How did the bail-in events affect European banks' bonds?

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I offer an analysis of the impact of European banks' bonds to the "bail-in events". With a Diff-in-Diffs approach, I illustrate that the yield of bailinable instruments (unsecured bonds) has increased compared to the non-bailinable instruments (secured bonds) during the bail-in events. Furthermore, I illustrate that the difference in yields between two subcategories of bailinable debt does not generally react to the bail-in events. These tests corroborate the hypothesis that the bail-in events credibly modified the expectations about the legal treatment of the unsecured bonds, compared to the secured bonds, in case of future distresses.

"(...) the legislative response on crisis management has engendered uncertainty about investing in bank liabilities. An instrument – the bail-in – devised to reduce the impact of a crisis must not create the premises to make one more likely: if this is the case, its design and/or its implementation must be rethought."

Ignazio Visco, 2015

(Governor Bank of Italy)

After the financial crisis, in the attempt of protecting taxpayers' money from very expensive banks bail-out's, European policymakers have both designed laws and committed to innovative practices

for the recovery and resolution of distressed institutions. Among these, the bail-in framework allows regulators to identify banks close to default by converting into equity (or writing off) their unsecured liabilities, while leaving intact secured debt. This scheme generates an increase of the "juniority" of unsecured debt, compared to the secured debt, which is meant to intensify banks' market discipline.

For the first time in the literature, this paper investigates the response of banks' debt to the events linked to the European bail-in framework. Specifically, I test two sets of predictions in a sample comprising the banks of six major countries: first, whether the bail-in increased the cost of unsecured debt, as argued by Chan-Lau and Oura (2016) and the ECB board (2015)); second, whether the market discipline of banks has increased.

I focus on the reaction of the yield of unsecured bonds relative to the reaction of the secured bonds, as the distinctive feature of the bail-in is that, before a default procedure, it explicitly imposes losses to the unsecured liabilities, while not intervening on the value of the secured debt. In my Difference-in-Differences (also referred to as Diff-in-Diffs or, alternatively, DD) approach, bailinable instruments (the unsecured bonds) represent the treated group and non-bailinable instruments (the secured bonds) are assumed to be the control group.

I document that the yield of bailinable instruments rises significantly more than non-bailinable instruments in the dates that are crucial for the implementation process of the bail-in regime. These effects are economically significant: the yield of the unsecured debt increases on average by more than 6 basis points in one day, compared to the secured bonds, while the average difference between unsecured and secured bonds is 2%, approximately. Placebo tests suggest that we can attribute this effect to the modifications in the legal treatment of unsecured bonds, compared to secured ones. Indeed, the differences in responses between two subcategories inside the same broad category of unsecured debt are generally insignificant, because bail-in provisions do not affect the differences in the legal treatment of these two subcategories.

Concerning the market discipline, I test whether the bail-in events increased the relation between the yield of unsecured debt and the respective bank's risk. Also in this case, I focus on the bail-in's differential treatment for unsecured and secured debt. Using a triple-differencing approach, I

illustrate that the bail-in increases the yield-risk sensitivity of unsecured bond, compared to secured ones.

Since my analyses are grouped at country level, they allow to underline some salient national-level determinants of the effects of the bail-in on yields. For instance, I show that the countries with high debt-to-GDP ratio are more exposed to bail-in events with respect to the countries with low debt-to-GDP.

In addition, the grouping at national level consents to improve the empirical analyses. We can distinguish between events that are expected to have strong spillovers across European countries (European events) and events that do not generate spillovers across countries (national events) because they do not update the beliefs about of the commitment of supranational (European) authorities which have a fundamental responsibility for the spillover. A further enhancement of the empirical analyses stems from the fact that State events - for instance the national transpositions of the BRRD (i.e., Banking Recovery and Resolution Directive) - allow us to investigate a *staggered* set of dates, because different countries ratified the directive in different days.

