>24</sup> While this is not a distinct bail-in procedure its economic effect on private investors would be very similar, as it transfers the rescue costs from the taxpayer to investors. The last event on 25 March 2013 marks the actual bail-in in Cyprus.

We start with the results for CDS spreads, given in Table 3. First looking at the full sample coefficient, we see a sharp increase in CDS spreads for events number two and three, ranging from 12 to 15 basis points when we consider the enlarged event windows. Systemic banks show even sharper increases for these two events, but a significant difference relative to their non-systemic counterparts is only visible for the second event. The most striking result is the boost in CDS spreads of banks from the GIIPS states. The effect ranges from 22 up to 31 basis points for events number two and three. Moreover, the difference to banks from the non-crisis countries is at 15 to 24 basis points and is highly statistically significant. The results for stock returns, displayed in Table 4, basically mirror our results on CDS spreads. The full sample coefficients show sharp significant reactions. Again, the G-SIBs are affected more with a mildly significant difference for non-G-SIBs in case of event number two. Finally, the rise in CDS spreads for the banks from European crisis countries is also reflected in sharp drop in stock returns. Stock returns from banks of GIIPS are -6.7% and -5.1%, respectively, and again the difference with respect to their non-GIIPS counterparts is significant. Figures 2a to 2d illustrate the market reactions in response to the proposition of the deposit tax whereas the effects of the actual bail-in in Cyprus are depicted in Figures 3a to 3d. As can be seen from those graphs, the heterogeneity of effects is particularly large for CDS spreads.

Figures 4a to 4d illustrate the key events in Cyprus (also including the events in the Netherlands, which were taking place shortly before) on a longer time line. The market reactions in response to those events are remarkable.

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<sup>24</sup> The proposal at this time provided for a 6.75% levy on all deposits under 100.000 euro and a 9.9% levy above this threshold.

## **The role of fiscal capacity**

The strong evidence for a CDS spread increase in response to the bail-in events in Cyprus was expected because a comparatively large bail-in basis was combined with a high political spillover effect. We found more pronounced effects for systemically important banks, but the strongest heterogeneity was found for banks from the GIIPS-countries and hence for banks whose host countries are heavily indebted. In the following, we will investigate these results further by looking in more detail at the Cyprian key-event, namely the decision to bail in senior debt on 25<sup>th</sup> March 2013.

Figure 5 depicts the average country-specific abnormal rises in CDS spreads on 25<sup>th</sup> March, and Figure 6 shows a scatter plot of these country-specific CDS increases against each countries debt over GDP ratio. Figure 6 clearly suggests a positive relationship between the size of public debt (relative to GDP) and the CDS spread increase. Interestingly, banks located in the severely indebted country Greece do not seem to have been impressed much by the decision to bail in senior debt in Cyprus. Switzerland and the United Kingdom, however, show a notable increase in CDS spreads even though their public debt levels stand at comparatively low levels.

These observations raise the follow-up question what determines the observed differences. Besides country characteristics, such as the debt over GDP ratio, they could stem from the banks' risk characteristics, which could be correlated with the sovereign's indebtedness. In order to disentangle the public debt effect on the CDS increase from other possible drivers we run simple cross-sectional regressions for the Cyprian key event. We regress the bank-specific abnormal increase in CDS spreads on the country-specific public debt level as at 2012 and on the past bank CDS level as of 31 December 2012. In doing so, we seek to isolate the effects of banks' individual risks from those of domestic public debt level. In additional specifications, we are including the interaction effects of those two variables on the right side of the regression equation to capture the idea that CDS spreads of weaker banks may react more strongly if these banks are located in fiscally weak countries. The series for debt over GDP and CDS levels are demeaned to facilitate the interpretation when using interaction terms. We furthermore control for other bank-specific variables. We model banks' size by the natural logarithm of average assets and as well by a dummy variable indicating whether a bank is a G-SIB. Banks' leverage is measured by the average equity ratio, and profitability enters via the net income ratio into the regressions. The exact definitions of all bank-specific variables are given in the data section.

Hypothesis 4 argues for a reduced probability of bailing out the banking sector in countries with low fiscal capacity. A comparable situation is likely to occur when the country hosts a



comparatively large banking sector. We therefore include the additional dummy variable for supersized banking sectors if the public debt level stands below 100 percent (i. e. a comparatively low level) and if the ratio of bank assets over GDP reaches an amount of more than 400 percent (i. e. belonging to the top level of bank assets over GDP).<sup>25</sup>

Tables 5 and 6 show the results from the cross-sectional OLS regressions for the full sample and for a sample excluding banks from Greece, respectively. Starting with the key variable debt over GDP we include the other control variables gradually. In both tables we observe that debt over GDP is significant in all model specifications. The level of banks' CDS spreads yields significance in a few model specifications but its inclusion does not reduce the explanatory power of countries' public debt level. Hence, the most important determinant of the abnormal change in CDS spreads in response to the bail-in event in Cyprus appears to be the host country's fiscal capacity, which limits a country's ability to bail out the domestic banking sector and therefore makes a bail-in more credible. Bank size turns out to be significant and increases the model performance notably, as can be seen from the adjusted R-squared in model 4. Significance is found for both the total average assets and the G-SIB dummy and is therefore consistent with the previous findings from the event-study analysis.

Omitting Greek banks (see Table 6) improves the model performance without changing the overall structure of results. The improvement in the overall model performance is due to the fact that Greek banks show a comparatively low increase in CDS spreads combined with a huge public debt level. Excluding Greek banks from the regressions leads to significance of the supersized banking sector dummies in Switzerland and the United Kingdom. Consequently, a bail-in also seems more likely when the capacity to bail-out is restricted by the size of the underlying banking sector and not by the magnitude of indebtedness alone.

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<sup>25</sup> As at 2012 United Kingdom, Switzerland, and Ireland were the only countries hosting bank assets of an amount above 400 percent as of GDP. Among those countries only United Kingdom and Switzerland exhibited public debt levels below 100% and are therefore classified within this group. See data for Debt/GDP at the World Economic Outlook Database by the IMF as of April 2014 as well as data for bank assets scaled by GDP at the HelgiLibrari. <http://www.helgilibrary.com/indicators/index/bank-assets-as-of-gdp>

## 4.2 Other country-specific events

The remaining country-specific events yield somewhat weaker results, which was expected due to a smaller bail-in basis and/or lower political spillover effects.

### Denmark

In Denmark, the bail-in procedure of the Danish retail bank Amagerbanken is characterized by a comparatively large bail-in basis but a rather low political spillover effect on the European banking sector. Our newspaper search provides us with one event date only, the day of the announcement that the bank was to be wound up.

Looking first at the results for CDS spreads in Table 7, we find a slightly significant relative increase in CDS spreads of about six basis points for the segment of systemic banks compared to the remaining banks, shown by difference of G-SIB versus non-G-SIB. The results attached to the full sample of CDS spreads, as well as those for equity markets, displayed in Table 8, do not show any significant reactions. The market reactions were weak but they provide us with some evidence for reduced bail-out expectations in the segment of systemically important banks in Europe relatively to other banks. The rather mild effect might be attributed to the fact that the early Danish resolution was not considered as indicative for the future way of conducting bank bail-ins in Europe, given that Denmark was not part of the eurozone. Also, Amagerbanken was a small bank, with total assets of only 4.5 billion assets<sup>26</sup> and a market share of only one percent even in Denmark.<sup>27</sup> This raises the question whether financial markets could have seriously considered Amagerbanken as a leading indicator for bail-ins at larger institutes in other European countries.

### Spain

The next country case covers Spain. Compared with the Danish case, the Spanish bail-in procedure applied a relatively small bail-in basis, i. e. junior debt only, while senior unsecured debt holders and depositors were spared from having to bear the banks' losses. The Spanish case however happened during the creation of the SRM and is therefore considered to exhibit rather high political spillover effects. Our event identification comprises three dates on which bail-in relevant news were published on page one of the FT. The first event on 10 of July is given by a proposal for a Spanish bank rescue plan, implying junior creditor participation according to a memorandum of understanding (MoU) by the eurozone. On the second event date, 19 July 2012,

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<sup>26</sup> See Dübel (2013b).

<sup>27</sup> See Denmark's Nationalbank (2013).

the German government backed the eurozone bank rescue plan and implicitly the involvement of junior bank creditors. On the last event on 23 August of Spanish authorities express their intention to implement a national bank resolution law. This effort could be considered as the response to the terms of the MoU declared before.

Table 9 displays the results for abnormal changes in CDS spreads while Table 10 reports the abnormal stock returns. Analysing CDS spreads first, we find one significant reaction in response to the third event only, which occurs again in the difference of G-SIBs vs. non-G-SIBs. The increase amounts to roughly 15 basis points and is highly significant. Stock markets, as before, do not exhibit significant reactions. Similar to the previous case, we find minor evidence for a reduction in bail-out expectations in the segment of G-SIBs. The overall effects (here on the basis of the three events) are, however, rather mild.

## **Netherlands**

The Dutch bank SNS Reaal is the subject of our next country case. Like in the previous case, the bail-in basis comprises junior debt only while we assume a rather high political spillover effect on the European banking sector. Our front page filtering methodology provides us with a single event: The announcement to nationalize the SNS Reaal on 1 February 2013 including a loss participation of junior creditors.

Table 11 reports the results for CDS spreads. For first the time, the bail-in event shifts the average abnormal difference in CDS spreads for all banks in the European sample. The effect is significant and amounts to almost 12 basis points in the enlarged event window. Banks from the G-SIB segment experience a significant rise in CDS spreads as well, albeit slightly smaller than their counterparts (although the difference is not statistically significant). Interestingly, we find the largest rise for banks from the countries that have been predominantly affected by the European sovereign debt crisis. The rise for banks in GIIPS countries amounts to roughly 26 basis points and is significantly different from their counterparts. The results for stock returns (Table 12) point again in the expected direction. The average coefficient attached to the full sample (again the enlarged event window) is -2.5 percent and statistically significant. Complementary to the results for CDS, banks of the GIIPS subsample experience the strongest reaction, here -4.4 percent.

Taken together with the results for CDS, we find a notable reduction in bail-out expectations for the entire European banking sample. Moreover, we find particularly strong evidence for the banks from GIIPS countries. The latter effect indicates that the market demands higher risk

premia for those banks and expects a higher probability of a future bail-in in those countries. The results for equity markets are supportive to those from CDS spreads. Quantitatively, the Dutch case leads to more pronounced results than the other two cases taking place before (Denmark and Spain). In fact, market reactions in the Netherlands have to be seen in the context of the Cyprus crisis, which was already acute at that time. Figure 7a illustrates the gradual widening between CDS spreads of banks from GIIPS and non-GIIPS countries in response to the Dutch bail-in case. The effect on bank stock prices for GIIPS versus non-GIIPS is depicted in Figure 7b.<sup>28</sup>

## **Portugal**

The last case that we analyse is the bail-in event of the Portuguese bank Banco Espírito Santo. Due to the time when it happened its political spillover effect is likely to be small. The bail-in basis was set to junior debt, hence senior creditors were spared another time. We identified one bail-in relevant event only, which is given by the announcement to split up the bank into a good and a bad bank.

Table 13 reports the results for CDS spreads. Interestingly, the event itself does not lead to any significant reactions whereas the Friday prior to the weekend of negotiations exhibits a significant increase of the full sample coefficient. As can be seen from the last column, this is largely driven by the GIIPS banks. Given that CDS premia are bouncing back on the actual day (albeit not significantly), it seems that markets had anticipated a less favourable outcome than finally realized. Conceivably, markets might have considered parts of senior debt to be bailed in instead of the restriction to bail in junior debt only. Equity markets do not seem to have been impressed too much by the Portuguese case (Table 14). Only the difference of GIIPS versus their counterparts turns out to be marginally significant within the enlarged event window.

### **4.3 The Single Resolution Mechanism (SRM)**

Finally, we consider the implementation of the new European financial market regulation, namely the SRM. We identified five bail-in relevant events according to our article search. The first event occurred when the EU finance ministers agreed upon the rules for the Bank Recovery and Resolution Directive (BRRD) on 28 June 2013. The second event is the proposal of the SRM by the European Commission on 9 July 2013. According to this proposal the power to wind down

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<sup>28</sup> Note that charts are prepared on the basis of actual market data and not on the basis of our regression results. For this reason the change in market prices within the graphical illustration might differ from the results, given in the tables.

failing banks would be centralized in Brussels.<sup>29</sup> Event number three on 18 December 2013 combines two relevant messages for financial markets. While the Council of the European Union agreed upon the general approach towards the SRM, including the applicable rules of the BRRD<sup>30</sup>, the European Central Bank (ECB) casted its fundamental doubts. One key concern according to the ECB is the unresolved question about the financing of the resolution fund, required to conduct a centralized wind-down procedure in a credible way. The fourth event describes a provisional agreement between the Council and the European Parliament on the construction of the SRM, reached on 20 March 2014<sup>31</sup>. An important result of this compromise included the financing of the resolution fund and could be, hence, regarded as a preliminary seal to the long-lasting negotiations. Finally, the fifth event on 15 April 2014 contains the formal agreement of the European Parliament to back the Commission's proposals on completing the SRM.

CDS spreads in Table 15 show a slightly significant increase for the difference of systemic vs. non-systemic banks, attached to the first event. While events number two and three do not seem to have impressed the credit markets, the provisional compromise leads to a significant increase in the full sample coefficient. Moreover, systemic banks' CDS spreads rise significantly about five and half percent and exhibit a significant difference with respect to non-systemic banks.

Stock prices, given in Table 16, show a notable difference between GIIPS vs. non-GIIPS banks of about 4 percentage points when the SRM proposal was announced. The CDS reactions in response to provisional compromise are partly mirrored by the stock returns. We find a small and significant drop in stock returns attached to the full sample coefficient when we take the enlarged event window into account. Somewhat surprisingly, the last event leads to negative stock price reactions for the full sample and systemic banks.

