

Schäfer, Alexander; Schnabel, Isabel; Weder di Mauro, Beatrice

Working Paper

Getting to bail-in: Effects of creditor participation in European Bank restructuring

Arbeitspapier, No. 08/2014

Provided in Cooperation with:

German Council of Economic Experts

Suggested Citation: Schäfer, Alexander; Schnabel, Isabel; Weder di Mauro, Beatrice (2014) : Getting to bail-in: Effects of creditor participation in European Bank restructuring, Arbeitspapier, No. 08/2014, Sachverständigenrat zur Begutachtung der Gesamtwirtschaftlichen Entwicklung, Wiesbaden

This Version is available at:

<https://hdl.handle.net/10419/103837>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

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

Alexander Schäfer
(Johannes Gutenberg University Mainz)

Isabel Schnabel
(Johannes Gutenberg University Mainz,
German Council of Economic Experts and CEPR)

Beatrice Weder di Mauro
(Johannes Gutenberg University Mainz and CEPR)

Working Paper 08/2014*)
November 2014

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

Alexander Schäfer

Johannes Gutenberg University Mainz

Isabel Schnabel

Johannes Gutenberg University Mainz, German Council of Economic Experts, and CEPR

Beatrice Weder di Mauro

Johannes Gutenberg University Mainz and CEPR

Background Paper for the German Council of Economic Experts

October 31, 2014

This paper reflects the views of the authors and not necessarily those of the German Council of Economic Experts.
We would like to thank Ami Dalloul and Manuel Pelzer for excellent research assistance.

Content

1. Introduction

2. Bail-in Case Classification and Expected Market Reactions
 - 2.1 Bail-in Basis
 - 2.2 Signal Effects
 - 2.3 Outline of the Bail-in Cases
 - 2.4 Hypotheses

3. Methodology
 - 3.1 Identifying Events
 - 3.2 The data
 - 3.3 Empirical Model

4. Results
5. Robustness
6. Conclusion

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. 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 the taxpayers.¹ 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. But before and after Cyprus there had been a few other cases. We propose to use these events to study the change in creditor’s expectations of bail-out as well as differential effects across banks and countries.

In particular, we are interested in the reactions of CDS 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 by their bail-in basis (junior, senior debt) and by the strength of the signal effects on other banks in

¹ In addition, several countries adopted extra capital measures and as well as trading prohibitions, ring-fencing etc. See Schäfer, Schnabel, and Weder di Mauro (2014) for an assessment of the main national reform streams.

Europe. Finally, we ask whether the effects differ across different types of banks, such as systemically important banks and banks from European crisis countries (GIIPS). The latter is of particular interest because it is possible that bail-in events would have a stronger signalling effect in countries that are already perceived as vulnerable and that have little fiscal capacity of 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 series of banks in the European Union. Our results show that creditor bail-in events do 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, albeit not as pronounced as for CDS spreads. Moreover, we find stronger effects when a comparatively large bail-in basis is combined with a strong signal 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, comment on the data sample and describe our empirical model. The fourth chapter contains the results for the bail-in events in chronological order, while chapter 5 provides a robustness analysis. Chapter 6 summarizes and concludes.

2. Bail-In Case Classification and Expected Market Reactions

In this chapter we first define the different bail-in bases and comment on signal effects on banks of other European countries. We then outline the different country cases and the Single Resolution Mechanism. In the last part of this chapter we formulate our hypotheses regarding the expected market reactions.

2.1 Bail-in Basis

A bail-in procedure aims to utilize banks' debt to let investors participate in the banks' losses at the time of bankruptcy. Bank debt is typically held by a variety of investors. They can be institutional investors, such as financial and non-financial firms, or private investors, such as retail depositors. Therefore the size of the bail-in basis plays a crucial role for these market participants. 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**.² In this latter case, the bail-in basis is wide and affects a broader group of investors.

2.2. Signal Effects

To gauge the market reactions of banks in the entire European Union (EU), we have to consider the likely strength of the signal from an event. In particular, a bail-in event is likely to have a stronger signal for a future bail-in regime if it happened within the period when the European SRM was being designed. Bail-in cases are typically a result of enduring negotiations between the affected institutes, national governments, and their Eurozone partners. The decision to involve bank creditors therefore depends on the stance of the Euro group leaders, which, in turn, will be acknowledged by financial markets. 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.³

2.3 Outline of the Bail-in Cases

In the following, we outline five selected European precedents of creditor bail-in. In addition, we sketch the implementation of the European Single Resolution Mechanism.⁴

² For further information about the bail-in basis, see Dübel (2013a) and Dübel (2013b).

³ See Financial Times of 12th June 2012 "Barroso pushes Banking Union".

⁴ 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 incorporate the specific treatment of bail-in.

Our first case covers 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”.⁵ 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.⁶ 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.⁷ 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 Danish authorities decided to bail-in bank creditors long before the decision for a European banking union and the creation of a SRM.

Spain applied for ESM assistance in bank restructuring and recapitalization in June 2012.⁸ At this time the Spanish banks recapitalization needs 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.⁹ In the second half of the year 2012 the Spanish government implemented a national law on the restructuring and resolution of their credit entities.¹⁰

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 the 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.¹¹ While this case happened during the negotiation of the SRM, its signal effect was probably magnified for an additional reason: the responsible Dutch finance minister had

⁵ See Dübel (2013b).

⁶ See Denmark’s Nationalbank (2013).

⁷ See Financial Times, 8th February 2011, p. 27.

⁸ See Financial Times – European Edition on 25th June 2012. This event date is not examined since a creditor bail-in was not discussed at this early stage.

⁹ See Memorandum of Understanding (2012).

¹⁰ See Ashurst (2012).

¹¹ See Dübel (2013b), p.40.

just been appointed as the president of the Euro group. Hence, his involvement in the decision to bail in creditors in the Netherlands was a strong indication for the future stance of the Euro group, including in their negotiations with the incipient case, Cyprus.¹²

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 did bail in senior unsecured debt and large deposits but not retail deposits under 100 000 euro.

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.¹³ In September 2014 the bank posted record losses for the first half of the year. On 4th 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.¹⁴

Finally we analyse the market reactions in response to the implementation of the European Single Resolution Mechanism (SRM), the bail-in-relevant entity of the European Banking Union. The European Banking Union consists of three pillars: the Single Supervisory Mechanism (SSM), the

¹² See also the article of the Financial Times – European edition „Dutch moralist sends stern message“, on 26th March 2013, p. 2.

¹³ 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>

¹⁴ See also Reuters (2014).

Single Resolution Mechanism (SSM), and the Harmonized Deposit Insurance.¹⁵ 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.¹⁶ The SRM has access to a European Single Resolution Fund, which is supposed to be sourced from the banking sector and not 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, minimising the burden for taxpayers. The possible bail-in basis under the BRRD ranges from junior to senior unsecured debt and can involve 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.¹⁷ 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, hence, 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.

2.4 Hypotheses

The overarching hypothesis in this paper is that the observation of a bail-in event reduces bail-out expectations across European banks. We 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 on CDS spreads.

¹⁵ Note that we do not investigate events attached to the implementation of the SSM and the harmonized deposit insurance since those do not incorporate a specific rules on bail-in issues.

¹⁶ See European Commission (2014a).