Concerning the events, they are all contained in the Bloomberg database. It is crucial to consider not only the legislative milestones, but also the dates of bail-in's executions during specific distress cases. The reason is that the events with the most credible signals about the non-extemporaneous nature of the bail-in regime are represented by the actual ex-post realizations of bail-in's rather than by the ex-ante legislative process. This is motivated by the fact that - symmetrically with respect to the typical view of bail-out's being ex-post optimal (Acharya and Yorulmazer (2008)) - we can consider the bail-in as ex-post sub-optimal and, in turn, this sub-optimality makes the actual bail-in executions a costly and highly credible commitment for European authorities for the successive banking resolution cases.

Related Literature

The effects of bail-in events on banks debt have not been addressed by the previous literature. Nevertheless, a very recent research (Schafer, Schnabel and di Mauro (2016)) analyzes a related issue, which is the impact of bail-in events on the European banks in terms of CDS spread and equity prices. They find an increase in the default probability during bail-in events, which is smaller for non-GIIPS countries and for the events related to the legislative process. Their question is related to the work by Neuberg, Glasserman, Kay and Rajan (2016) (contemporaneous to the present one), which focuses on extracting the implied probability of government support from the difference between the spread of CDS paying in default cases and the spread of CDS paying in bail-in cases.

This research, instead, investigates the effects of the bail-in by taking a bank perspective in that I examine directly the banks costs of debt and also the impact on market discipline. In addition, the comparison of two classes of debt (bailinable and non-bailinable) allows to overcome a limitation of previous research. Focusing on the CDS and the stock price, it describes the effects on the probability of default only. However, a vast class of circumstances can affect the default probability and some of these circumstances are not related to the bail-in regulation and its legal specificity. For instance, during a supposed bail-in event the increase of the probability of default might be caused by a bail-out that is smaller than expected, rather than by the bail-in provision. Thus, a part of the effects they attribute to the bail-in events, might be instead attributed to these other causes. In this regard, I show that the difference in yields between bailinable and non-bailinable debt does react significantly to the bail-in events and, furthermore, the difference in yields between two subcategories of bailinable debt does not react. This suggests that we can attribute the reaction of the difference in yield between unsecured and secured debt to the amendments in the legal treatment of unsecured bonds, versus secured ones.

Another contribution of this paper is the fact that, by discriminating between European and national events and by considering a staggered set of national ratifications of the BRRD, it adds more dimensions for the assessment of the bail-in's consequences.

In addition to these two papers, a vast literature investigates banks' funding costs and market discipline, without any reference to the bail-in scheme. Authors have gauged the market discipline by means of the correlation between subordinated bonds prices or yields and banks' risk measures.

Among them, Covitz et al. (2004), Jagtiani et al. (2002), DeYoung et al. (2001), Calomiris (1999) and Flannery (1998)) show that funding costs significantly depend on banks' risk.

Other papers focus on the question of whether the events related to the alteration of the government support are able to modify the yields-risk relationship, which is typically used as a proxy for the market discipline. Flannery and Sorescu (1996) show that, in the period after the bail-out of Continental Illinois (1984) and before the approval of the FDIC Improvement Act (1991), yield spreads were not reflecting the issuing bank's risk. Sironi (2003) shows that governments are able to alter the yield-risk relation. He illustrates that the relation becomes more positive after the European Union's restrictions on public expenditures and limitation on managing monetary policy at national level. Also Acharya et al. (2016), Santos (2014), Araten and Turner (2013), Baker and McArthur (2009) shows that the higher government support in favor of the too-big-to-fail banks generates a lower yield spread for the subordinated debt and also a lower market discipline.

In particular, the very recent contribution of Acharya et al. (2016) is especially related to this paper. A robustness checks investigates the effect of increased bail-out expectations on American banks' bond yields by means of an event study that is to some extent similar to my approach. Their methodology compares the events' responses of financial firms and non-financial firms and, thus, they interpreted it as a Diff-in-Diffs. They find that the increased expectations of government bail-outs has stronger negative effects on financial firms. In addition, they perform a triple-differencing analysis that shows that the government support expectations deteriorates the market discipline. Differently from them, I use a measure of bank risk provided by Bloomberg that not only uses a more comprehensive set of inputs, but it is also more liquid since it is updated daily.