## 5. Robustness

In this section we present a robustness analysis for abnormal stock returns. We already estimated the stock returns on the basis of a broadly diversified and globally structured benchmark index, namely the Stoxx Global 1800. We now rerun the regressions with the Stoxx Europe 50, a European Benchmark index that consists of fifty stocks only. In contrast to the global

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<sup>29</sup> Note that the proposal was going to be presented on the following day. But the key points had been published by the Financial Times – European Edition one day before.

<sup>30</sup> For further details, see Council of the European Union (2013).

<sup>31</sup> European Parliament (2014).

benchmark index, it includes to a larger extent the European banks stocks that we are investigating.

Appendix tables A1 to A6 contain the results for the country cases and the SRM, respectively. Comparing the results for Denmark and Spain first, we see that no fundamental changes occur, i. e. the results remain insignificant as before. The previously obtained results for the Netherlands, however, prove to be no longer significant, as can be seen from a comparison of Table 12 with Table A3. The Cyprian results remain generally unchanged when we compare Table 4 with Table A4. We find notable drops in stock returns for the full sample regressions in case of event two and three. Moreover, the strong heterogeneity effects, i. e. G-SIB vs. non-G-SIB and GIIPS vs. non-GIIPS, can be found again. Interestingly, the alternative benchmark estimation shows a significant negative stock return for the second event (full sample) on the event date itself, which in turn strengthens our findings. Regarding the SRM results, depicted in Table A5, the previously obtained significant stock returns attached to events number two and four remain essentially unchanged. Significance for event number five, however, does not show up in the alternative results anymore. Looking finally at the Portuguese case, displayed in Table 14 and A6, we find again a significant negative drop in stock prices for the difference of GIIPS vs. non-GIIPS, attached to the enlarged event window. Compared to the baseline results in Table 14, the positive difference in stock returns between G-SIBs and their counterparts exhibits a slight significance. Summing up, our results remain largely unchanged by the implementation of the local benchmark and therefore confirm our findings that stock prices mainly react when the rise in CDS spreads is sufficiently big.

## 6. Conclusion

In this paper we investigate whether the gradual implementation of bail-in has reduced bail-out expectations in the banking sector of the European Union. We analyse the reactions of CDS spreads and stock returns in response to bail-in precedents and the implementation of the European SRM, employing an event study analysis on a broad sample of European CDS spreads and stock returns.

Our results suggest that bail-in did lead to a reduction in bail-out expectations. We found the strongest rise in CDS spreads in the Cyprian case, which had a comparatively large bail-in basis and a strong political spillover. This should not imply that the process of restructuring Cyprus' banks should be a blueprint for bank restructuring. After all, the process of negotiation was

chaotic and unnecessarily disruptive. However, this public fight over whom to bail in certainly had a very strong political spillover effect.

Substantial reactions on equity markets primarily occurred when CDS spreads rose sharply as in the Netherlands or Cyprus. This result supports our assumption that a bail-in procedure affects future bank returns – indirectly – by a rise in funding costs. In many cases we found that systemic banks experienced larger reductions in bail-out expectations.

A notable result is that the bail-in in the Netherlands and Cyprus had a much stronger impact on CDS spreads for banks located in GIIPS than in non-GIIPS countries. This could indicate that a bail-in is more likely in vulnerable sovereigns with lower fiscal capacity to put up public funds for bank rescue. It could also signal the increasing unwillingness of the eurozone to finance bank restructuring in vulnerable countries, especially if they are small. From a policy perspective, this is a somewhat troubling result because it might indicate that bank bail-out is still likely in fiscally strong countries such as Germany, which would also entail competitive distortions in the European banking sector.

Market reactions in response to the implementation of the European SRM were somewhat smaller than for the most prominent country-level events. But it would not do justice to the SRM regulation to evaluate the effect in isolation. First, the SRM has not been fully implemented yet. Second, some of the change in expectations that we measure in the individual events has to be assigned to the expectations on the future regime. This would suggest that we should add the effects of all the events with Eurogroup involvement to the effects of the SRM reform stream. In this interpretation, the new restructuring regime indeed reduced bail-out expectations in a significant way. Step by step, the euro area seems to be getting to bail-in.

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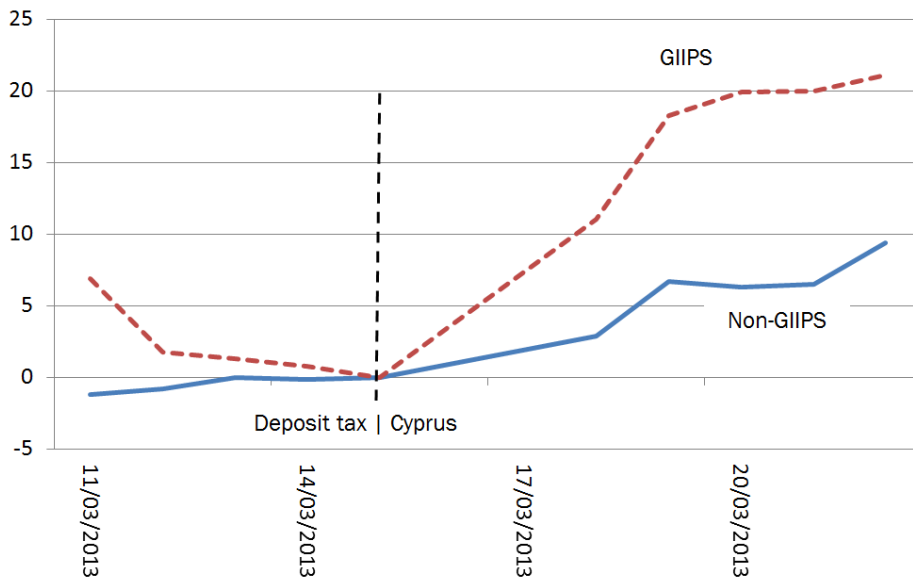
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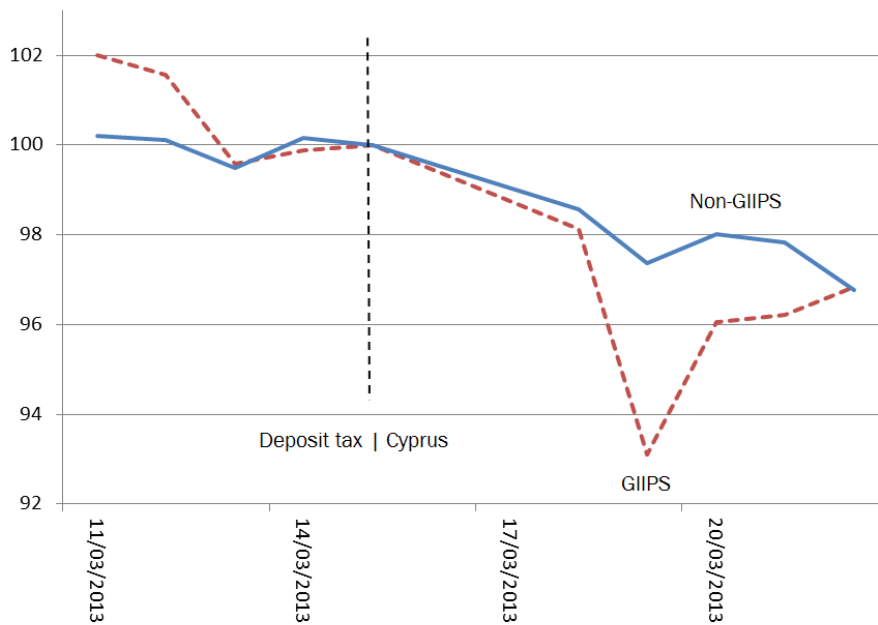
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**Figure 2a. Proposal of a Deposit Tax in Cyprus | CDS Spreads**

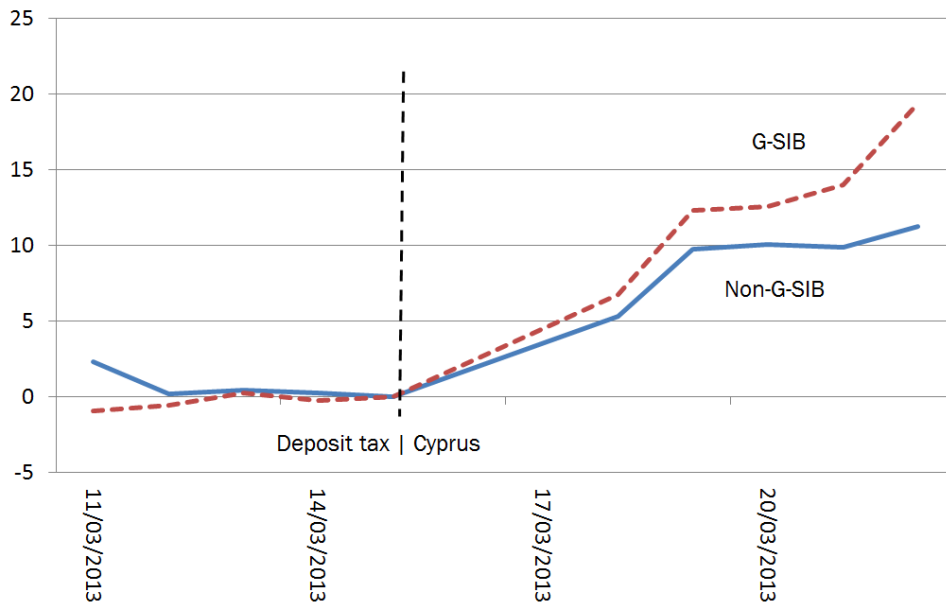


**Figure 2b. Proposal of a Deposit Tax in Cyprus | Stock Prices**

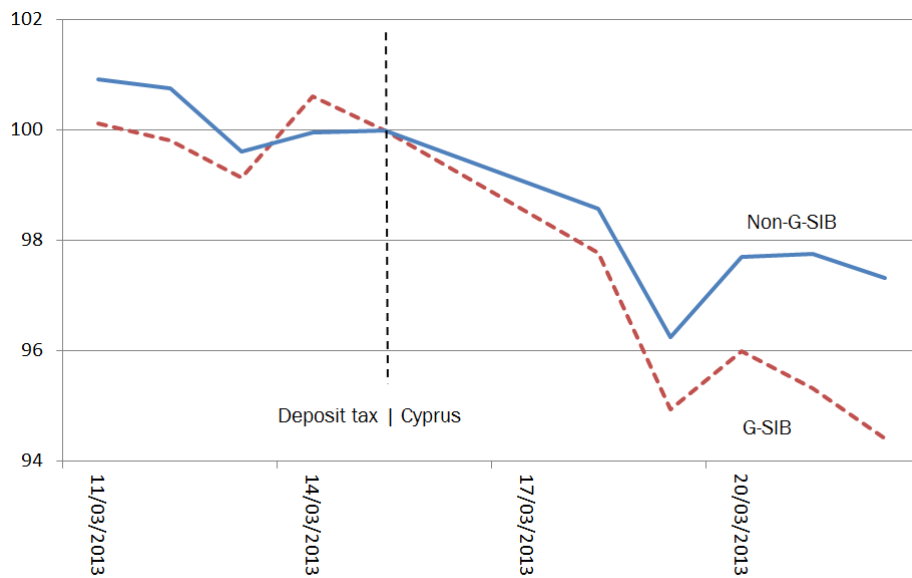


The figures show the reaction of stock prices and CDS spreads in response to the given event. The graph for stock prices shows equally weighted indices, normalized to 100 at the day prior to the event. The graph for CDS spreads shows the average differences in CDS spreads with respect to the day prior to the event. Both graphs are starting five trading days before and ending five trading days after the event.

**Figure 2c. Proposal of a Deposit Tax in Cyprus | CDS Spreads**

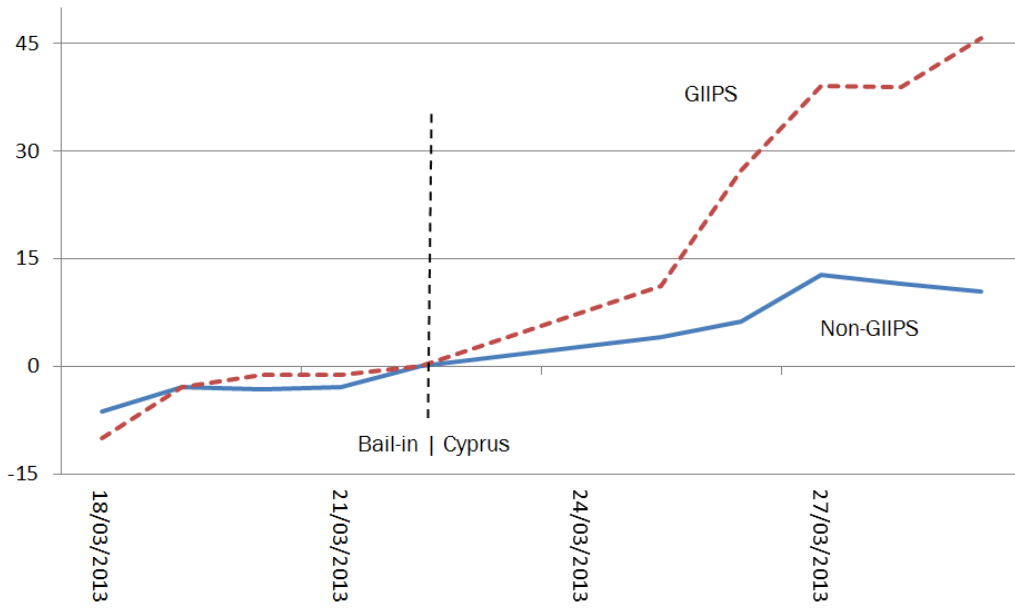


**Figure 2d. Proposal of a Deposit Tax in Cyprus | Stock Prices**

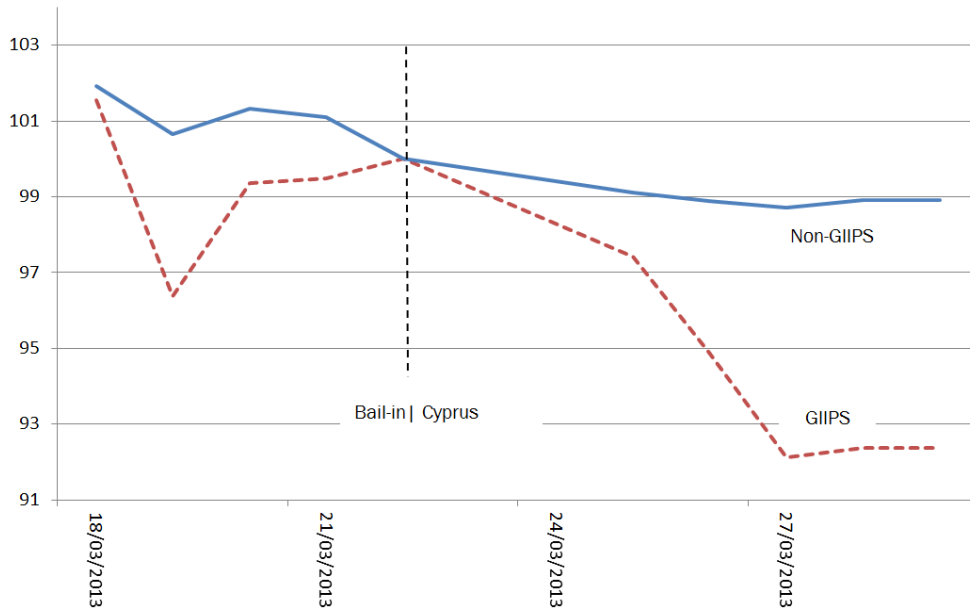


The figures show the reaction of stock prices and CDS spreads in response to the given event. The graph for stock prices shows equally weighted indices, normalized to 100 at the day prior to the event. The graph for CDS spreads shows the average differences in CDS spreads with respect to the day prior to the event. Both graphs are starting five trading days before and ending five trading days after the event.