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

On the basis of these considerations we now form more differentiated hypotheses. We first consider the bail-in basis and then the signal effect. Then we will shed light on different types of banks.¹⁸

As pointed out in the above description, only two country cases incorporate a bail-in of senior debt, namely Denmark and Cyprus. In all the 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 signal 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:

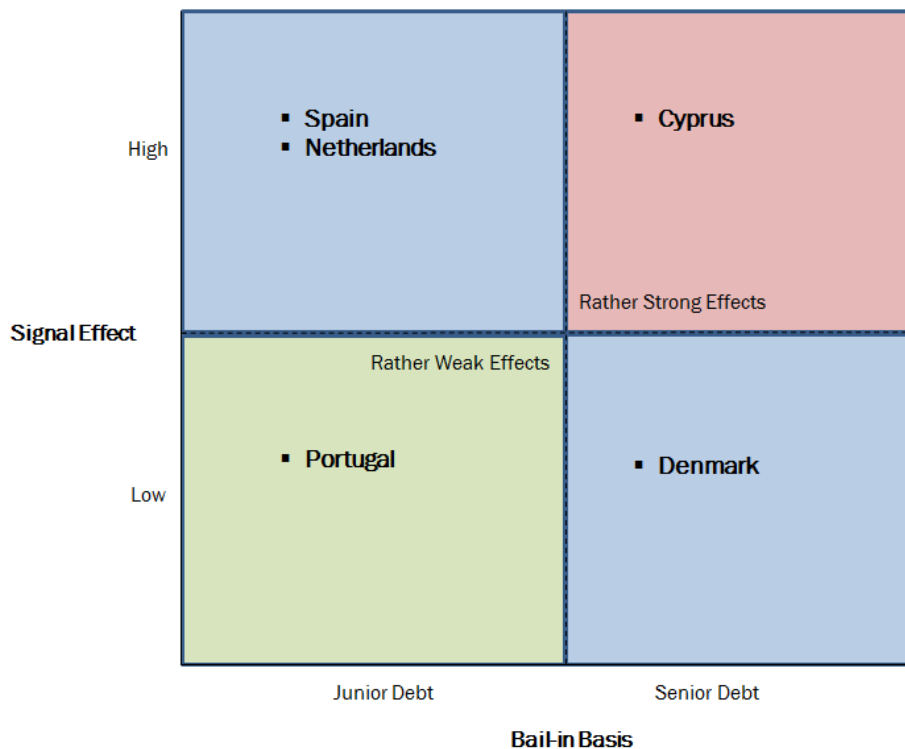
Hypothesis 2

- A bail-in that entails a signal 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.

¹⁸ In comparison to this assumption, Schäfer, Schnabel and Weder di Mauro (2014) show that regulatory events can have a direct effect on bank's profitability, which will then be instantly reflected in a drop in stock returns.

Figure 1. Hypotheses according to the Bail-in Basis and the Signal Effect



The Cyprian case combines – as the only one – two prerequisites for a strong expected reaction in market prices, namely a high signal 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 expected 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 particularly from the implicit public bail-out guarantees in the aftermath of the subprime crisis and are therefore expected to experience a larger reduction in bail-out expectations, when it comes to a bail-in decision.¹⁹

¹⁹ 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.

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 of 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 high public debt levels, their ability to finance national bank bail-outs on their own is considered as comparatively low. In turn, the probability for those banks to experience a bail-in in the future increases.

Hypothesis 4

- Banks belonging to 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 next subchapter 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. According to 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 about the news that drives the markets. This is the kind of event we are looking for. For this study we select the Financial Times – European Edition (FT), a reputable newspaper that covers the entire Europe with a

profound reporting on financial markets. 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 in order to obtain the most detailed information possible.²⁰ This is of particular importance as we need to know whether the respective event, e. g. the consensus of the Euro group meeting, was reached before or after markets closed. According to our event scope of bail-in cases and the reform process of the SRM, 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. 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 are opened the first time after its publication. As can also be seen from table 1, the timeframe of the different cases varies quite substantially. While the Cyprian, the Spanish and the SRM cases include a couple of events, 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. We downloaded all available banks for the twenty-eight European Union countries and removed inactive and not continuously traded ones within the above sample period.²¹ After these adjustments we obtained a sample of 64 banks for CDS spreads and 85 listed banks for stock returns. Regarding the CDS spreads 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 and since we do not consider country-specific subsample-events, the number of observations remains constant

²⁰ We complemented the newspaper search by a comprehensive internet research.

²¹ We also included banks from Norway, Switzerland and Liechtenstein due to their closeness to the EU.

for all banks across the countries. For the sake of testing for heterogeneity effects, we split our sample in systemically important banks (G-SIBs) and banks that are not 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 the credit and the equity side. Furthermore we construct a subsample of banks that are based in those countries that have been predominately 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 the credit side we end up with a subsample of 22 banks from GIIPS countries while the equity side 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.

3.3 Empirical Model

Our purpose is to assess abnormal differences in CDS spreads and stock returns on every identified event date. The following empirical approach goes back to the paper by Schäfer, Schnabel, and Weder di Mauro (2014). 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 implement dummy variables in the equations, equal to one in case of an event and zero otherwise. Hence, event- and bank-specific abnormal first differences in CDS spreads are attached to the respective dummies and do not have to be calculated separately.²² 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:

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

²² See Binder (1985) and Karafiath (1988) for further information.

$$\begin{aligned}
& \dots \\
\Delta CDS_{jt} &= \mu_j + \sum_{n=T-1}^{T+1} \tau_{jn} D_{jnt} + \varepsilon_{jt} \\
& \dots \\
\Delta CDS_{Jt} &= \mu_J + \sum_{n=T-1}^{T+1} \tau_{Jn} D_{Jnt} + \varepsilon_{Jt}
\end{aligned}$$

The expression ΔCDS_{jt} denotes the first difference of CDS spreads, μ_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.²³ 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 because of interdependency of financial and non-financial firms within our sample.²⁴ We rerun the regressions for stock returns in the robustness section on the basis the Stoxx Europe 50 index, which is in contrast to the former one a pure European index.

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

$$\begin{aligned}
R_{1t} &= \alpha_1 + \beta_1 R_{Mt} + \sum_{n=T-1}^{T+1} \tau_{1n} D_{1nt} + \varepsilon_{1t} \\
& \dots \\
R_{jt} &= \alpha_j + \beta_j R_{Mt} + \sum_{n=T-1}^{T+1} \tau_{jn} D_{jnt} + \varepsilon_{jt}
\end{aligned}$$

²³ See Campbell, Lo, and MacKinlay (1996)

²⁴ See for example Ongena, Smith, and Michalsen (2003).

...

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

The expressions α_j and β_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.²⁵ 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 14 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, using the Stoxx Europe 50 index as benchmark index for the market return.

4. Results

The next section presents the results in chronological order. We start with the early Danish Case, then continuing with Spain, the Netherlands, and Cyprus, before the European SRM is going to be investigated. The final case covers the bail-in at the Portuguese bank Banco Espírito Santo.

²⁵ The averages in abnormal return for the full sample as well as for the respective subsample are computed by a linear combination of the individual bank estimates.

4.1 Denmark

The first country case we investigate is Denmark. The bail-in procedure of the Danish retail bank Amagerbanken is characterized by a comparatively large bail-in basis but a rather low signal 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 3, 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 5, 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. Also, Amagerbanken was a small bank, with total assets of only 4.5 billion assets²⁶ and a market share of only one percent even in Denmark.²⁷ 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.

4.2 Spain

The next country case covers Spain. Compared with the Danish case, the Spanish bail-in procedure applies a relatively low 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 signal 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 the junior creditor participation according to a memorandum of understanding (MoU) by the Eurozone. On the second event date, 19 July 2012, the German government backed the Eurozone bank rescue plan and implicitly the involvement of junior bank creditors. On the last event

²⁶ See Dübel (2013b).

²⁷ See Denmark's Nationalbank (2013).

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 prior claimed terms of the MoU.

Table 4 displays the results for abnormal changes in CDS spreads while table 6 reports the abnormal stock returns. Analysing the CDS side 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.

4.3 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 signal 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 7 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 predominately affected by the European sovereign debt crisis. The rise for the segment of the GIIPS stands at roughly 26 basis points and is significantly different from their counterparts. According to the results for stock returns in table 9, our results move 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 credit side, banks of the GIIPS subsample experience the strongest reaction, here -4.4 percent.