Empirical methodologies

Since the bail-in events are supposed to increase the probability that an unsecured bond will be converted into equity or wiped-out, compared to secured debt, we should be able to detect an increase of the yield of the bailinable securities, relative to the non-bailinable securities. The method elected for this analysis is a Diff-in-Diff estimation where the bailinable instruments (the

unsecured bonds) represent the treated group and the non-bailinable instruments (the secured bonds) are assumed to be the control group. The regression model is:

$$yld_{i\,j\,t} = \alpha + \alpha_j + \beta_1(bln_{i\,t}\ \ post_t) + \delta_1(bln_{i\,t}) + (day_t) + \delta_2(ttm_{i\,t}) + \varepsilon_{i\,t}$$

The subscript i refers to the bond, j refers to the bank and t refers to the day.

bln_{it} is the bond-day-specific bailinable status. It is valued zero if the bond is non-bailinable ("Secured", "Senior Secured", "Asset backed") and one if the bond is bailinable ("Senior Unsecured", "Unsecured", "Senior Subordinated", "Subordinated" and "Junior Subordinated").

$post_t$ is the date-specific time dummy. It is valued one in the day of a bail-in event (results are robust even if I enlarge the window to two days).

(day_t) is the day fixed effect. It captures all the time-varying factors of each country like, for instance, the spread of the national 10 years treasury bonds, (relative to the German 10 years treasury bonds), the yield of national 10 years treasury bonds, the term spread (i.e., the spread between the yield of the national 10 years treasury bonds and the 6 months treasury bonds) and the price of the national stock market portfolio (indeed, if I substitute the day fixed effect with these macro-variables, the depicted picture of results does not change).

$ttm_{i\,t}$ is the time to maturity of the bond.

α_j is the control for bank fixed effect (results are robust when I use bond-fixed effect).

The relevant estimator, β_1, describes the difference between two differences. The first one is the difference between bailinable bond's yield in the day of the bail-in event and the respective average yield in the seven days before the bail-in event (results do not change if I use 10 days). The second one is the difference between non-bailinable bond's yield in the day of the bail-in event and the respective average yield in the seven days before the bail-in event. This event study methodology is based on a constant yield model, similarly to Acharya at al. (2016). In the tables of the results, I will present the estimates of β_1 (also referred to as the DD estimates). If the bail-in event increases the expectations that the bail-in regime will apply also in the future cases of banks distress, I expect the estimate of β_1 to be positive. Symmetrically, if the bail-in event decreases

the expectations that the bail-in regime will apply also in the future cases of banks distress, I expect the estimate of $\boldsymbol{\beta_1}$ to be negative.

In order to gauge the change in the market discipline resulting from the bail-in events, I offer a triple-differencing model, similarly to Acharya et al. (2016).

$$yld_{i\,j\,t} = \alpha + \alpha_i + \beta_2(dft_{j\,t} \;\; bln_{i\,t} \;\; post_t) + \gamma_1(dft_{j\,t} \;\; bln_{i\,t}) + \gamma_2(dft_{j\,t} \;\; post_t) + \gamma_3(bln_{i\,t} \;\; post_t)$$
$$+ \delta_3(dft_{j\,t}) + \delta_4(bln_{i\,t}) + (day_t) + \delta_5(ttm_{i\,t}) + u_{i\,t}$$

$dft_{j\,t}$ is the measure of bank's risk. It is the Bloomberg's 1-year default probability, which uses data about the CDS spread, the volatility of the stock price, the net income, non-performing loans, market-to-book ratio, short- and long-term leverage and loan losses reserves.

Given that the literature has typically gauged market discipline by means of the risk-yield sensitivity, the estimate of β_2 (also referred to as the DDD estimates) describes the change in market discipline of the bailinable bonds, compared to the non-bailinable bonds, that is attributable to the bail-in event.