**Figure 3a. Bail-in in Cyprus | CDS Spreads**



**Figure 3b. Bail-in in Cyprus | Stock Prices**



The figures show the reaction of stock prices and CDS spreads in response to the given event. The graph for stock prices shows equally weighted indices, normalized to 100 at the day prior to the event. The graph for CDS spreads shows the average differences in CDS spreads with respect to the day prior to the event. Both graphs are starting five trading days before and ending five trading days after the event.

Figure 3c. Bail-in in Cyprus | CDS Spreads

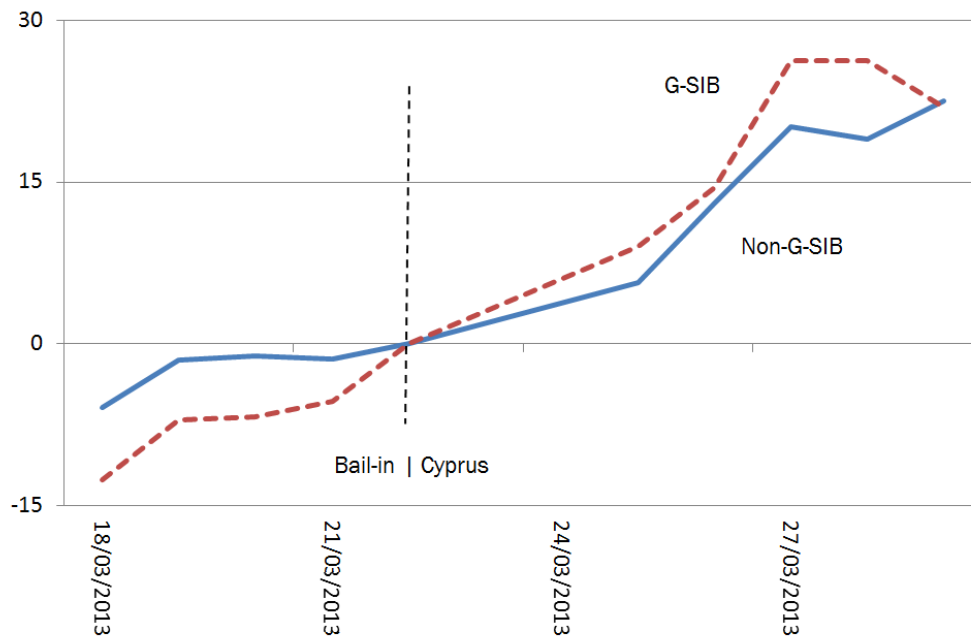
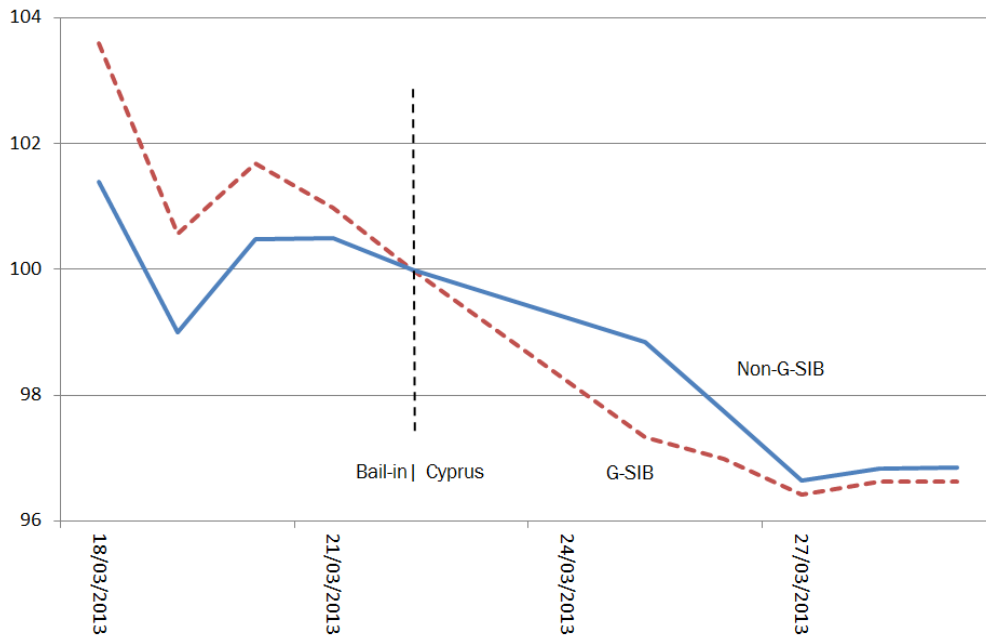
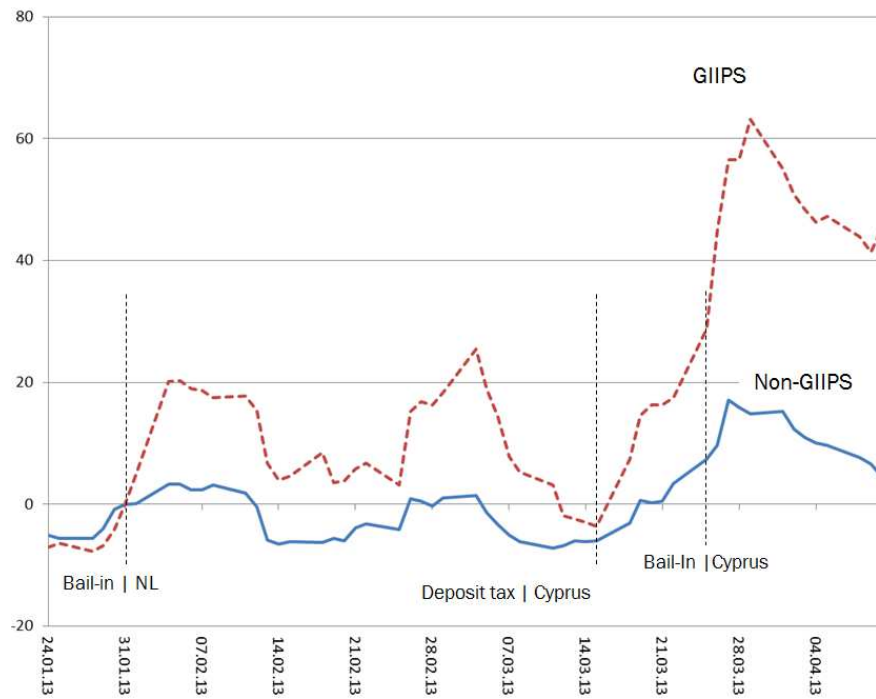


Figure 3d. Bail-in in Cyprus | Stock Prices

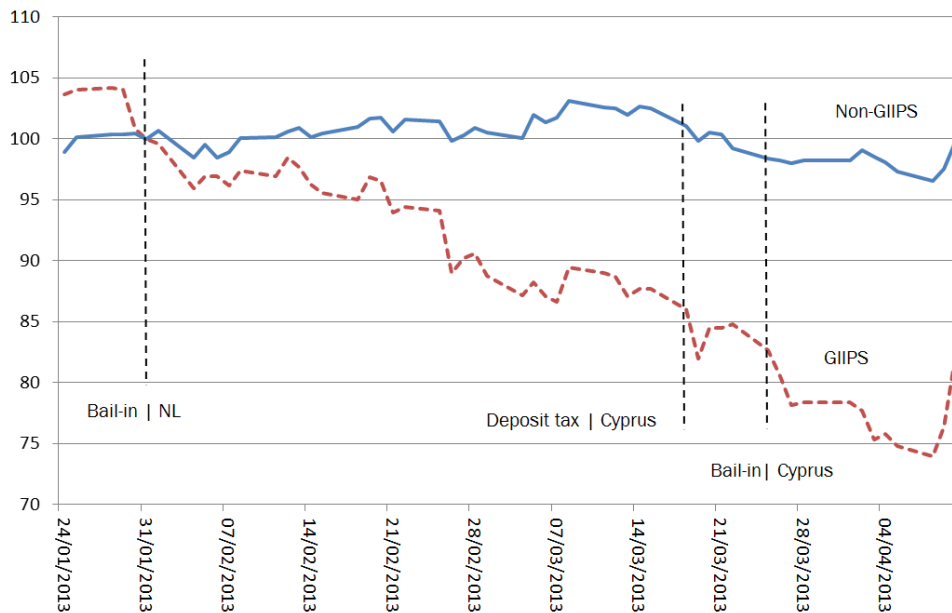


The figures show the reaction of stock prices and CDS spreads in response to the given event. The graph for stock prices shows equally weighted indices, normalized to 100 at the day prior to the event. The graph for CDS spreads shows the average differences in CDS spreads with respect to the day prior to the event. Both graphs are starting five trading days before and ending five trading days after the event.

**Figure 4a. Key Events in Netherlands and Cyprus | CDS Spreads**

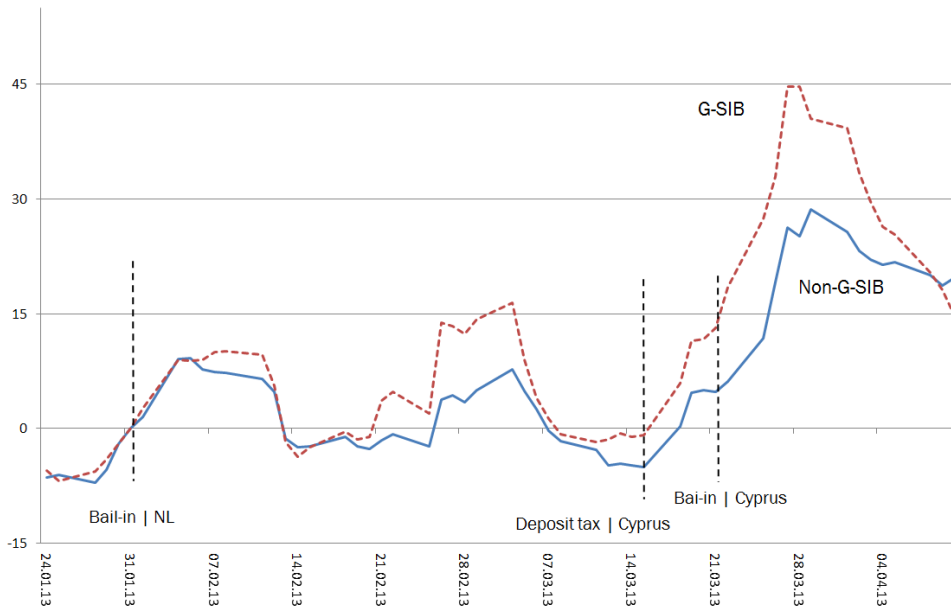


**Figure 4b. Key Events in Netherlands and Cyprus | Stock Prices**

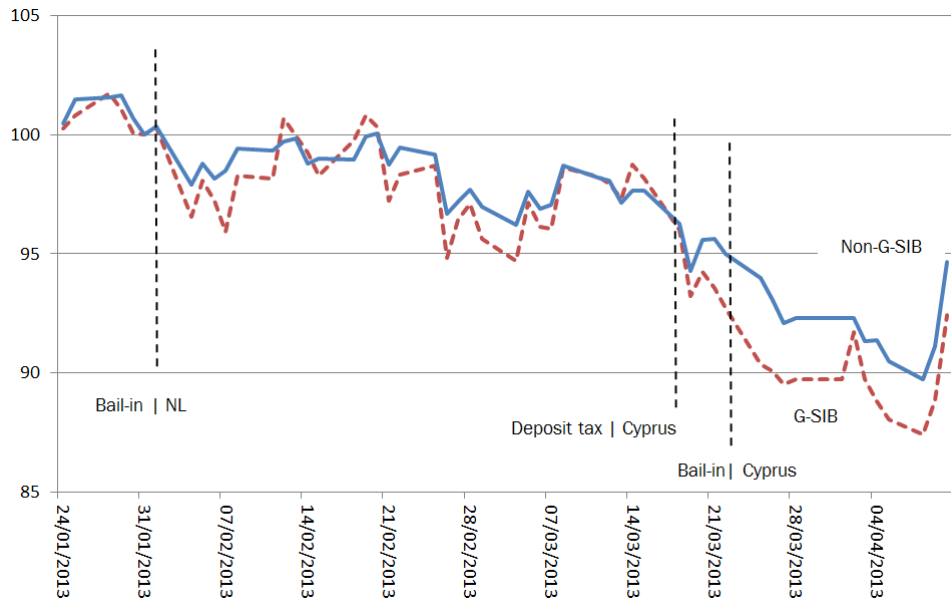


The figures show the reaction of stock prices and CDS spreads in response to the given events. The graph for stock prices shows equally weighted indices, normalized to 100 at the day prior to the first event. The graph for CDS spreads shows the average differences in CDS spreads with respect to the day prior to the first event. Both graphs are starting five trading days before and ending ten trading days after the event.