Taken together with the results for the credit side, we find a notable reduction in bail-out expectations for the entire European banking sample. Moreover, we find strong evidence for the

banks from the 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 the credit side. Quantitatively, the Dutch case leads to more pronounced results than the other two cases before. Figure 2a 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 2b.²⁸

4.4 Cyprus

The Cyprian country case is of particular importance for the analysis. As pointed out above, 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 customer deposits. Second, the decision to expand the bail-in basis to senior debt and retail depositors was backed by the Euro group after protracted negotiations. At this time it signalled a watershed about how to deal with distressed banks in the future. 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 in time 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 stand below one hundred thousand euro²⁹. While this is not a distinct bail-in procedure its effect on private investors would yield similar effects, as it passes the rescue costs from the taxpayer to (retail) investor. The last event on 25 March 2013 shows the actual bail-in in Cyprus as described before.

We start with the results for CDS spreads, given in table 8. 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 take the enlarged event windows into account. Systemic banks also show sharp increases for these two events while a significant difference to their counterparts is only visible for the second event. The most striking result is given by the boost in CDS spreads of banks from the GIIPS states. The effect amounts 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 highly significant. The results for stock returns, displayed in table 10, basically mirror our results

²⁸ 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.

²⁹ The proposal at this time scheduled a 6.75% levy on all deposits under 100.000 Euro and a 9.9% levy above this threshold.

from the credit side. The full sample coefficients show significant reactions. Again, the G-SIBs are affected sharply with a mildly significant difference for Non-G-SIBs in case of event number two. Finally, the tremendous rise in CDS spreads for the banks from European crisis countries is also reflected in stock returns. Stock returns from banks of GIIPS are -6.7% and -5.1%, respectively, and again the difference with respect to their counterparts is significant. Figures 3a to 3d 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 4a to 4d. As can be seen from those graphs, the heterogeneity effects for CDS spreads are particularly large.

Figures 5a to 5d illustrate the key events of the Netherlands and Cyprus in a larger time scale. Interestingly, the market reactions in response to those events are still visible.

4.5 The Single Resolution Mechanism (SRM)

We now focus on the 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 failing banks would be centralized in Brussels.³⁰ 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 BRRD³¹, 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 2014³². 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

³⁰ 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.

³¹ For further details, see Council of the European Union (2013).

³² European Parliament (2014).

2014 contains the formal agreement of the European Parliament to back the Commission's proposals on completing the SRM.

CDS spreads in table 11 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 13, 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.

4.6 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 signal 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 12 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.

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 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 7 with table A3. The Cyprian results remain generally unchanged when we compare table 10 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 signal character. 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 signalling 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 some 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. 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 more likely in the fiscally strong countries such as Germany, which would entail competitive distortions in the European banking sector.

Market reactions in response to the implementation of the European SRM were small. 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 Euro group 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.

References

Ashurst (2012): “Law reform for bank restructurings in Spain,” Ashurst Madrid, November 2012.

Binder, J. J. (1985): “Measuring the effects of regulation with stock price data,” *Rand Journal of Economics*, 16(2), 167–183.

Bongini, P. and **L. Nieri** (2013): “The value of being systemically important financial institutions,” Working Paper.

Council of the European Union (2013): “Council agrees general approach on Single Resolution Mechanism,” Press Release by the Council of the European Union on 18th December 2013, Brussels, http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/140190.pdf, retrieved on 19th October 2014.

Denmarks Nationalbank (2013): “Key Legal Aspects of Bank Resolution - Danish experiences,” Presentation by N. C. Andersen, General Council, 1st November 2013.

Campbell, J. Y., A. W. Lo, and **A. C. MacKinlay** (1996): “The Econometrics of Financial Markets,” Princeton University Press, Princeton.

Dübel, H.-J. (2013a): “Creditor Participation in Banking Crisis in the Eurozone – A Corner Turned?”, Study commissioned by Bundestagsfraktion Bündnis 90 / Die Grünen in Bundestag and The Greens / European Free Alliance in European Parliament. June.

Dübel, H.-J. (2013b): “The Capital Structure of Banks and Practice of Bank Restructuring - Eight Case Studies on Current Bank Restructurings in Europe,” Final Report, Study commissioned by Center for Financial Studies of Frankfurt, Berlin, 8th October 2013.

European Commission (2014a): “A Single Resolution Mechanism for the Banking Union – frequently asked questions,” Memo, Issued by the European Commission on 15th April 2014, Brussels, http://europa.eu/rapid/press-release_MEMO-14-295_en.htm?locale=en retrieved on 23rd October 2014.

European Commission (2014b): “EU Bank Recovery and Resolution Directive (BRRD): Frequently Asked Questions,” Memo, Issued by the European Commission on 15th April 2014,

Brussels, [http://europa.eu/rapid/press-release MEMO-14-297 de.htm](http://europa.eu/rapid/press-release_MEMO-14-297_de.htm) retrieved on 23rd October 2014.

European Parliament (2014): “Parliament negotiators rescue seriously damaged bank resolution system,” Committees Committee on Economic and Monetary Affairs, Press Release by the European Parliament on 20th April 2014, Brussels, http://www.europarl.europa.eu/pdfs/news/expert/infopress/20140319IPR39310/20140319IPR39310_en.pdf, retrieved on 19th October 2014.

Karafiath, I. (1988): “Using Dummy Variables in the Event Methodology,” *The Financial Review*, 23 (3), 351–357.

Memorandum of Understanding (2012): “Memorandum of Understanding on Financial-Sector Policy Conditionality,” 20th July 2012.

O’Hara, M., and W. Shaw (1990): “Deposit Insurance and Wealth Effects: The Value of Being ‘Too Big To Fail,’” *Journal of Finance*, 45(5), 1587–1600.

Ongena, S., D. C. Smith, and D. Michalsen (2003): “Firms and their distressed banks: lessons from the Norwegian banking crisis,” *Journal of Financial Economics*, 67, 81–112.

Reuters (2014): “Portugal in 4.9 billion euro rescue of Banco Espirito Santo,” web article by Sergio Goncalves, Lisbon, Monday, 4th August, 2014 9:26pm BST, <http://uk.reuters.com/article/2014/08/04/uk-portugal-bes-cenbank-idUKKBN0G30TA20140804> retrieved on 20th October 2014.

Schäfer, A., I. Schnabel and B. Weder di Mauro (2014): “Financial Sector Reform After the Subprime Crisis: Has Anything Happened?”, CEPR Discussion Paper No. 9502, forthcoming in *Review of Finance*.

Ueda, K., and B. Weder di Mauro (2010): “The Value of the Too-Big-to-Fail Subsidy to Financial Institutions,” in *Financial Sector Taxation: The IMF’s Report to the G-20 and Background*, pp. 106–116. Stijn Claessens, Michael Keen, Ceyla Pazarbasioglu (eds.), International Monetary Fund, Washington.

Ueda, K., and B. Weder di Mauro (2013): “Quantifying Structural Subsidy Values for Systemically Important Financial Institutions,” *Journal of Banking and Finance*, 37, 3830-3842.

Zellner, A. (1962): “An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias,” *Journal of the American Statistical Association*, 57, 348–368.