**Figure 4c. Key Events in Netherlands and Cyprus | CDS Spreads**

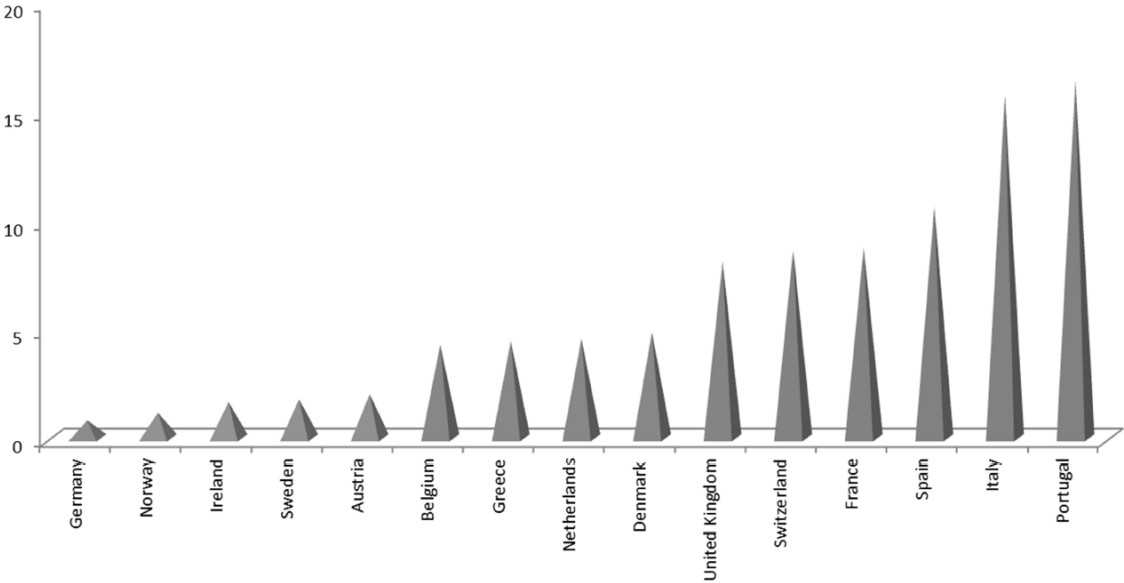


**Figure 4d. Key Events in Netherlands and Cyprus | Stock Prices**



The figures show the reaction of stock prices and CDS spreads in response to the given events. The graph for stock prices shows equally weighted indices, normalized to 100 at the day prior to the first event. The graph for CDS spreads shows the average differences in CDS spreads with respect to the day prior to the first event. Both graphs are starting five trading days before and ending ten trading days after the event.

**Figure 5. Abnormal CDS Increase by Country | Senior Bail-in Cyprus**



**Figure 6. Abnormal CDS Increase vs. Debt over GDP | Senior Bail-in Cyprus**

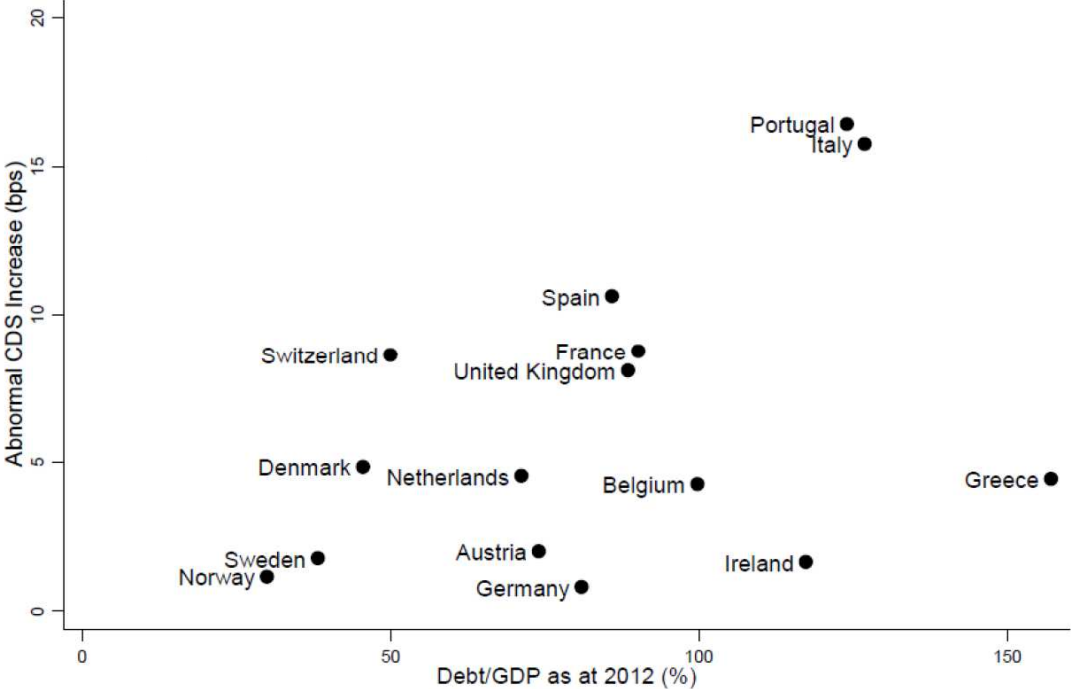
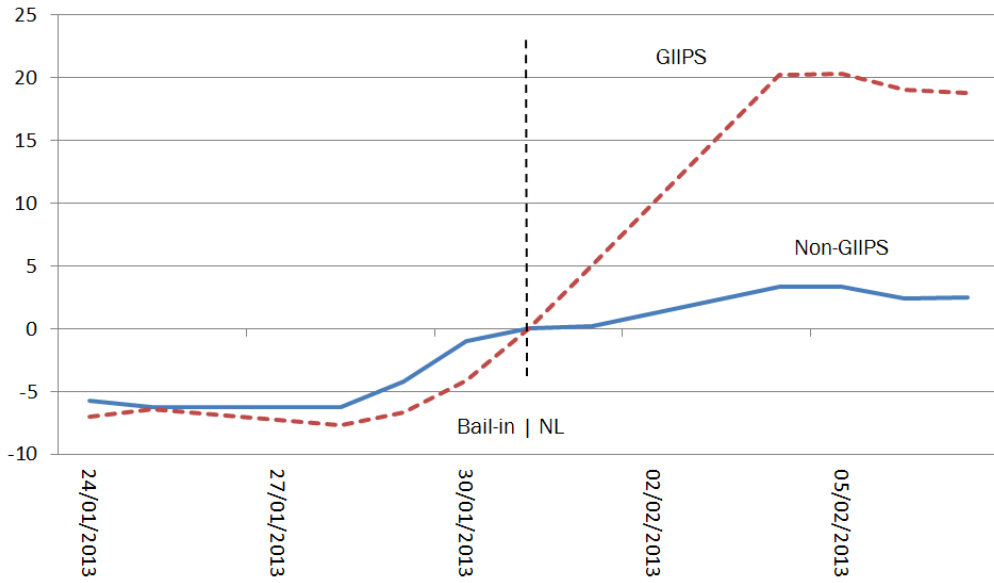


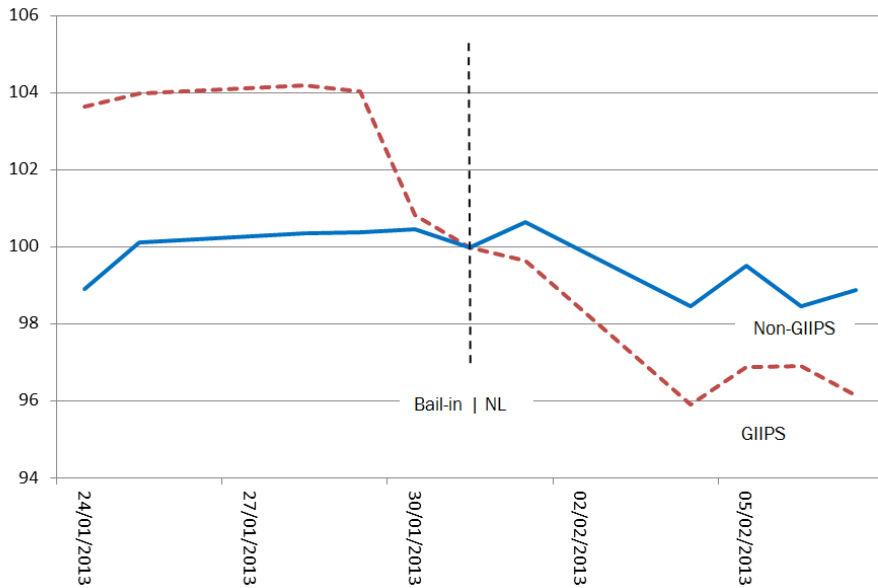
Figure 6 shows the country specific average increase of CDS spreads in response to the bail-in of senior debt in Cyprus on 25<sup>th</sup> March 2013. Countries are sorted in an ascending manner. Figure 6 depicts a scatter plot of the country specific average increase of CDS spreads on 25<sup>th</sup> March versus the debt over GDP level. Data for Debt over GDP is taken from the World Economic Outlook Database by the IMF as of April 2014.



**Figure 7a. Bail-in Netherlands | CDS Spreads**



**Figure 7b. Bail-in Netherlands | Stock Prices**



The figures show the reaction of stock prices and CDS spreads in response to the given event. The graph for stock prices shows equally weighted indices, normalized to 100 at the day prior to the event. The graph for CDS spreads shows the average differences in CDS spreads with respect to the day prior to the event. Both graphs are starting five trading days before and ending five trading days after the event.

**Table 1: Event Overview and Newspaper Articles**

Country	Date	Event	Article Headline in the FT - Europe Edition
Denmark	06.02.2011	Amagerbanken: Bail-in of senior debt	A senior haircut precedent in Denmark, 08.02.2011*
Spain	10.07.2012	Spanish bank rescue plan implies bail-in	Savers face losses in Spain bank rescue plan, 11.07.2012
	19.07.2012	German government backs rescue plan	Spain bailout-backed, 20.07.2012
	23.08.2012	Spain pushes national bank resolution-law	Spain bank rules push, 24.08.2012
Netherlands	01.02.2013	Nationalization of the SNS Reaal	Torrid week for European banks, 02.02.2013
Cyprus	11.02.2013	Eurozone Finance ministers: Bail-in as an option	Radical Cyprus rescue plan puts uninsured depositors in line of fire, 11.02.2013
	18.03.2013	Proposal in Cyprus to tax bank deposits	Cyprus in crisis over tax on bank deposits, 18.03.2013
	25.03.2013	Bail-in of senior debt	Eurozone shifts burden of risk from taxpayers to investors, 26.03.2013
EU / SRM	28.06.2013	EU Finance Ministers agreed rules of BRRD	EU bank rules deal, 28.06.2013
	09.07.2013	Presentation of the SRM proposal	Broad EU bank plan, 09.07.2013
	18.12.2013	EU-Council generally accepts SRM, doubts by the ECB	ECB to blow bank union blueprint, 19.12.2013
	20.03.2014	Provisional agreement on the SRM	Marathon talks seal EU bank union, 21.03.2014
	15.04.2014	EU Parliament backs commission's proposal on the SRM	EU banking reforms mark the biggest shake-up for 20 years, 16.04.2014
Portugal	04.08.2014	Creditor bail-in   Banco Espirito Santo	BES knocked on bail-in, 05.08.2014

Notes: The table shows all country-specific events according to the lead article of the Financial Times - Europe Edition, published on page one. Note that the event date and the date of its publication can differ from one day in between. This could be either due to a weekend or due to the fact that the decision about the regulatory issue was reached after markets closed. \*The event in Denmark is the only case where the article was published on page 27 instead of the front-page of the Financial Times - Europe edition.

Table 2-a. Summary Statistics for CDS Spreads

BANK	COUNTRY	OBS	MEAN	STD	MIN	MAX	G-SIB	GIIPS	BANK	COUNTRY	OBS	MEAN	STD	MIN	MAX	G-SIB	GIIPS	
BAWAG	Austria	640	-0.101	4.145	-26.850	26.930			BANCO POPOLARE DIE MILANO	Italy	640	0.198	10.799	-87.742	68.350		X	
ERSTE GROUP BANK	Austria	640	-0.072	3.203	-20.976	19.480			BANCA NAZIONALE DEL LAVORO	Italy	640	-0.013	6.036	-29.000	43.140			X
RAIFFEISEN ZENTRALBANK	Austria	640	-0.134	3.785	-25.460	27.860			ING BANK	Netherlands	640	-0.090	3.866	-19.260	17.290	X		
KBC	Belgium	640	-0.100	4.432	-24.830	54.630			SNS BANK	Netherlands	640	0.158	8.957	-99.700	89.860			
DEXIA	Belgium	640	-0.003	8.356	-72.418	58.770			RABOBANK	Netherlands	640	-0.080	2.419	-12.040	12.702			
DANSKE BANK	Denmark	640	-0.107	3.753	-37.710	29.830			RBS N.V.	Netherlands	640	0.011	5.784	-35.790	31.510			
SOCIETE GENERALE	France	640	-0.078	5.851	-31.840	30.760	X		VAN LANSCHOT	Netherlands	640	-0.078	5.430	-39.084	77.690			
BANQUE FEDERATIVE DE CREDIT MUTUEL	France	640	-0.168	5.287	-44.690	44.820			DNB BANK	Norway	640	-0.043	1.728	-14.610	14.410			
BNP PARIBAS	France	640	-0.031	4.698	-20.760	26.090	X		BANCO COMERCIAL PORTUGUES	Portugal	640	-0.569	15.392	-125.880	77.340			X
CREDIT AGRICOLE	France	640	-0.046	6.096	-28.960	34.490	X		BANCO ESPIRITO SANTO	Portugal	640	0.128	13.728	-76.170	84.010			X
CREDIT LYONNAIS	France	640	-0.044	6.595	-32.400	33.490			BCP FINANCE BANK	Portugal	640	-0.589	17.461	-75.100	114.550			X
NATIXIS*	France	640	-0.058	3.362	-19.200	24.235	X		BANCO SABADELL	Spain	640	0.194	9.652	-73.105	66.620			X
BAYERISCHE LANDESBANK	Germany	640	0.027	3.671	-40.760	29.250			BANCO POPULAR ESPANOL	Spain	640	0.238	9.697	-59.006	68.930			X
COMMERZBANK	Germany	640	0.027	6.747	-41.190	100.520			BANCO SANTANDER	Spain	640	-0.018	9.285	-51.300	38.888	X		X
DEUTSCHE BANK	Germany	640	-0.027	3.789	-17.150	17.600	X		BANKINTER	Spain	640	0.274	9.611	-54.240	68.450			X
HSB NORDBANK	Germany	640	0.007	4.832	-39.330	39.370			BANCO BILBAO VIZCAYA ARGENTARIA	Spain	640	-0.077	7.976	-36.890	42.160	X		X
IKB	Germany	640	-0.205	4.472	-21.880	22.780			CAIXA D'ESTALVIS I PENSIONS DE BARCELONA	Spain	640	0.231	7.737	-48.900	57.820			X
LANDESBANK BADEN WUERTEMBERG	Germany	640	-0.005	3.475	-19.690	39.720			CAJA DE AHORROS DEL MEDITERRANEO	Spain	640	-0.219	14.720	-126.408	92.350			X
LANDESBANK HESSEN THUERINGEN	Germany	640	-0.078	4.520	-33.400	35.650			SEB	Sweden	640	-0.100	1.729	-9.880	12.810			
NORD-LB	Germany	640	-0.026	3.930	-30.880	22.260			SVENSKA HANDELSBANKEN	Sweden	640	-0.059	1.422	-6.660	11.420			
PORTIGON	Germany	640	0.147	5.412	-44.210	59.810			SKANDINAVIA ENSKILDE BANKEN	Sweden	640	-0.211	3.018	-17.000	18.120			
UNICREDIT BANK (HVB)	Germany	640	-0.187	3.044	-17.919	19.980			NORDEA	Sweden	640	-0.048	1.644	-7.380	12.130			X
NATIONAL BANK OF GREECE	Greece	640	-0.750	38.237	-312.450	374.720		X	SWEDBANK	Sweden	640	-0.081	2.294	-14.320	15.930			
ALPHA BANK	Greece	640	-3.518	39.048	-476.650	283.050		X	UBS	Switzerland	640	-0.149	3.098	-11.960	15.650			X
BANK OF IRELAND	Ireland	640	-0.011	19.277	-102.260	212.450		X	CREDIT SUISSE	Switzerland	640	-0.080	3.078	-12.590	14.160			X
BANCA ITALEASE	Italy	640	-0.036	8.321	-67.490	83.890		X	ROYAL BANK OF SCOTLAND	United Kingdom	640	-0.006	5.953	-35.790	29.620			X
INTESA SANPAOLO	Italy	640	0.033	9.502	-33.900	40.838		X	BARCLAYS	United Kingdom	640	-0.006	4.292	-27.090	18.950			X
MEDIOBANCA	Italy	640	-0.039	6.940	-41.270	75.760		X	THE CO-OPERATIVE BANK	United Kingdom	640	0.427	10.052	-64.010	187.079			
UNICREDIT	Italy	640	0.043	8.993	-40.220	42.710	X	X	HSBC	United Kingdom	640	-0.063	3.065	-12.120	17.020			X
UBI BANCA	Italy	640	-0.163	7.152	-67.890	53.444		X	LLOYDS	United Kingdom	640	-0.111	5.301	-33.550	23.510			
BANCA MONTE DEI PASCHI DI SIENA	Italy	640	0.303	14.106	-55.751	98.707		X	SANTANDER UK	United Kingdom	640	-0.106	4.490	-29.950	39.770			
BANCO POPOLARE	Italy	640	0.118	12.186	-63.191	68.100		X	STANDARD CHARTERED	United Kingdom	640	-0.032	3.936	-18.600	25.260			X
Total Observations CDS		40960																

Notes: Data for CDS spreads is retrieved from Thomson Reuters (Datastream). The number of observations "OBS" for each bank is determined by the estimation window of 80 trading days plus the event window of 3 trading days for each event (excluding overlapping observations). "STD" stands for the Standard Deviation, "MIN" indicates the lowest and "MAX" the highest observed value within the sample. The column "G-SIB" displays whether the respective bank is considered as systemically relevant. \*Natixis is the only listed subsidiary of the non-listed Groupe Banque Populaire Casse d'Epargne (Groupe BPCE); see also Bongini and Nieri (2012). The column "GIIPS" indicates whether a bank is located in Greece, Ireland, Italy, Portugal or Spain. See further methodological details in chapter 3.

Table 2-b. Summary Statistics for Stock Returns

BANK	COUNTRY	OBS	MEAN	STD	MIN	MAX	G-SIB	GIIPS	BANK	COUNTRY	OBS	MEAN	STD	MIN	MAX	G-SIB	GIIPS
ERSTE GROUP BANK	Austria	640	0.000	0.022	-0.164	0.067			UNICREDIT	Italy	640	0.000	0.026	-0.088	0.143	X	X
RAIFFEISEN BANK INTERNATIONAL	Austria	640	-0.001	0.023	-0.096	0.097			LLB	Liechtenstein	640	0.000	0.018	-0.073	0.070		
DEXIA	Belgium	640	0.004	0.130	-0.333	0.500			VP BANK	Liechtenstein	640	0.000	0.012	-0.052	0.049		
KBC	Belgium	640	0.001	0.026	-0.093	0.107			DNB	Norway	640	0.001	0.016	-0.107	0.073		
CENTRAL COOPERATIVE BANK	Bulgaria	640	0.001	0.027	-0.111	0.157			SPAREBANK 1 SR BANK	Norway	640	0.001	0.013	-0.053	0.059		
CB FIRST INVESTMENT BANK	Bulgaria	640	0.002	0.029	-0.241	0.269			ING GROEP	Netherlands	640	0.000	0.021	-0.074	0.108	X	
ZAGREBACKA BANKA	Croatia	640	0.000	0.018	-0.068	0.080			VAN LANSCHOT	Netherlands	640	0.000	0.018	-0.090	0.125		
KOMERCNI BANKA	Czech Republic	640	0.000	0.015	-0.058	0.074			BANK BPH	Poland	640	0.000	0.019	-0.079	0.097		
DANSKE BANK	Denmark	640	0.001	0.016	-0.094	0.067			BANK POLSKA KASA OPIEKI	Poland	640	0.000	0.016	-0.071	0.068		
JYSKE BANK	Denmark	640	0.001	0.015	-0.045	0.105			MBANK	Poland	640	0.001	0.018	-0.056	0.097		
RINGKJOBING LANDBOBANK	Denmark	640	0.001	0.008	-0.028	0.036			BANK HANDLOWY	Poland	640	0.000	0.020	-0.084	0.067		
SYDBANK	Denmark	640	0.001	0.013	-0.046	0.056			ING BANK SLASKI	Poland	640	0.000	0.017	-0.096	0.072		
AKTIA BANK	Finland	640	0.001	0.012	-0.064	0.071			PKO BANK POLSKI	Poland	640	0.000	0.014	-0.054	0.048		
POHJOLA BANK	Finland	640	0.001	0.018	-0.059	0.181			BANCO PORTUGUES DE INVESTIMENTO	Portugal	640	0.001	0.024	-0.084	0.134		X
BNP PARIBAS	France	640	0.000	0.020	-0.057	0.097	X		BANCO COMERCIAL PORTUGUES	Portugal	640	0.001	0.031	-0.130	0.269		X
CIC	France	640	0.000	0.009	-0.074	0.047			BANCO ESPIRITO SANTO	Portugal	640	-0.003	0.042	-0.421	0.197		X
CREDIT AGRICOLE	France	640	0.001	0.024	-0.080	0.087	X		BANCA COMERCIALA CARPATICA	Romania	640	0.001	0.021	-0.147	0.149		
NATIXIS	France	640	0.001	0.023	-0.122	0.225	X		BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
SOCIETE GENERALE	France	640	0.001	0.023	-0.072	0.103	X		BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
COMMERZBANK	Germany	640	-0.001	0.024	-0.092	0.110			BANCA COMERCIALA CARPATICA	Romania	640	0.001	0.021	-0.147	0.149		
DEUTSCHE BANK	Germany	640	-0.001	0.018	-0.071	0.087	X		BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
IKB	Germany	640	0.002	0.046	-0.128	0.336			BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
QUIRIN BANK	Germany	640	0.000	0.023	-0.080	0.121			BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
UMWELTBANK	Germany	640	0.001	0.022	-0.239	0.217			BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
AAREAL BANK	Germany	640	0.002	0.022	-0.065	0.100			BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
ALPHA BANK	Greece	640	0.001	0.054	-0.200	0.294		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
BANK OF PIRAEUS	Greece	640	-0.002	0.058	-0.295	0.287		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
EUROBANK ERGASIAS	Greece	640	-0.003	0.074	-0.302	0.294		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
NATIONAL BANK OF GREECE	Greece	640	-0.002	0.054	-0.268	0.272		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
OTP BANK	Hungary	640	0.000	0.018	-0.061	0.067			BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
ALLIED IRISH BANKS	Ireland	640	0.000	0.047	-0.242	0.309		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
BANK OF IRELAND	Ireland	640	0.000	0.036	-0.228	0.164		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
BANCA CARIGE	Italy	640	-0.002	0.027	-0.173	0.129		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
BANCA MONTE DEI PASCHI DI SIENA	Italy	640	0.000	0.039	-0.201	0.213		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
BANCA POPOLARE DI MILANO	Italy	640	0.001	0.031	-0.104	0.111		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
BANCA POPOLARE DI SONDRIO	Italy	640	-0.001	0.022	-0.072	0.095		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
BANCA POPOLARE DELL' EMILIA ROMAGNA	Italy	640	0.000	0.030	-0.107	0.134		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
BANCO POPOLARE	Italy	640	0.000	0.032	-0.149	0.189		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
CREDITO EMILIANO	Italy	640	0.001	0.023	-0.103	0.084		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
BANCA PICCOLO CREDITO VALTELLINESE	Italy	640	-0.001	0.026	-0.103	0.168		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
INTESA SANPAOLO	Italy	640	0.001	0.025	-0.096	0.126		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
MEDIOBANCA	Italy	640	0.000	0.024	-0.094	0.089		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
UBI BANCA	Italy	640	0.001	0.027	-0.092	0.088		X	BANCA TRANSILVANIA	Romania	640	0.001	0.015	-0.068	0.064		
Total Observations Stock Returns		54400															

Notes: Data for stock returns is retrieved from Thomson Reuters (Datastream). The number of observations "OBS" for each bank is determined by the estimation window of 80 trading days plus the event window of 3 trading days for each event (excluding overlapping observations). "STD" stands for the Standard Deviation, "MIN" indicates the lowest and "MAX" the highest observed value within the sample. The column "G-SIB" displays whether the respective bank is considered as systemically relevant. \*Natixis is the only listed subsidiary of the non-listed Groupe Banque Populaire Casse d'Epargne (Groupe BPCE); see also Bongini and Nieri (2012). The column "GIIPS" indicates whether a bank is located in Greece, Ireland, Italy, Portugal or Spain. See further methodological details in chapter 3.

**Table 2c. Summary Statistics for Cross Sectional Regressions | All Banks**

	CDS Increase 25th March 2012	Debt/GDP 2012	Average Common Equity 2012	Average Assets 2012	Net Income 2012	CDS Level 31st Dec 2012	Average Equity Ratio 2012	Net Income Ratio 2012
Obs	64	64	59	60	60	64	59	60
Mean	7.22	88.51	28,866	657,595	283	261	0.049	-0.001
Std	10.19	28.29	28,468	706,844	2836	254	0.021	0.007
Min	-11.88	30.00	667	13,066	-9162	68	0.003	-0.021
Max	61.21	157.18	103,138	2,825,319	9649	1490	0.135	0.008

**Table 2d. Summary Statistics for Cross Sectional Regressions | excluding Greek Banks**

	CDS Increase 25th March 2012	Debt/GDP 2012	Average Common Equity 2012	Average Assets 2012	Net Income 2012	CDS Level 31st Dec 2012	Average Equity Ratio 2012	Net Income Ratio 2012
Obs	62	62	58	58	58	62	58.00	58.00
mean	7.31	86.30	29,352	676,577	366	222	0.049	-0.001
Std	10.34	25.87	28,469	711,347	2846	132	0.020	0.006
min	-11.88	30.00	667	13,066	-9162	68	0.003	-0.018
max	61.21	126.97	103,138	2,825,319	9649	527	0.135	0.008

**Table 2e. Correlations | Data for Cross Sectional Regressions**

	CDS Increase	Debt / GDP	CDS Level	Average Equity Ratio	Ln (Assets)	Net Income / Average Assets
CDS Increase	1					
Debt / GDP	0.3171	1				
CDS Level	0.196	0.6236	1			
Average Equity Ratio	0.1122	0.3077	-0.0209	1		
Ln (Assets)	0.1338	-0.2893	-0.3755	-0.3691	1	
Net Income / Average Assets	-0.1452	-0.5037	-0.6211	-0.0251	0.4641	1

Tables 2c and 2d show the summary statistics for the variables used in cross sectional regressions for the full sample and excluding Greece, respectively. Data for Debt over GDP levels is taken from the World Economic Outlook Database by the IMF as of April 2014. The CDS increase as well as the CDS level data is stemming from Datastream (Thompson Reuters). All other variables are retrieved from Bankscope.