Figure 2a. Bail-in Netherlands | CDS Spreads

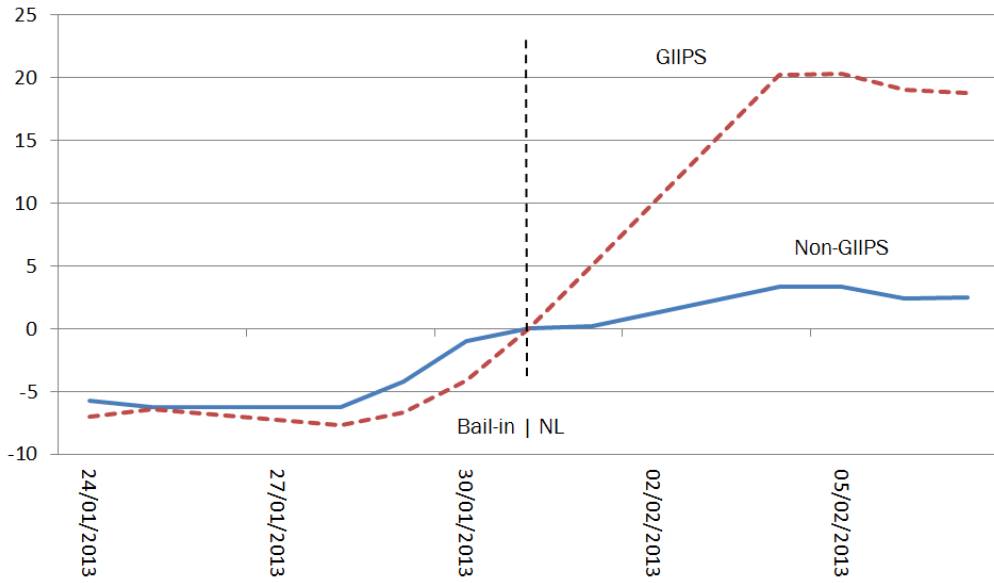
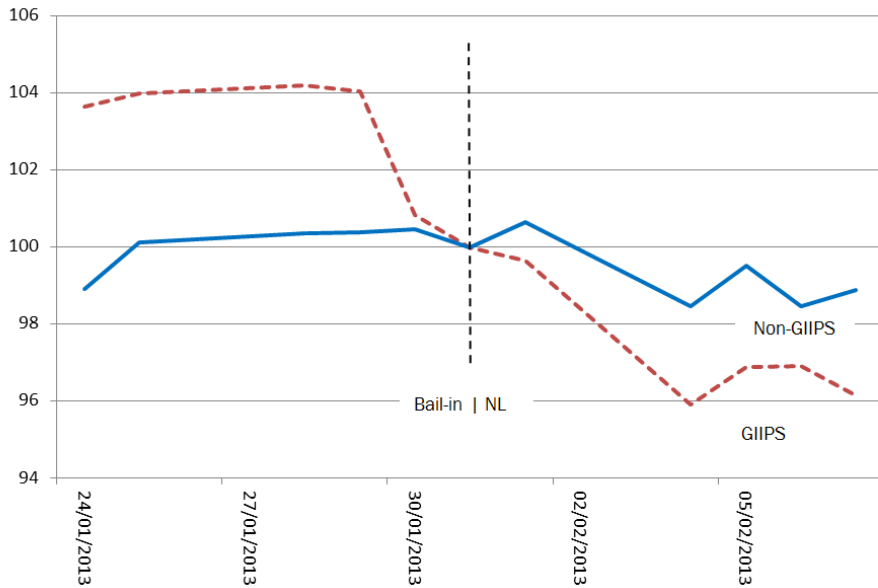


Figure 2b. Bail-in Netherlands | Stock Prices



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.

Figure 3a. Proposal of a Deposit Tax in Cyprus | CDS Spreads

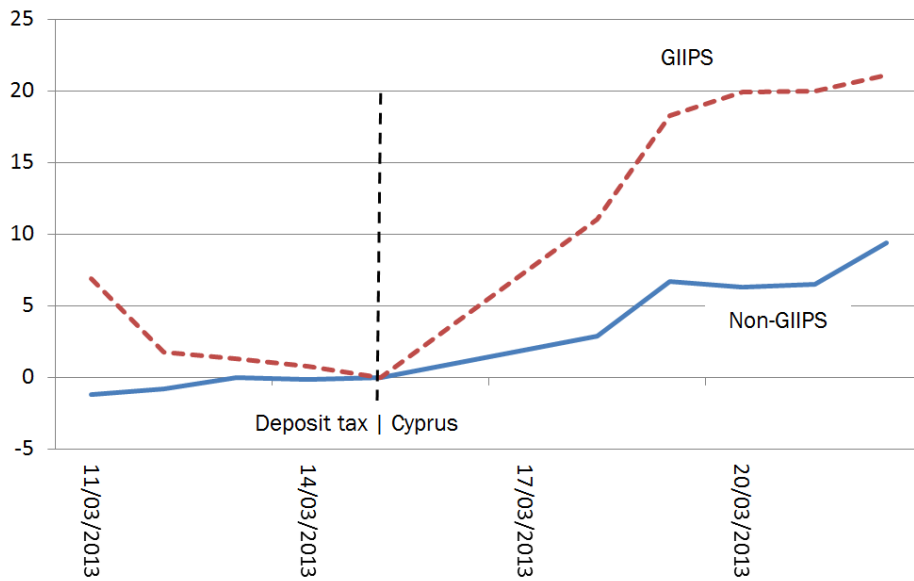
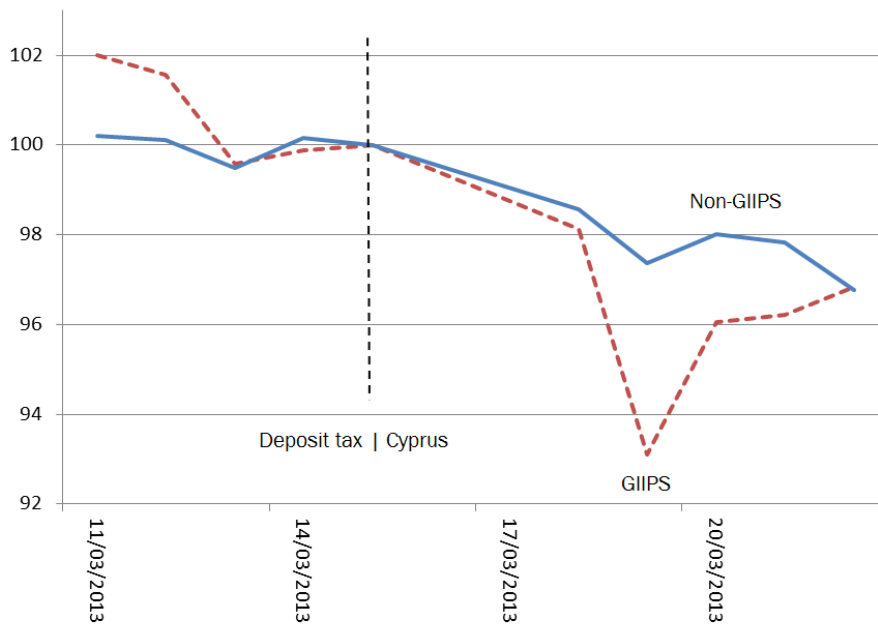


Figure 3b. Proposal of a Deposit Tax in Cyprus | Stock Prices



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 3c. Proposal of a Deposit Tax in Cyprus | CDS Spreads