**Table 3.** Abnormal Bank CDS Spread Differences | Creditor Bail-in Cyprus

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-		Non-GIIPS	GIIPS vs. Non-
					GSIB	GIIPS		
[1] Eurozone Finance ministers: Bail-in as an option	11-Feb-13	0.348 [0.927]	-0.067 [0.984]	0.483 [0.905]	-0.550 [0.809]	2.448 [0.754]	-0.726 [0.712]	3.174 [0.615]
- Enlarged event window [0+1]		-0.832 [0.877]	-3.673 [0.448]	0.096 [0.987]	-3.770 [0.244]	2.504 [0.821]	-2.481 [0.363]	4.985 [0.580]
[2] Proposal in Cyprus to tax bank deposits	18-Mar-13	<b>6.5***</b> [0.007]	<b>7.019**</b> [0.012]	<b>6.33***</b> [0.009]	0.689 [0.686]	<b>12.853***</b> [0.005]	<b>3.249**</b> [0.034]	<b>9.604***</b> [0.008]
- Enlarged event window [0+1]		<b>11.967***</b> [0.000]	<b>12.767***</b> [0.001]	<b>11.705***</b> [0.001]	1.062 [0.661]	<b>21.717***</b> [0.001]	<b>6.819***</b> [0.001]	<b>14.897***</b> [0.004]
[3] Bail-in of senior Debt	25-Mar-13	<b>7.129***</b> [0.002]	<b>9.317***</b> [0.001]	<b>6.415***</b> [0.006]	<b>2.902*</b> [0.084]	<b>12.533***</b> [0.005]	<b>4.365***</b> [0.003]	<b>8.168**</b> [0.019]
- Enlarged event window [0+1]		<b>15.075***</b> [0.000]	<b>15.16***</b> [0.000]	<b>15.047***</b> [0.000]	0.114 [0.962]	<b>30.801***</b> [0.000]	<b>6.869***</b> [0.001]	<b>23.933***</b> [0.000]

Notes: The table shows the results from SUR regressions using the daily first differences of bank CDS spreads as dependent variable. Abnormal differences in CDS spreads, displayed in basis points, are estimated on the basis of the constant return model, using an estimation window of 80 trading days. Each system of regressions includes 64 banks. The first number column "Full Sample" refers to the average abnormal differences of all banks at the respective event day. The column "G-SIB" displays the abnormal differences in banks CDS spreads of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the abnormal CDS spread differences of the remaining banks, whereas "G-SIB vs. Non-GSIB" stands for the difference of these two subgroups. The column "GIIPS" shows the abnormal differences in banks CDS spreads of the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the abnormal differences of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal differences and the difference in abnormal differences between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

**Table 4.** Abnormal Bank Stock Returns | Creditor Bail-in Cyprus | Stoxx Global 1800

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-		GIIPS vs. Non-	
					GSIB	GIIPS	Non-GIIPS	GIIPS
[1] Eurozone Finance ministers: Bail-in as an option	11-Feb-13	-0.069 [0.944]	-0.081 [0.954]	-0.066 [0.943]	-0.015 [0.986]	-0.421 [0.806]	0.099 [0.893]	-0.520 [0.691]
- Enlarged event window [0+1]		0.586 [0.671]	2.165 [0.274]	0.230 [0.861]	1.935 [0.115]	0.834 [0.732]	0.469 [0.654]	0.365 [0.844]
[2] Proposal in Cyprus to tax bank deposits	18-Mar-13	-1.367 [0.138]	-2.080 [0.120]	-1.207 [0.170]	-0.873 [0.309]	-1.403 [0.397]	<b>-1.35**</b> [0.047]	-0.053 [0.966]
- Enlarged event window [0+1]		<b>-4.051***</b> [0.002]	<b>-5.355***</b> [0.005]	<b>-3.758***</b> [0.003]	-1.597 [0.188]	<b>-6.703***</b> [0.004]	<b>-2.793***</b> [0.004]	<b>-3.91**</b> [0.028]
[3] Bail-in of senior Debt	25-Mar-13	<b>-1.496*</b> [0.098]	<b>-2.792**</b> [0.033]	-1.204 [0.163]	<b>-1.59*</b> [0.063]	-2.560 [0.116]	-0.992 [0.138]	-1.569 [0.209]
- Enlarged event window [0+1]		<b>-2.547**</b> [0.047]	<b>-3.259*</b> [0.080]	<b>-2.387*</b> [0.052]	-0.873 [0.471]	<b>-5.137**</b> [0.026]	-1.318 [0.165]	<b>-3.819**</b> [0.031]

Notes: The table shows the results from SUR regressions using the daily returns of bank stock prices as dependent variable. Abnormal bank stock returns, displayed in fractions, are estimated on the basis of the market model, using the Stoxx Global 1800 benchmark index and an estimation window of 80 trading days. Each system of regressions includes 85 banks. The first number column "Full Sample" refers to the average abnormal return of all banks at the respective event day. The column "G-SIB" displays the abnormal banks stock returns of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the returns of the remaining banks, whereas "G-SIB vs. Non-G-SIB" stands for the difference of these two subgroups. The column "GIIPS" shows the differences in abnormal returns for the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the returns of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal returns and the difference in abnormal returns between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

**Table 5. Cross Sectional Regressions | Bail-in Cyprus | All Banks**

Dependent Variable: Abnormal CDS Increase as at 25th March 2013

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Debt over GDP   de-meaned	<b>0.116**</b> (0.023)	<b>0.141***</b> (0.000)	<b>0.114***</b> (0.000)	<b>0.0852**</b> (0.022)	<b>0.103***</b> (0.001)	<b>0.0822*</b> (0.082)	<b>0.0834*</b> (0.058)	<b>0.0824*</b> (0.064)
CDS Level   de-meaned		-0.00442 (0.485)	0.00600 (0.502)	0.0197 (0.138)	0.0112 (0.181)	0.0164 (0.150)	<b>0.0172*</b> (0.100)	<b>0.0183*</b> (0.091)
(Debt over GDP) x (CDS Level)   de-meaned			-0.000176 (0.141)	<b>-0.000328*</b> (0.068)	<b>-0.000229*</b> (0.052)	-0.000250 (0.131)	-0.000255 (0.105)	<b>-0.000265*</b> (0.100)
Ln(Average Assets)				<b>2.529**</b> (0.017)				
G-SIB					<b>4.477**</b> (0.014)	<b>4.815**</b> (0.017)	<b>4.761**</b> (0.018)	<b>4.370***</b> (0.009)
Average Equity Ratio						11.60 (0.875)	10.75 (0.878)	11.20 (0.871)
Net Income Ratio							34.51 (0.881)	50.90 (0.833)
Supersized Banking Sector								1.386 (0.368)
Constant	<b>7.222***</b> (0.000)	<b>7.222***</b> (0.000)	<b>8.036***</b> (0.000)	<b>-23.62*</b> (0.051)	<b>7.166***</b> (0.000)	6.187 (0.244)	6.300 (0.204)	6.226 (0.205)
Observations	64	64	64	60	64	59	59	59
R-squared	0.103	0.110	0.125	0.185	0.158	0.155	0.155	0.157
Adjusted R-squared	0.089	0.081	0.081	0.126	0.101	0.075	0.058	0.042
SE clusters on Country Level	15	15	15	15	15	15	15	15

Notes: The table shows the results from cross sectional regressions using the abnormal CDS spread increases as of 25th March 2013 (response to the senior bail-in in Cyprus) as dependent variable. Standard errors are clustered on country-level. P-values are displayed in brackets. Control variables are defined as follows: Debt over GDP stands for the country specific public debt divided by the gross domestic product in 2012; Average Equity Ratio is defined as Average Common Equity divided by average assets in 2012. Net Income Ratio is calculated as banks net income in 2012 scaled by average assets in 2012. Ln(Assets) stands for the natural logarithm of the average assets in 2012; CDS Level stands for the absolute values in CDS spreads as at 31st December 2012; G-SIB denotes a dummy equal to 1 if the respective bank is considered as systemically important; Supersized Banking sectors indicates a dummy equal to 1 if the respective bank belongs to the United Kingdom or Switzerland. Series of Debt over GDP and CDS Level are adjusted for their mean, i.e. "de-meaned" Stars are to be interpreted as follows: \* significant at 10 percent; \*\* significant at 5%, \*\*\* significant at 1%.



**Table 6. Cross Sectional Regressions | Bail-in Cyprus | Excluding Greek Banks**

Dependent Variable: Abnormal CDS Increase as at 25th March 2013

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Debt over GDP   de-meaned	<b>0.153***</b> (0.000)	<b>0.103***</b> (0.003)	<b>0.124***</b> (0.001)	<b>0.104***</b> (0.007)	<b>0.113***</b> (0.000)	<b>0.108*</b> (0.053)	<b>0.113**</b> (0.018)	<b>0.112**</b> (0.020)
CDS Level   de-meaned		0.0165 (0.262)	0.00719 (0.457)	0.0208 (0.106)	0.0140* (0.097)	0.0166 (0.174)	0.0192 (0.190)	0.0213 (0.158)
(Debt over GDP) x (CDS Level)   de-meaned			<b>0.000881*</b> (0.057)	0.000722 (0.120)	<b>0.000903**</b> (0.033)	0.000796 (0.151)	0.000797 (0.151)	0.000807 (0.146)
Ln(Average Assets)				<b>2.830**</b> (0.011)				
G-SIB					<b>5.667***</b> (0.000)	<b>5.540***</b> (0.001)	<b>5.375***</b> (0.001)	<b>4.656***</b> (0.001)
Average Equity Ratio						-35.78 (0.686)	-39.42 (0.618)	-39.91 (0.599)
Net Income Ratio							114.7 (0.613)	147.7 (0.529)
Supersized Banking Sector								<b>2.605**</b> (0.021)
Constant	<b>7.312***</b> (0.000)	<b>7.312***</b> (0.000)	<b>5.539***</b> (0.002)	<b>-30.52**</b> (0.034)	<b>4.033***</b> (0.005)	5.893 (0.208)	6.212 (0.144)	6.039 (0.138)
Observations	62	62	62	58	62	58	58	58
R-squared	0.145	0.175	0.242	0.295	0.294	0.267	0.270	0.276
Adjusted R-squared	0.131	0.147	0.203	0.242	0.244	0.196	0.184	0.175
SE clusters on Country Level	14	14	14	14	14	14	14	14

Notes: The table shows the results from cross sectional regressions using the abnormal CDS spread increases as of 25th March 2013 (response to the senior bail-in in Cyprus) as dependent variable. Standard errors are clustered on country-level. P-values are displayed in brackets. Control variables are defined as follows: Debt over GDP stands for the country specific public debt divided by the gross domestic product in 2012; Average Equity Ratio is defined as Average Common Equity divided by average assets in 2012. Net Income Ratio is calculated as banks net income in 2012 scaled by average assets in 2012. Ln(Assets) stands for the natural logarithm of the average assets in 2012; CDS Level stands for the absolute values in CDS spreads as at 31st December 2012; G-SIB denotes a dummy equal to 1 if the respective bank is considered as systemically important; Supersized Banking sectors indicates a dummy equal to 1 if the respective bank belongs to the United Kingdom or Switzerland. Series of Debt over DGP and CDS Level are adjusted for their mean, i.e. "de-meaned" Stars are to be interpreted as follows: \* significant at 10 percent; \*\* significant at 5%, \*\*\* significant at 1%.

**Table 7. Abnormal Bank CDS Spread Differences | Creditor Bail-in Denmark**

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-		GIIPS vs. Non-	
					GSIB	GIIPS	Non-GIIPS	GIIPS
[1] Amagerbanken: Bail-in of senior debt	06-Feb-11	-1.369 [0.759]	0.064 [0.986]	-1.837 [0.703]	1.901 [0.430]	-5.311 [0.508]	0.648 [0.823]	-5.958 [0.301]
- Enlarged event window [0+1]		-2.437 [0.700]	2.270 [0.669]	-3.974 [0.562]	<b>6.244*</b> [0.068]	-10.691 [0.348]	1.745 [0.664]	-12.436 [0.132]

Notes: The table shows the results from SUR regressions using the daily first differences of bank CDS spreads as dependent variable. Abnormal differences in CDS spreads, displayed in basis points, are estimated on the basis of the constant return model, using an estimation window of 80 trading days. Each system of regressions includes 64 banks. The first number column "Full Sample" refers to the average abnormal differences of all banks at the respective event day. The column "G-SIB" displays the abnormal differences in banks CDS spreads of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the abnormal CDS spread differences of the remaining banks, whereas "G-SIB vs. Non-G-SIB" stands for the difference of these two subgroups. The column "GIIPS" shows the abnormal differences in banks CDS spreads of the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the abnormal differences of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal differences and the difference in abnormal differences between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

**Table 8.** Abnormal Bank Stock Returns | Creditor Bail-in Denmark | Stoxx Global 1800

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-		GIIPS vs. Non-	
					GSIB	GIIPS	Non-GIIPS	GIIPS
[1] Amagerbanken: Bail-in of senior debt	06-Feb-11	0.497 [0.595]	0.628 [0.642]	0.468 [0.590]	0.160 [0.825]	1.090 [0.499]	0.216 [0.754]	0.874 [0.446]
- Enlarged event window [0+1]		1.412 [0.286]	2.029 [0.289]	1.272 [0.301]	0.757 [0.461]	1.299 [0.570]	1.465 [0.133]	-0.166 [0.919]

Notes: The table shows the results from SUR regressions using the daily returns of bank stock prices as dependent variable. Abnormal bank stock returns, displayed in fractions, are estimated on the basis of the market model, using the Stoxx Global 1800 benchmark index and an estimation window of 80 trading days. Each system of regressions includes 85 banks. The first number column "Full Sample" refers to the average abnormal return of all banks at the respective event day. The column "G-SIB" displays the abnormal banks stock returns of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the returns of the remaining banks, whereas "G-SIB vs. Non-G-SIB" stands for the difference of these two subgroups. The column "GIIPS" shows the differences in abnormal returns for the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the returns of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal returns and the difference in abnormal returns between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

**Table 9.** Abnormal Bank CDS Spread Differences | Creditor Bail-in Spain

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-		Non-GIIPS	GIIPS vs. Non-	
					GSIB	GIIPS		GIIPS	GIIPS
[1] Spanish bank rescue plan implies bail-in	10-Jul-12	-0.557 [0.924]	-3.224 [0.612]	0.315 [0.959]	-3.539 [0.452]	0.385 [0.972]	-1.038 [0.794]	1.424 [0.868]	
- Enlarged event window [0+1]		-1.059 [0.898]	-2.909 [0.747]	-0.454 [0.958]	-2.454 [0.713]	-1.685 [0.913]	-0.721 [0.896]	-0.963 [0.937]	
[2] German government backs rescue plan	19-Jul-12	-0.291 [0.959]	-0.280 [0.963]	-0.294 [0.960]	0.014 [0.998]	-0.998 [0.925]	0.071 [0.985]	-1.069 [0.899]	
- Enlarged event window [0+1]		2.421 [0.762]	4.309 [0.617]	1.804 [0.830]	2.505 [0.696]	2.763 [0.855]	2.195 [0.675]	0.568 [0.962]	
[3] Spain pushes national bank resolution-law	23-Aug-12	2.065 [0.710]	4.289 [0.497]	1.339 [0.812]	2.950 [0.452]	1.266 [0.904]	2.474 [0.495]	-1.208 [0.883]	
- Enlarged event window [0+1]		1.786 [0.821]	12.974 [0.148]	-1.868 [0.815]	<b>14.842***</b> [0.008]	-7.253 [0.627]	6.264 [0.213]	-13.517 [0.249]	

Notes: The table shows the results from SUR regressions using the daily first differences of bank CDS spreads as dependent variable. Abnormal differences in CDS spreads, displayed in basis points, are estimated on the basis of the constant return model, using an estimation window of 80 trading days. Each system of regressions includes 64 banks. The first number column "Full Sample" refers to the average abnormal differences of all banks at the respective event day. The column "G-SIB" displays the abnormal differences in banks CDS spreads of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the abnormal CDS spread differences of the remaining banks, whereas "G-SIB vs. Non-G-SIB" stands for the difference of these two subgroups. The column "GIIPS" shows the abnormal differences in banks CDS spreads of the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the abnormal differences of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal differences and the difference in abnormal differences between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

**Table 10.** Abnormal Bank Stock Returns | Creditor Bail-in Spain | Stoxx Global 1800

Event	Date	Full Sample	G-SIB vs. Non-				GIIPS vs. Non-	
			G-SIB	Non-G-SIB	GSIB	GIIPS	Non-GIIPS	GIIPS
[1] Spanish bank rescue plan implies bail-in	10-Jul-12	0.234 [0.867]	0.480 [0.799]	0.179 [0.893]	0.301 [0.767]	-0.820 [0.736]	0.735 [0.746]	-1.555 [0.380]
- Enlarged event window [0+1]		0.107 [0.957]	1.321 [0.622]	-0.167 [0.930]	1.488 [0.303]	-0.905 [0.793]	0.587 [0.688]	-1.492 [0.553]
[2] German government backs rescue plan	19-Jul-12	-0.120 [0.929]	-0.334 [0.851]	-0.071 [0.956]	-0.263 [0.786]	0.029 [0.990]	-0.190 [0.846]	0.220 [0.901]
- Enlarged event window [0+1]		-2.138 [0.258]	-3.568 [0.156]	-1.816 [0.317]	-1.752 [0.201]	-4.058 [0.225]	-1.227 [0.376]	-2.830 [0.254]
[3] Spain pushes national bank resolution-law	23-Aug-12	0.540 [0.668]	0.943 [0.606]	0.449 [0.700]	0.493 [0.6059]	0.338 [0.879]	0.636 [0.496]	-0.298 [0.856]
- Enlarged event window [0+1]		0.077 [0.966]	-0.637 [0.805]	0.238 [0.885]	-0.874 [0.516]	0.448 [0.886]	-0.100 [0.940]	0.548 [0.813]

Notes: The table shows the results from SUR regressions using the daily returns of bank stock prices as dependent variable. Abnormal bank stock returns, displayed in fractions, are estimated on the basis of the market model, using the Stoxx Global 1800 benchmark index and an estimation window of 80 trading days. Each system of regressions includes 85 banks. The first number column "Full Sample" refers to the average abnormal return of all banks at the respective event day. The column "G-SIB" displays the abnormal banks stock returns of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the returns of the remaining banks, whereas "G-SIB vs. Non-G-SIB" stands for the difference of these two subgroups. The column "GIIPS" shows the differences in abnormal returns for the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the returns of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal returns and the difference in abnormal returns between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

**Table 11.** Abnormal Bank CDS Spread Differences | Creditor Bail-in Netherlands

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-		GIIPS vs. Non-	
					GSIB	GIIPS	Non-GIIPS	GIIPS
[1] Nationalization of the SNS Reaal	01-Feb-13	3.137 [0.439]	3.304 [0.382]	3.082 [0.479]	0.222 [0.935]	7.603 [0.367]	0.852 [0.683]	6.751 [0.325]
- Enlarged event window [0+1]		<b>11.897**</b> [0.039]	<b>10.194*</b> [0.058]	<b>12.453**</b> [0.044]	-2.259 [0.562]	<b>25.964**</b> [0.030]	4.593 [0.113]	<b>21.371**</b> [0.029]

Notes: The table shows the results from SUR regressions using the daily first differences of bank CDS spreads as dependent variable. Abnormal differences in CDS spreads, displayed in basis points, are estimated on the basis of the constant return model, using an estimation window of 80 trading days. Each system of regressions includes 64 banks. The first number column "Full Sample" refers to the average abnormal differences of all banks at the respective event day. The column "G-SIB" displays the abnormal differences in banks CDS spreads of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the abnormal CDS spread differences of the remaining banks, whereas "G-SIB vs. Non-G-SIB" stands for the difference of these two subgroups. The column "GIIPS" shows the abnormal differences in banks CDS spreads of the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the abnormal differences of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal differences and the difference in abnormal differences between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

**Table 12.** Abnormal Bank Stock Returns | Creditor Bail-in Netherlands | Stoxx Global 1800

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-		GIIPS vs. Non-	
					GSIB	GIIPS	Non-GIIPS	GIIPS
[1] Nationalization of the SNS Reaal	01-Feb-13	0.185 [0.849]	0.058 [0.966]	0.214 [0.817]	-0.155 [0.854]	-0.554 [0.748]	0.536 [0.461]	-1.090 [0.405]
- Enlarged event window [0+1]		<b>-2.533*</b> [0.066]	<b>-3.909**</b> [0.046]	<b>-2.223*</b> [0.091]	-1.686 [0.161]	<b>-4.398*</b> [0.072]	-1.648 [0.111]	-2.750 [0.140]

Notes: The table shows the results from SUR regressions using the daily returns of bank stock prices as dependent variable. Abnormal bank stock returns, displayed in fractions, are estimated on the basis of the market model, using the Stoxx Global 1800 benchmark index and an estimation window of 80 trading days. Each system of regressions includes 85 banks. The first number column "Full Sample" refers to the average abnormal return of all banks at the respective event day. The column "G-SIB" displays the abnormal banks stock returns of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the returns of the remaining banks, whereas "G-SIB vs. Non-G-SIB" stands for the difference of these two subgroups. The column "GIIPS" shows the differences in abnormal returns for the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the returns of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal returns and the difference in abnormal returns between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

**Table 13. Abnormal Bank CDS Spread Differences | Creditor Bail-in Portugal**

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-GSIB	GIIPS	Non-GIIPS	GIIPS vs. Non-GIIPS
Anticipatory effect [-1]	01-Aug-14	<b>3.485*</b> [0.081]	3.268 [0.154]	<b>3.556*</b> [0.077]	-0.288 [0.830]	<b>8.103**</b> [0.031]	1.122 [0.045]	<b>6.98**</b> [0.018]
[1] Creditor bail-in   Banco Espirito Santo	04-Aug-14	-0.646 [0.747]	-1.384 [0.546]	-0.405 [0.840]	-0.979 [0.467]	-1.236 [0.742]	-0.344 [0.799]	-0.893 [0.763]
- Enlarged event window [0+1]		-2.257	-4.457 [0.170]	-1.538 [0.589]	-2.919 [0.126]	-3.575 [0.501]	-1.546 [0.407]	-2.029 [0.630]

Notes: The table shows the results from SUR regressions using the daily first differences of bank CDS spreads as dependent variable. Abnormal differences in CDS spreads, displayed in basis points, are estimated on the basis of the constant return model, using an estimation window of 80 trading days. Each system of regressions includes 64 banks. The first number column "Full Sample" refers to the average abnormal differences of all banks at the respective event day. The column "G-SIB" displays the abnormal differences in banks CDS spreads of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the abnormal CDS spread differences of the remaining banks, whereas "G-SIB vs. Non-GSIB" stands for the difference of these two subgroups. The column "GIIPS" shows the abnormal differences in banks CDS spreads of the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the abnormal differences of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal differences and the difference in abnormal differences between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.



**Table 14.** Abnormal Bank Stock Returns | Creditor Bail-in Portugal | Stoxx Global 1800

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-GSIB	GIIPS	Non-GIIPS	GIIPS vs. Non-GIIPS
Anticipatory effect [-1]	01-Aug-14	-0.115 [0.867]	0.540 [0.417]	-0.262 [0.716]	0.802 [0.103]	-1.140 [0.385]	0.372 [0.464]	-1.512 [0.168]
[1] Creditor bail-in   Banco Espirito Santo	04-Aug-14	-0.189 [0.780]	0.128 [0.845]	-0.260 [0.715]	0.388 [0.424]	-0.234 [0.857]	-0.167 [0.740]	-0.068 [0.950]
- Enlarged event window [0+1]		-0.648 [0.499]	0.004 [0.997]	-0.795 [0.431]	0.799 [0.247]	-2.521 [0.171]	0.241 [0.736]	<b>-2.762*</b> [0.073]

Notes: The table shows the results from SUR regressions using the daily returns of bank stock prices as dependent variable. Abnormal bank stock returns, displayed in fractions, are estimated on the basis of the market model, using the Stoxx Global 1800 benchmark index and an estimation window of 80 trading days. Each system of regressions includes 85 banks. The first number column "Full Sample" refers to the average abnormal return of all banks at the respective event day. The column "G-SIB" displays the abnormal banks stock returns of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the returns of the remaining banks, whereas "G-SIB vs. Non-GSIB" stands for the difference of these two subgroups. The column "GIIPS" shows the differences in abnormal returns for the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the returns of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal returns and the difference in abnormal returns between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

**Table 15.** Abnormal Bank CDS Spread Differences | Single Resolution Mechanism

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-GSIB	GIIPS	Non-GIIPS	GIIPS vs. Non-GIIPS
[1] EU Finance Ministers agreed rules of BRRD	28-Jun-13	2.358 [0.458]	5.229 [0.178]	1.420 [0.644]	<b>3.809*</b> [0.058]	4.184 [0.454]	1.423 [0.509]	2.761 [0.488]
- Enlarged event window [0+1]		3.170 [0.482]	5.112 [0.354]	2.536 [0.561]	2.576 [0.366]	4.092 [0.606]	2.636 [0.378]	1.456 [0.798]
[2] Presentation of the SRM proposal	09-Jul-13	-3.188 [0.315]	-5.640 [0.144]	-2.387 [0.437]	-3.254 [0.102]	-1.842 [0.743]	<b>-3.876*</b> [0.070]	2.034 [0.612]
- Enlarged event window [0+1]		-2.701 [0.548]	-2.160 [0.694]	-2.878 [0.509]	0.718 [0.799]	-3.259 [0.682]	-2.361 [0.425]	-0.897 [0.876]
[3] EU-Council generally accepts SRM, doubts by the ECB	18-Dec-13	-1.035 [0.719]	-1.402 [0.701]	-0.915 [0.734]	-0.487 [0.764]	-1.537 [0.763]	-0.779 [0.680]	-0.759 [0.833]
- Enlarged event window [0+1]		-3.123 [0.444]	-4.729 [0.361]	-2.599 [0.497]	-2.130 [0.356]	-5.532 [0.445]	-1.848 [0.480]	-3.684 [0.475]
[4] Provisional agreement on the SRM	20-Mar-14	<b>3.241*</b> [0.092]	<b>5.494**</b> [0.021]	2.505 [0.179]	<b>2.989**</b> [0.022]	3.805 [0.281]	<b>2.952**</b> [0.023]	0.853 [0.753]
- Enlarged event window [0+1]		2.866 [0.293]	4.002 [0.236]	2.495 [0.345]	1.506 [0.417]	4.187 [0.403]	2.141 [0.236]	2.046 [0.596]
[5] EU Parliament backs commission's proposal on the SRM	15-Apr-14	0.436 [0.826]	1.220 [0.605]	0.180 [0.926]	1.040 [0.419]	0.306 [0.935]	0.503 [0.696]	-0.197 [0.945]
- Enlarged event window [0+1]		-0.009 [0.997]	0.706 [0.833]	-0.242 [0.930]	0.949 [0.604]	1.070 [0.839]	-0.548 [0.759]	1.619 [0.693]

Notes: The table shows the results from SUR regressions using the daily first differences of bank CDS spreads as dependent variable. Abnormal differences in CDS spreads, displayed in basis points, are estimated on the basis of the constant return model, using an estimation window of 80 trading days. Each system of regressions includes 64 banks. The first number column "Full Sample" refers to the average abnormal differences of all banks at the respective event day. The column "G-SIB" displays the abnormal differences in banks CDS spreads of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the abnormal CDS spread differences of the remaining banks, whereas "G-SIB vs. Non-GSIB" stands for the difference of these two subgroups. The column "GIIPS" shows the abnormal differences in banks CDS spreads of the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the abnormal differences of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal differences and the difference in abnormal differences between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