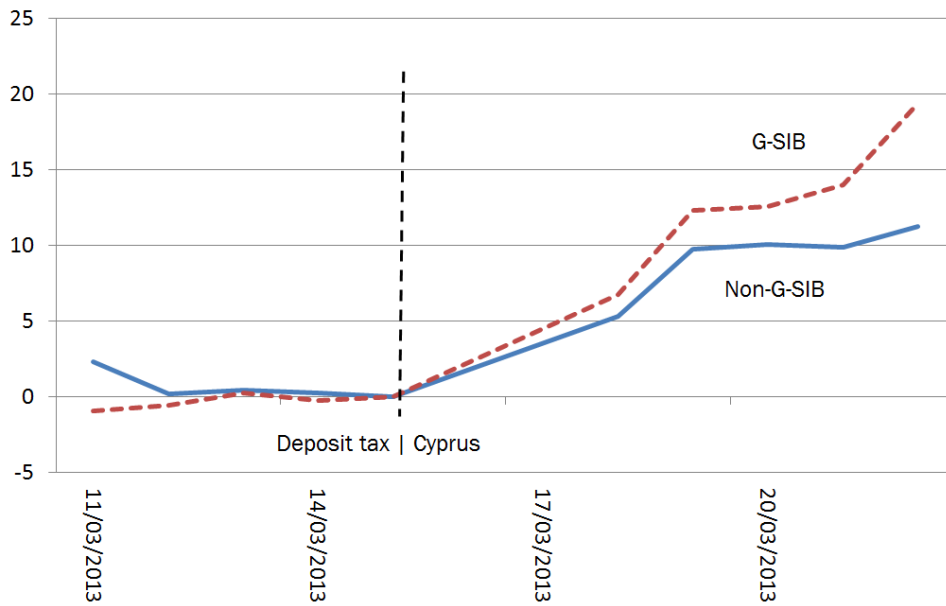
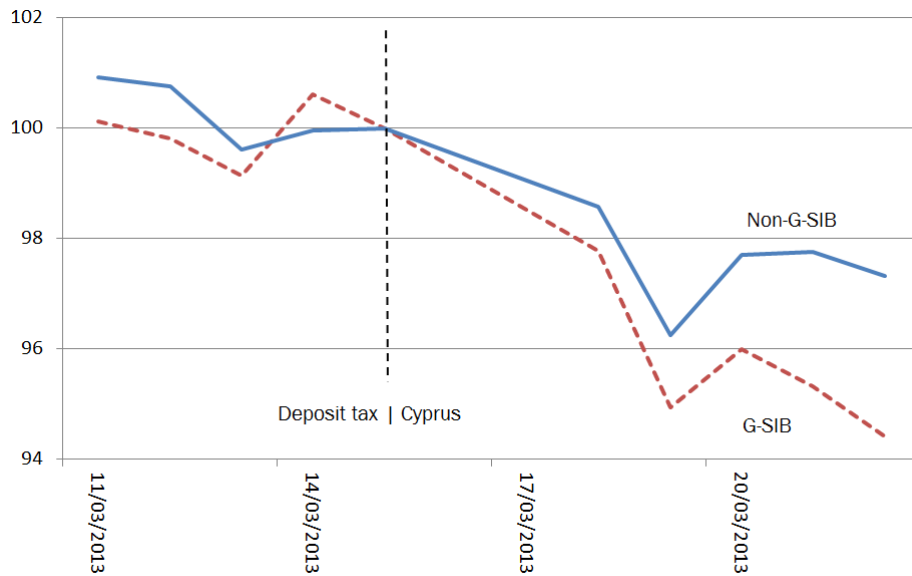


Figure 3d. Proposal of a Deposit Tax in Cyprus | Stock Prices



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 4a. Bail-in in Cyprus | CDS Spreads

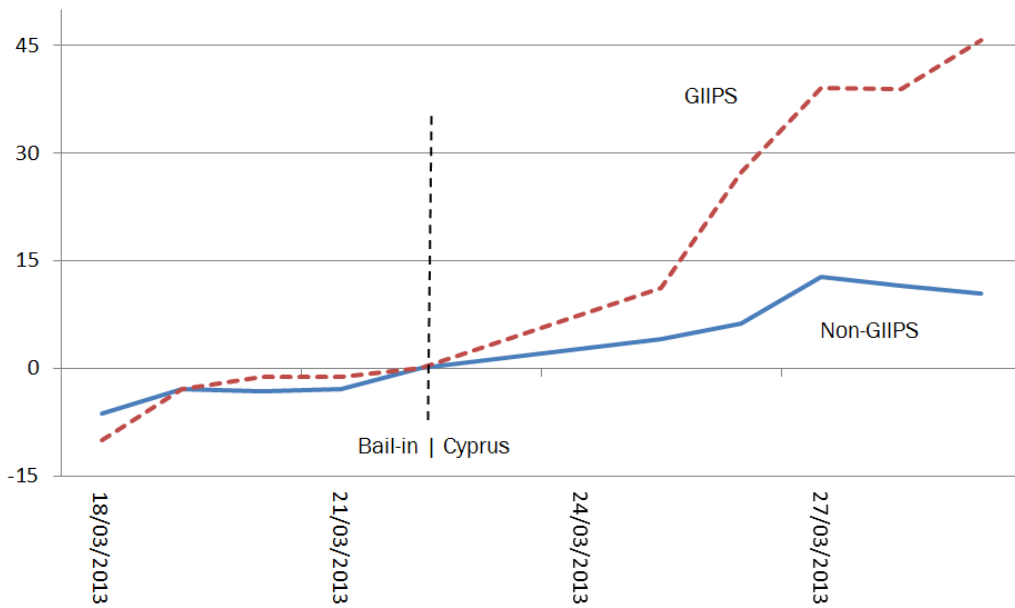
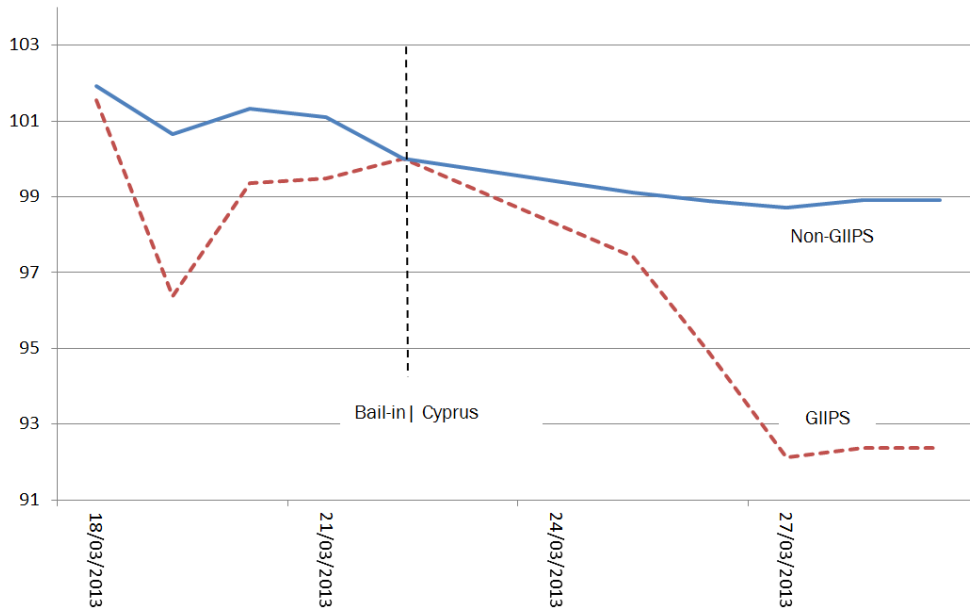


Figure 4b. Bail-in in Cyprus | Stock Prices



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 4c. Bail-in in Cyprus | CDS Spreads