**Table 16.** Abnormal Bank Stock Returns | Single Resolution Mechanism | Stoxx Global 1800

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-GSIB	GIIPS	Non-GIIPS	GIIPS vs. Non-GIIPS
[1] EU Finance Ministers agreed rules of BRRD	28-Jun-13	-0.743 [0.405]	-1.510 [0.191]	-0.570 [0.521]	-0.940 [0.233]	-0.762 [0.658]	-0.734 [0.265]	-0.028 [0.984]
- Enlarged event window [0+1]		0.126 [0.920]	-0.101 [0.951]	0.178 [0.888]	-0.279 [0.803]	-0.063 [0.979]	0.216 [0.817]	-0.279 [0.891]
[2] Presentation of the SRM proposal	09-Jul-13	-1.004 [0.271]	-0.905 [0.563]	-1.027 [0.255]	0.122 [0.881]	-2.305 [0.185]	-0.387 [0.568]	-1.918 [0.183]
- Enlarged event window [0+1]		-0.496 [0.699]	-1.072 [0.527]	-0.366 [0.773]	-0.707 [0.583]	-3.228 [0.187]	0.801 [0.400]	<b>-4.029**</b> [0.047]
[3] EU-Council generally accepts SRM, doubts by the ECB	18-Dec-13	-0.189 [0.798]	-0.445 [0.619]	-0.132 [0.862]	-0.313 [0.640]	-0.562 [0.668]	-0.012 [0.985]	-0.550 [0.626]
- Enlarged event window [0+1]		-0.318 [0.619]	-0.229 [0.859]	-0.338 [0.756]	0.109 [0.909]	-0.174 [0.926]	-0.386 [0.671]	0.212 [0.896]
[4] Provisional agreement on the SRM	20-Mar-14	-0.683 [0.304]	-0.517 [0.503]	-0.720 [0.285]	0.203 [0.690]	-0.816 [0.472]	-0.619 [0.289]	-0.197 [0.893]
- Enlarged event window [0+1]		<b>-1.614*</b> [0.086]	-1.51 [0.167]	<b>-1.637*</b> [0.085]	0.127 [0.860]	-2.035 [0.205]	<b>-1.414*</b> [0.087]	-0.620 [0.652]
[5] EU Parliament backs commission's proposal on the SRM	15-Apr-14	<b>-1.378**</b> [0.034]	<b>-1.724**</b> [0.019]	<b>-1.3**</b> [0.050]	-0.424 [0.381]	<b>-1.957*</b> [0.089]	<b>-1.104**</b> [0.046]	-0.853 [0.386]
- Enlarged event window [0+1]		-1.023 [0.271]	<b>-1.865*</b> [0.076]	-0.833 [0.380]	-1.032 [0.136]	-0.433 [0.792]	-1.303 [0.998]	0.869 [0.537]

Notes: The table shows the results from SUR regressions using the daily returns of bank stock prices as dependent variable. Abnormal bank stock returns, displayed in fractions, are estimated on the basis of the market model, using the Stoxx Global 1800 benchmark index and an estimation window of 80 trading days. Each system of regressions includes 85 banks. The first number column "Full Sample" refers to the average abnormal return of all banks at the respective event day. The column "G-SIB" displays the abnormal banks stock returns of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the returns of the remaining banks, whereas "G-SIB vs. Non-GSIB" stands for the difference of these two subgroups. The column "GIIPS" shows the differences in abnormal returns for the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the returns of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal returns and the difference in abnormal returns between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

### A 1. Abnormal Bank Stock Returns | Creditor Bail-in Denmark | Stoxx Europe 50

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-		GIIPS vs. Non-	
					GSIB	GIIPS	Non-GIIPS	GIIPS
[1] Amagerbanken: Bail-in of senior debt	06-Feb-11	0.018 [0.978]	-0.091 [0.913]	0.042 [0.947]	-0.133 [0.813]	0.340 [0.789]	-0.136 [0.755]	0.476 [0.655]
- Enlarged event window [0+1]		0.821 [0.359]	1.092 [0.354]	0.760 [0.391]	0.332 [0.677]	0.474 [0.792]	0.986 [0.109]	-0.513 [0.734]

### A 2. Abnormal Bank Stock Returns | Creditor Bail-in Spain | Stoxx Europe 50

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-		GIIPS vs. Non-	
					GSIB	GIIPS	Non-GIIPS	GIIPS
[1] Spanish bank rescue plan implies bail-in	10-Jul-12	-0.489 [0.649]	-0.671 [0.609]	-0.448 [0.677]	-0.223 [0.790]	-1.665 [0.436]	0.069 [0.923]	-1.735 [0.319]
- Enlarged event window [0+1]		-1.131 [0.459]	-0.645 [0.729]	-1.241 [0.417]	0.596 [0.617]	-2.364 [0.436]	-0.546 [0.591]	-1.818 [0.462]
[2] German government backs rescue plan	19-Jul-12	-0.444 [0.662]	-0.781 [0.515]	-0.367 [0.721]	-0.413 [0.607]	-0.523 [0.800]	-0.406 [0.542]	-0.117 [0.946]
- Enlarged event window [0+1]		-1.259 [0.381]	-2.180 [0.199]	-1.052 [0.470]	-1.128 [0.321]	-3.030 [0.301]	-0.419 [0.657]	-2.612 [0.285]
[3] Spain pushes national bank resolution-law	23-Aug-12	-0.065 [0.943]	-0.053 [0.965]	-0.068 [0.939]	0.015 [0.983]	-0.255 [0.892]	0.025 [0.967]	-0.281 [0.859]
- Enlarged event window [0+1]		-0.286 [0.825]	-1.234 [0.469]	-0.073 [0.954]	-1.161 [0.256]	0.090 [0.973]	-0.465 [0.585]	0.555 [0.805]

Notes: The tables show the results from SUR regressions using the daily returns of bank stock prices as dependent variable. Abnormal bank stock returns, displayed in fractions, are estimated on the basis of the market model, using the Stoxx Europe 50 benchmark index and an estimation window of 80 trading days. Each system of regressions includes 85 banks. The first number column "Full Sample" refers to the average abnormal return of all banks at the respective event day. The column "G-SIB" displays the abnormal banks stock returns of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the returns of the remaining banks, whereas "G-SIB vs. Non-GSIB" stands for the difference of these two subgroups. The column "GIIPS" shows the differences in abnormal returns for the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the returns of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal returns and the difference in abnormal returns between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

### A 3. Abnormal Bank Stock Returns | Creditor Bail-in Netherlands | Stoxx Europe 50

Event	Date	Full Sample	G-SIB vs. Non-				GIIPS vs. Non-	
			G-SIB	Non-G-SIB	GSIB	GIIPS	Non-GIIPS	GIIPS
[1] Nationalization of the SNS Reaal	01-Feb-13	0.196 [0.792]	0.083 [0.932]	0.222 [0.767]	-0.139 [0.847]	-0.548 [0.709]	0.550 [0.309]	-1.098 [0.377]
- Enlarged event window [0+1]		-0.916 [0.392]	-1.373 [0.324]	-0.813 [0.451]	-0.560 [0.590]	-2.020 [0.339]	-0.392 [0.613]	-1.627 [0.3639]

### A 4. Abnormal Bank Stock Returns | Creditor Bail-in Cyprus | Stoxx Europe 50

Event	Date	Full Sample	G-SIB vs. Non-				GIIPS vs. Non-	
			G-SIB	Non-G-SIB	GSIB	GIIPS	Non-GIIPS	GIIPS
[1] Eurozone Finance ministers: Bail-in as an option	11-Feb-13	0.196 [0.792]	0.354 [0.714]	0.160 [0.831]	0.194 [0.791]	-0.059 [0.968]	0.316 [0.561]	-0.375 [0.763]
- Enlarged event window [0+1]		0.212 [0.840]	1.598 [0.244]	-0.100 [0.925]	1.698 [0.102]	0.249 [0.904]	0.194 [0.801]	0.055 [0.975]
[2] Proposal in Cyprus to tax bank deposits	18-Mar-13	<b>-1.322**</b> [0.033]	<b>-1.98**</b> [0.015]	<b>-1.174*</b> [0.069]	-0.806 [0.265]	-1.344 [0.296]	<b>-1.311***</b> [0.003]	-0.032 [0.977]
- Enlarged event window [0+1]		<b>-3.491***</b> [0.000]	<b>-4.48***</b> [0.000]	<b>-3.268***</b> [0.000]	-1.211 [0.239]	<b>-5.852***</b> [0.001]	<b>-2.371***</b> [0.000]	<b>-3.481**</b> [0.032]
[3] Bail-in of senior Debt	25-Mar-13	<b>-1.343**</b> [0.028]	<b>-2.552***</b> [0.002]	<b>-1.07*</b> [0.094]	<b>-1.481*</b> [0.040]	<b>-2.328*</b> [0.069]	<b>-0.875**</b> [0.047]	-1.453 [0.204]
- Enlarged event window [0+1]		<b>-2.537***</b> [0.003]	<b>-3.236***</b> [0.005]	<b>-2.38***</b> [0.009]	-0.856 [0.404]	<b>-5.126***</b> [0.005]	<b>-1.309**</b> [0.036]	<b>-3.817**</b> [0.019]

Notes: The tables show the results from SUR regressions using the daily returns of bank stock prices as dependent variable. Abnormal bank stock returns, displayed in fractions, are estimated on the basis of the market model, using the Stoxx Europe 50 benchmark index and an estimation window of 80 trading days. Each system of regressions includes 85 banks. The first number column "Full Sample" refers to the average abnormal return of all banks at the respective event day. The column "G-SIB" displays the abnormal banks stock returns of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the returns of the remaining banks, whereas "G-SIB vs. Non-G-SIB" stands for the difference of these two subgroups. The column "GIIPS" shows the differences in abnormal returns for the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the returns of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal returns and the difference in abnormal returns between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

**A 5. Abnormal Bank Stock Returns | Single Resolution Mechanism | Stoxx Europe 50**

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-GSIB	GIIPS	Non-GIIPS	GIIPS vs. Non-GIIPS
[1] EU Finance Ministers agreed rules of BRRD	28-Jun-13	-0.439 [0.535]	-1.059 [0.189]	-0.299 [0.690]	-0.761 [0.285]	-0.338 [0.828]	-0.486 [0.310]	0.148 [0.916]
- Enlarged event window [0+1]		-0.123 [0.902]	-0.481 [0.674]	-0.043 [0.968]	-0.439 [0.664]	-0.403 [0.855]	0.010 [0.989]	-0.413 [0.836]
[2] Presentation of the SRM proposal	09-Jul-13	-0.719 [0.301]	-0.599 [0.451]	-0.007 [0.312]	0.146 [0.838]	-1.826 [0.233]	-0.194 [0.684]	-1.632 [0.241]
- Enlarged event window [0+1]		-0.458 [0.642]	-1.105 [0.326]	-0.313 [0.765]	-0.313 [0.434]	-3.119 [0.150]	0.804 [0.233]	<b>-3.924**</b> [0.047]
[3] EU-Council generally accepts SRM, doubts by the ECB	18-Dec-13	0.019 [0.975]	-0.131 [0.837]	0.053 [0.936]	-0.184 [0.764]	-0.259 [0.832]	0.151 [0.765]	-0.409 [0.715]
- Enlarged event window [0+1]		-0.853 [0.335]	-1.040 [0.260]	-0.811 [0.395]	-0.229 [0.796]	-0.744 [0.672]	-0.905 [0.213]	0.161 [0.920]
[4] Provisional agreement on the SRM	20-Mar-14	-0.215 [0.694]	0.182 [0.768]	-0.304 [0.594]	0.486 [0.332]	-0.172 [0.873]	-0.235 [0.598]	0.063 [0.949]
- Enlarged event window [0+1]		<b>-1.621**</b> [0.036]	<b>-1.484*</b> [0.090]	<b>-1.651**</b> [0.042]	0.167 [0.815]	-1.984 [0.195]	<b>-1.448**</b> [0.022]	-0.536 [0.701]
[5] EU Parliament backs commission's proposal on the SRM	15-Apr-14	-0.514 [0.363]	-0.540 [0.374]	-0.509 [0.390]	-0.032 [0.946]	-0.831 [0.452]	-0.364 [0.429]	-0.468 [0.639]
- Enlarged event window [0+1]		0.062 [0.938]	-0.343 [0.689]	0.153 [0.854]	-0.496 [0.458]	1.077 [0.490]	-0.420 [0.518]	1.497 [0.287]

**A 6. Abnormal Bank Stock Returns | Creditor Bail-in Portugal | Stoxx Europe 50**

Event	Date	Full Sample	G-SIB	Non-G-SIB	G-SIB vs. Non-GSIB	GIIPS	Non-GIIPS	GIIPS vs. Non-GIIPS
Anticipatory effect [-1]	01-Aug-14	-0.144 [0.822]	0.542 [0.333]	-0.298 [0.663]	<b>0.841*</b> [0.076]	-1.273 [0.328]	0.392 [0.379]	-1.665 [0.136]
[1] Creditor bail-in   Banco Espirito Santo	04-Aug-14	0.419 [0.508]	0.887 [0.110]	0.314 [0.645]	0.573 [0.221]	0.671 [0.603]	0.300 [0.497]	0.371 [0.737]
- Enlarged event window [0+1]		-0.881 [0.110]	-0.284 [0.718]	-1.016 [0.292]	0.731 [0.272]	-2.875 [0.116]	0.065 [0.917]	<b>-2.94*</b> [0.061]

Notes: The tables show the results from SUR regressions using the daily returns of bank stock prices as dependent variable. Abnormal bank stock returns, displayed in fractions, are estimated on the basis of the market model, using the Stoxx Europe 50 benchmark index and an estimation window of 80 trading days. Each system of regressions includes 85 banks. The first number column "Full Sample" refers to the average abnormal return of all banks at the respective event day. The column "G-SIB" displays the abnormal banks stock returns of the banks in the sample, considered as systemically important. The selection is based on the list of 28 systemically relevant institutions, published by the Financial Stability Board on 1st November 2012. The column "Non-G-SIB" shows the returns of the remaining banks, whereas "G-SIB vs. Non-GSIB" stands for the difference of these two subgroups. The column "GIIPS" shows the differences in abnormal returns for the banks, belonging to the countries Greece, Ireland, Italy, Portugal and Spain. The column "Non-GIIPS" shows the returns of the remaining banks, whereas "GIIPS vs. Non-GIIPS" stands for the difference of these two subgroups. The p-values in brackets correspond to the tests whether the average abnormal returns and the difference in abnormal returns between the given bank groups are equal to zero. All regressions include pre-event dummies in order to account for anticipation effects. The enlarged event window [0+1] shows the average cumulated abnormal differences of the event date t=0 and the following day t=1. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.