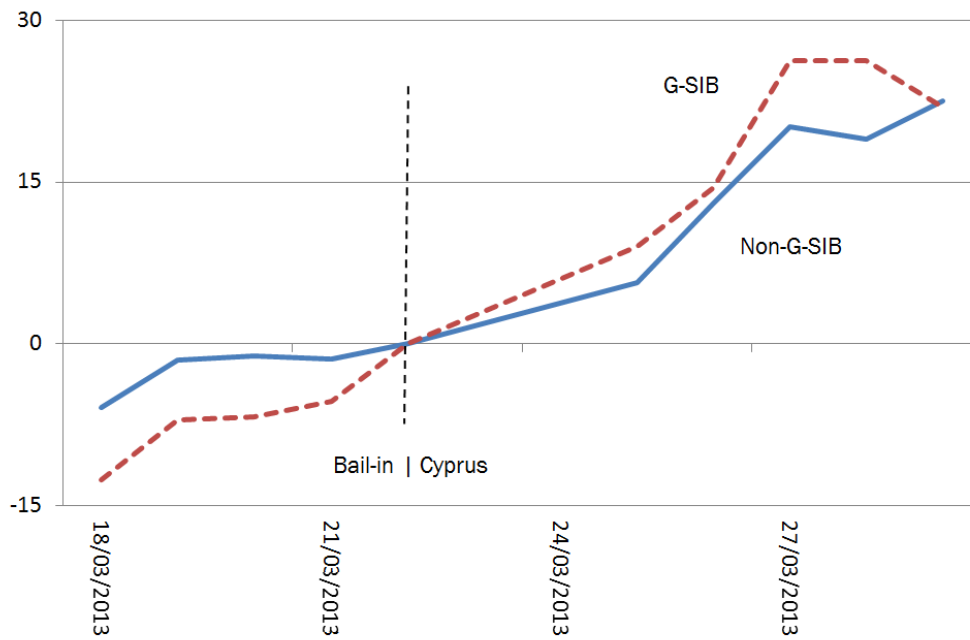
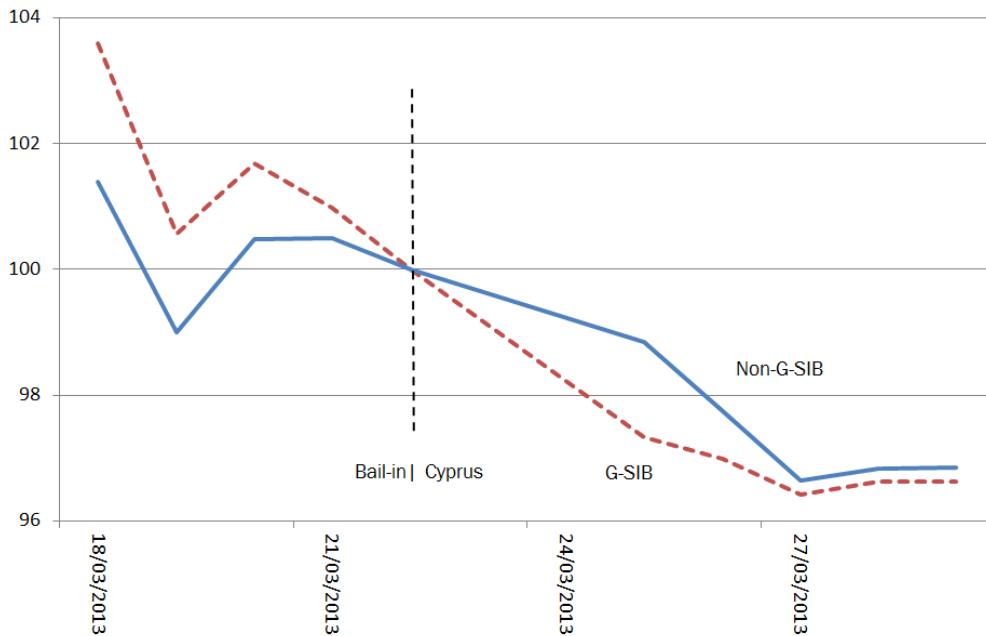


Figure 4d. Bail-in in Cyprus | Stock Prices



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 5a. Key Events in Netherlands and Cyprus | CDS Spreads

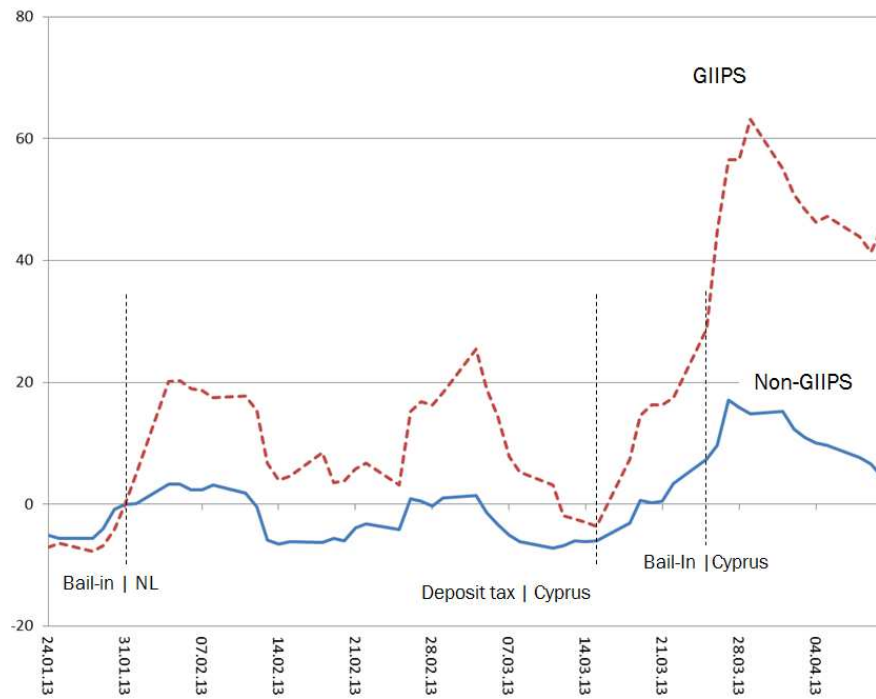
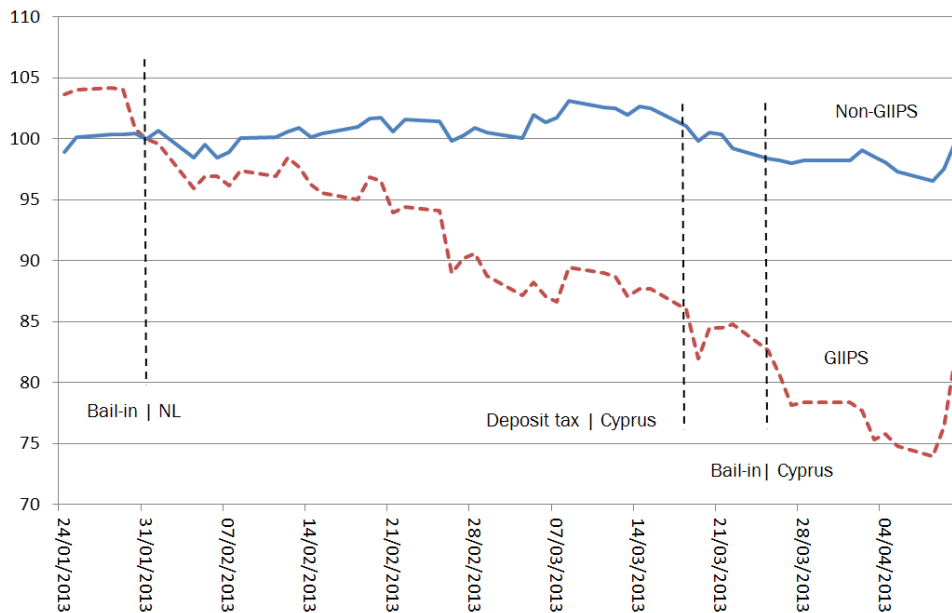


Figure 5b. Key Events in Netherlands and Cyprus | Stock Prices



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 5c. Key Events in Netherlands and Cyprus | CDS Spreads

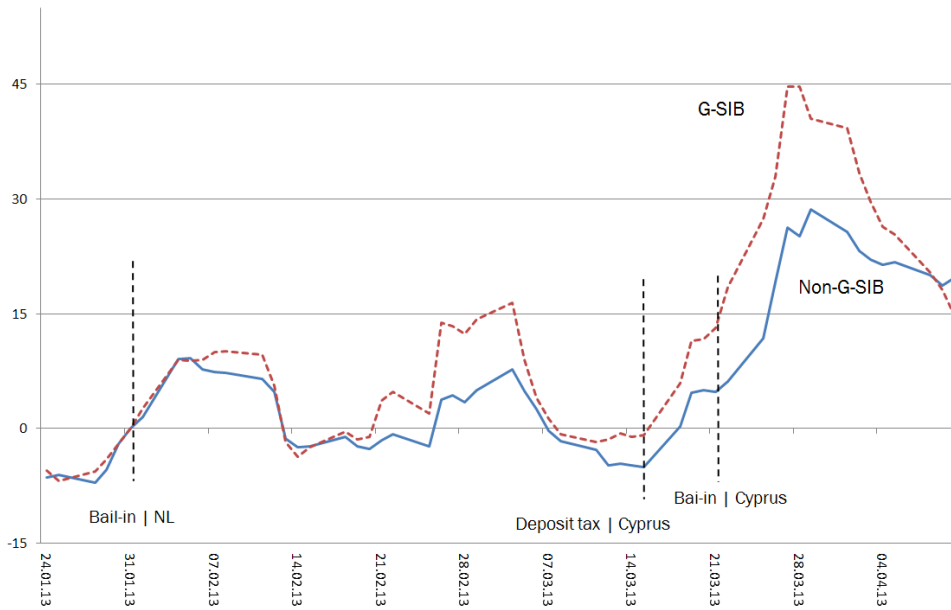
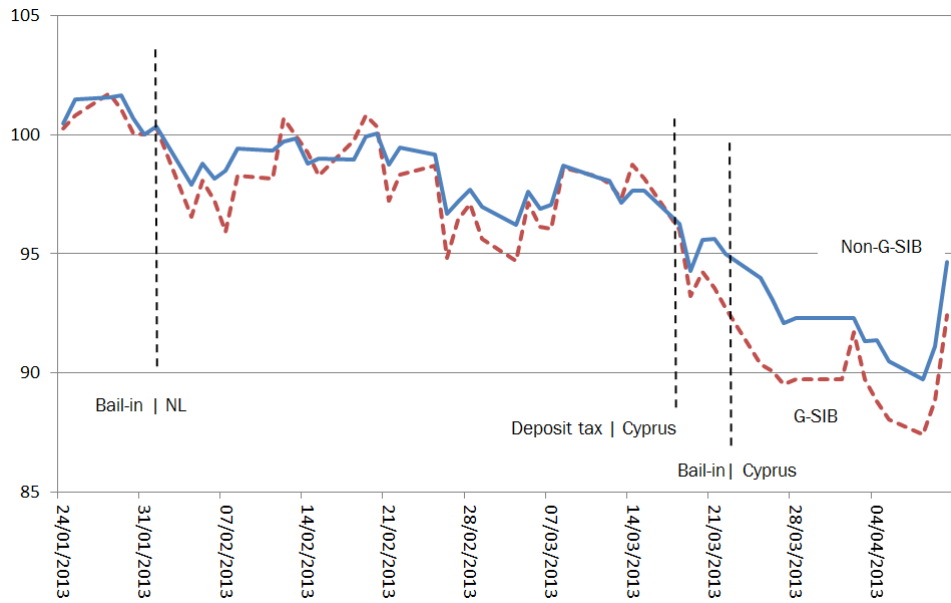


Figure 5d. Key Events in Netherlands and Cyprus | Stock Prices



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.

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 Caisse 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 | | BANCO DE SABADELL | Spain | 640 | 0.000 | 0.022 | -0.075 | 0.139 | | X |
| COMMERZBANK | Germany | 640 | -0.001 | 0.024 | -0.092 | 0.110 | | | BANCO POPULAR ESPANOL | Spain | 640 | -0.001 | 0.027 | -0.123 | 0.147 | | X |
| DEUTSCHE BANK | Germany | 640 | -0.001 | 0.018 | -0.071 | 0.087 | X | | BANCO SANTANDER | Spain | 640 | 0.000 | 0.020 | -0.073 | 0.107 | X | X |
| IKB | Germany | 640 | 0.002 | 0.046 | -0.128 | 0.336 | | | BANKINTER | Spain | 640 | 0.001 | 0.026 | -0.072 | 0.139 | | X |
| QUIRIN BANK | Germany | 640 | 0.000 | 0.023 | -0.080 | 0.121 | | | BANCO BILBAO VIZCAYA ARGENTARIA | Spain | 640 | 0.000 | 0.021 | -0.078 | 0.107 | X | X |
| UMWELTBANK | Germany | 640 | 0.001 | 0.022 | -0.239 | 0.217 | | | CAIXABANK | Spain | 640 | 0.001 | 0.022 | -0.100 | 0.169 | | X |
| AAREAL BANK | Germany | 640 | 0.002 | 0.022 | -0.065 | 0.100 | | | NORDEA | Sweden | 640 | 0.001 | 0.013 | -0.058 | 0.056 | X | |
| ALPHA BANK | Greece | 640 | 0.001 | 0.054 | -0.200 | 0.294 | | X | SEB | Sweden | 640 | 0.001 | 0.014 | -0.051 | 0.082 | | |
| BANK OF PIRAEUS | Greece | 640 | -0.002 | 0.058 | -0.295 | 0.287 | | X | SVENSKA HANDELSBANKEN | Sweden | 640 | 0.000 | 0.012 | -0.077 | 0.043 | | |
| EUROBANK ERGASIAS | Greece | 640 | -0.003 | 0.074 | -0.302 | 0.294 | | X | SWEDBANK | Sweden | 640 | 0.001 | 0.015 | -0.079 | 0.105 | | |
| NATIONAL BANK OF GREECE | Greece | 640 | -0.002 | 0.054 | -0.268 | 0.272 | | X | BANQUE CANTONALE DE VADOAISE | Switzerland | 640 | 0.000 | 0.011 | -0.070 | 0.074 | | |
| OTP BANK | Hungary | 640 | 0.000 | 0.018 | -0.061 | 0.067 | | | VONTOBEL | Switzerland | 640 | 0.000 | 0.015 | -0.055 | 0.103 | | |
| ALLIED IRISH BANKS | Ireland | 640 | 0.000 | 0.047 | -0.242 | 0.309 | | X | CREDIT SUISSE GROUP | Switzerland | 640 | 0.000 | 0.017 | -0.105 | 0.054 | X | |
| BANK OF IRELAND | Ireland | 640 | 0.000 | 0.036 | -0.228 | 0.164 | | X | JULIUS BAER | Switzerland | 640 | 0.000 | 0.015 | -0.074 | 0.083 | | |
| BANCA CARIGE | Italy | 640 | -0.002 | 0.027 | -0.173 | 0.129 | | X | LUZERNER KANTONALBANK | Switzerland | 640 | 0.000 | 0.007 | -0.031 | 0.042 | | |
| BANCA MONTE DEI PASCHI DI SIENA | Italy | 640 | 0.000 | 0.039 | -0.201 | 0.213 | | X | ST. GALLER KANTONALBANK | Switzerland | 640 | 0.000 | 0.011 | -0.050 | 0.051 | | |
| BANCA POPOLARE DI MILANO | Italy | 640 | 0.001 | 0.031 | -0.104 | 0.111 | | X | UBS | Switzerland | 640 | 0.000 | 0.016 | -0.077 | 0.073 | X | |
| BANCA POPOLARE DI SONDRIO | Italy | 640 | -0.001 | 0.022 | -0.072 | 0.095 | | X | VALIANT | Switzerland | 640 | -0.001 | 0.015 | -0.104 | 0.060 | | |
| BANCA POPOLARE DELL' EMILIA ROMAGNA | Italy | 640 | 0.000 | 0.030 | -0.107 | 0.134 | | X | ZUGER KANTONALBANK | Switzerland | 640 | 0.000 | 0.008 | -0.031 | 0.054 | | |
| BANCO POPOLARE | Italy | 640 | 0.000 | 0.032 | -0.149 | 0.189 | | X | BARCLAYS | United Kingdom | 640 | 0.000 | 0.021 | -0.155 | 0.087 | X | |
| CREDITO EMILIANO | Italy | 640 | 0.001 | 0.023 | -0.103 | 0.084 | | X | HSBC | United Kingdom | 640 | 0.000 | 0.011 | -0.035 | 0.047 | X | |
| BANCA PICCOLO CREDITO VALTELLINESE | Italy | 640 | -0.001 | 0.026 | -0.103 | 0.168 | | X | LLOYDS | United Kingdom | 640 | 0.001 | 0.019 | -0.061 | 0.084 | | |
| INTESA SANPAOLO | Italy | 640 | 0.001 | 0.025 | -0.096 | 0.126 | | X | ROYAL BANK OF SCOTLAND | United Kingdom | 640 | 0.000 | 0.023 | -0.115 | 0.108 | X | |
| MEDIOBANCA | Italy | 640 | 0.000 | 0.024 | -0.094 | 0.089 | | X | STANDARD CHARTERED | United Kingdom | 640 | 0.000 | 0.017 | -0.164 | 0.071 | X | |
| UBI BANCA | Italy | 640 | 0.001 | 0.027 | -0.092 | 0.088 | | X | | | | | | | | | |
| 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 3. Abnormal Bank CDS Spread Differences | Creditor Bail-in Denmark

| Event | Date | Full Sample | G-SIB | Non-G-SIB | G-SIB vs. Non-G-SIB | | Non-GIIPS | GIIPS vs. Non-GIIPS | |
|--|-----------|-------------------|------------------|-------------------|--------------------------|--------------------|------------------|---------------------|-----------|
| | | | | | GSIB | GIIPS | | GIIPS | Non-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] | 6.244* [0.068] | -10.691 [0.348] | 1.745 [0.664] | -12.436 [0.132] | |

Table 4. Abnormal Bank CDS Spread Differences | Creditor Bail-in Spain

| Event | Date | Full Sample | G-SIB | Non-G-SIB | G-SIB vs. Non-G-SIB | | Non-GIIPS | GIIPS vs. Non-GIIPS | |
|---|-----------|-------------------|-------------------|-------------------|-----------------------------|-------------------|-------------------|---------------------|-----------|
| | | | | | GSIB | GIIPS | | GIIPS | Non-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] | 14.842*** [0.008] | -7.253 [0.627] | 6.264 [0.213] | -13.517 [0.249] | |

Notes: The tables show 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 European 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 5. Abnormal Bank Stock Returns | Creditor Bail-in Denmark | 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] 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] |

Table 6. 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 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 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 7. Abnormal Bank CDS Spread Differences | Creditor Bail-in Netherlands

| Event | Date | Full Sample | G-SIB | Non-G-SIB | G-SIB vs. Non-GSIB | | Non-GIIPS | GIIPS vs. Non-GIIPS | |
|--------------------------------------|-----------|----------------------------|---------------------------|----------------------------|--------------------|----------------------------|------------------|----------------------------|-------|
| | | | | | GSIB | GIIPS | | 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] | | 11.897** [0.039] | 10.194* [0.058] | 12.453** [0.044] | -2.259 [0.562] | 25.964** [0.030] | 4.593 [0.113] | 21.371** [0.029] | |

Table 8. Abnormal Bank CDS Spread Differences | Creditor Bail-in Cyprus

| Event | Date | Full Sample | G-SIB | Non-G-SIB | G-SIB vs. Non-GSIB | | Non-GIIPS | GIIPS vs. Non-GIIPS | |
|--|-----------|-----------------------------|-----------------------------|-----------------------------|--------------------------|-----------------------------|----------------------------|-----------------------------|-------|
| | | | | | GSIB | GIIPS | | GIIPS | 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 | 6.5*** [0.007] | 7.019** [0.012] | 6.33*** [0.009] | 0.689 [0.686] | 12.853*** [0.005] | 3.249** [0.034] | 9.604*** [0.008] | |
| - Enlarged event window [0+1] | | 11.967*** [0.000] | 12.767*** [0.001] | 11.705*** [0.001] | 1.062 [0.661] | 21.717*** [0.001] | 6.819*** [0.001] | 14.897*** [0.004] | |
| [3] Bail-in of senior Debt | 25-Mar-13 | 7.129*** [0.002] | 9.317*** [0.001] | 6.415*** [0.006] | 2.902* [0.084] | 12.533*** [0.005] | 4.365*** [0.003] | 8.168** [0.019] | |
| - Enlarged event window [0+1] | | 15.075*** [0.000] | 15.16*** [0.000] | 15.047*** [0.000] | 0.114 [0.962] | 30.801*** [0.000] | 6.869*** [0.001] | 23.933*** [0.000] | |

Notes: The tables show 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 9. Abnormal Bank Stock Returns | Creditor Bail-in Netherlands | Stoxx Global 1800

| Event | Date | Full Sample | G-SIB | Non-G-SIB | G-SIB vs. Non- | | Non-GIIPS | GIIPS vs. Non- |
|--------------------------------------|-----------|---------------------------|----------------------------|---------------------------|-------------------|---------------------------|-------------------|-------------------|
| | | | | | GSIB | 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] | | -2.533* [0.066] | -3.909** [0.046] | -2.223* [0.091] | -1.686 [0.161] | -4.398* [0.072] | -1.648 [0.111] | -2.750 [0.140] |

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

| 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 | -0.069 [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] | -1.35** [0.047] | -0.053 [0.966] |
| - Enlarged event window [0+1] | | -4.051*** [0.002] | -5.355*** [0.005] | -3.758*** [0.003] | -1.597 [0.188] | -6.703*** [0.004] | -2.793*** [0.004] | -3.91** [0.028] |
| [3] Bail-in of senior Debt | 25-Mar-13 | -1.496* [0.098] | -2.792** [0.033] | -1.204 [0.163] | -1.59* [0.063] | -2.560 [0.116] | -0.992 [0.138] | -1.569 [0.209] |
| - Enlarged event window [0+1] | | -2.547** [0.047] | -3.259* [0.080] | -2.387* [0.052] | -0.873 [0.471] | -5.137** [0.026] | -1.318 [0.165] | -3.819** [0.031] |

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 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 11. 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] | 3.809* [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] | -3.876* [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 | 3.241* [0.092] | 5.494** [0.021] | 2.505 [0.179] | 2.989** [0.022] | 3.805 [0.281] | 2.952** [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] |

Table 12. 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 | 3.485* [0.081] | 3.268 [0.154] | 3.556* [0.077] | -0.288 [0.830] | 8.103** [0.031] | 1.122 [0.045] | 6.98** [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 tables show 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 13. Abnormal Bank Stock Returns | Single Resolution Mechanism | Stoxx Global 1800

| Event | Date | Full Sample | G-SIB | Non-G-SIB | G-SIB vs. Non-G-SIB | 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] | -4.029** [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] | | -1.614* [0.086] | -1.51 [0.167] | -1.637* [0.085] | 0.127 [0.860] | -2.035 [0.205] | -1.414* [0.087] | -0.620 [0.652] |
| [5] EU Parliament backs commission's proposal on the SRM | 15-Apr-14 | -1.378** [0.034] | -1.724** [0.019] | -1.3** [0.050] | -0.424 [0.381] | -1.957* [0.089] | -1.104** [0.046] | -0.853 [0.386] |
| - Enlarged event window [0+1] | | -1.023 [0.271] | -1.865* [0.076] | -0.833 [0.380] | -1.032 [0.136] | -0.433 [0.792] | -1.303 [0.998] | 0.869 [0.537] |

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-G-SIB | 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] | -2.762* [0.073] |

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 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.

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

| Event | Date | Full Sample | G-SIB | Non-G-SIB | G-SIB vs. Non- | | Non-GIIPS | GIIPS vs. Non- |
|--------------------------------------|-----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| | | | | | GSIB | 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 | 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 | 0.196 [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 | -1.322** [0.033] | -1.98** [0.015] | -1.174* [0.069] | -0.806 [0.265] | -1.344 [0.296] | -1.311*** [0.003] | -0.032 [0.977] |
| - Enlarged event window [0+1] | | -3.491*** [0.000] | -4.48*** [0.000] | -3.268*** [0.000] | -1.211 [0.239] | -5.852*** [0.001] | -2.371*** [0.000] | -3.481** [0.032] |
| [3] Bail-in of senior Debt | 25-Mar-13 | -1.343** [0.028] | -2.552*** [0.002] | -1.07* [0.094] | -1.481* [0.040] | -2.328* [0.069] | -0.875** [0.047] | -1.453 [0.204] |
| - Enlarged event window [0+1] | | -2.537*** [0.003] | -3.236*** [0.005] | -2.38*** [0.009] | -0.856 [0.404] | -5.126*** [0.005] | -1.309** [0.036] | -3.817** [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] | -3.924** [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] | | -1.621** [0.036] | -1.484* [0.090] | -1.651** [0.042] | 0.167 [0.815] | -1.984 [0.195] | -1.448** [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] | 0.841* [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] | -2.94* [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.