A positive β_2 indicates that the bail-in event increases the yield associated to the bailinable bond of a bank with positive risk, compared to the pre-event yield that is associated to the bailinable bond of a bank with the same positive risk. More specifically, assuming that bank risk can take only two values ($dft_j = s = safe$ or $dft_j = r = risky$), that $post_t$ can take two values ($post_t = pre =$ before bail-in event or $post_t = pre =$ after bail-in event), that bln_i can take two values ($bln_i = b =$ bailinable or $bln_i = n =$ non-bailinable) and assuming $E(u_i|bln_i, post_t, dft_j, X_{i\,j\,t}) = 0$, (where $X_{i\,j\,t}$ is the set of control variables in the DDD regression model), it can be shown that the β_2 is the difference between two changes in sensitivities:

$$\beta_2 = \left[\left(yld_{|r\;b\;post} - yld_{|s\;b\;post}\right) - \left(yld_{|r\;b\;pre} - yld_{|s\;b\;pre}\right)\right] - \left[\left(yld_{|r\;n\;post} - yld_{|s\;n\;post}\right)\right.$$
$$\left. - \left(yld_{|r\;n\;pre} - yld_{|s\;n\;pre}\right)\right]$$

Where:

$(yld_{|r\ b\ post} - yld_{|s\ b\ post})$ describes the sensitivity of the yield of a bailinable bond to an increase in risk from s to r, after the bail-in event.

$(yld_{|r\ b\ pre} - yld_{|s\ b\ pre})$ describes the sensitivity of the yield of a bailinable bond to an increase in risk from s to r, before the bail-in event.

$(yld_{|r\ n\ post} - yld_{|s\ n\ post})$ describes the sensitivity of the yield of a non-bailinable bond to an increase in risk from s to r, after the bail-in event.

$(yld_{|r\ n\ pre} - yld_{|s\ n\ pre})$ describes the sensitivity of the yield of a non-bailinable bond to an increase in risk from s to r, before the bail-in event.

I also offer a "placebo test" that replicates the same Diff-in-Diffs regression but comparing two different classes of unsecured debt, whose difference in yield should not be affected by bail-in provisions, which should affect the difference between unsecured and secured debt.

$$yld_{i\ t} = \alpha + \alpha_j + \beta_2(blnplcb_{i\ t}\ \ post_t) + \delta_3(bln_{i\ t}) + (day_t) + \delta_4(ttm_{j\ t}) + u_{i\ t}$$

$blnplcb_{it}$ is the bond-day-specific "placebo bailinable" status. It is valued zero if the bond belongs to the bailinable subcategory of "Senior Unsecured" debt and one if the bond belongs to all other bailinable subcategories, "Unsecured", "Senior Subordinated", "Subordinated" and "Junior Subordinated".

It is important to distinguish between large and small institutions. To ensure the number of observations, I aggregate at debt are level.

Data

From Bloomberg, I select the bonds issued by Italian firms with a final maturity later than January 1, 2005, and earlier than October 1, 2016. I select only the bonds relative to the banking industry (6,657 observations remain) and then I drop the observations without data about yield to maturity or 1-year default probability (4,868 observations remain). This probability is a daily measure of distance to default produced by Bloomberg using information about the CDS spread, the volatility

of the stock price, the net income, non-performing loans, market-to-book ratio, short- and long-term leverage and loan losses reserves.

With the same sample selection procedure, I compose a dataset with 541 bonds for Spain, 3.050 for U.K., 10.433 for Germany, 2.001 for Austria and 2.863 for France. This sample contains 10.599.995 bond-day observations.

I additionally exclude the observations that have a maturity smaller than six months and, to build the panel dataset, I create a representative non-bailinable bond per each date and each bank by collapsing all the information relative to the several types of secured bonds a bank possesses. This bond summarizes the information about "Secured", "Senior Secured" and "Asset backed" debt. The weight given to each bond is the euro-amount issued with the specific bond divided by the euro-amount issued by all secured bonds active on the specific date for a specific bank.

Similarly, I collapse all the information relative to the bailinable bonds in only one representative unsecured bond per each date and each bank. It condenses all the information about "Senior Unsecured", "Unsecured", "Senior Subordinated", "Subordinated" and "Junior Subordinated" debt.

The final sample is composed of 30 Italian, 13 Spanish, 104 British, 65 German, 25 Austrian and 45 French financial institutions and a total of 383.081 bond-day observations.

Descriptive statistics

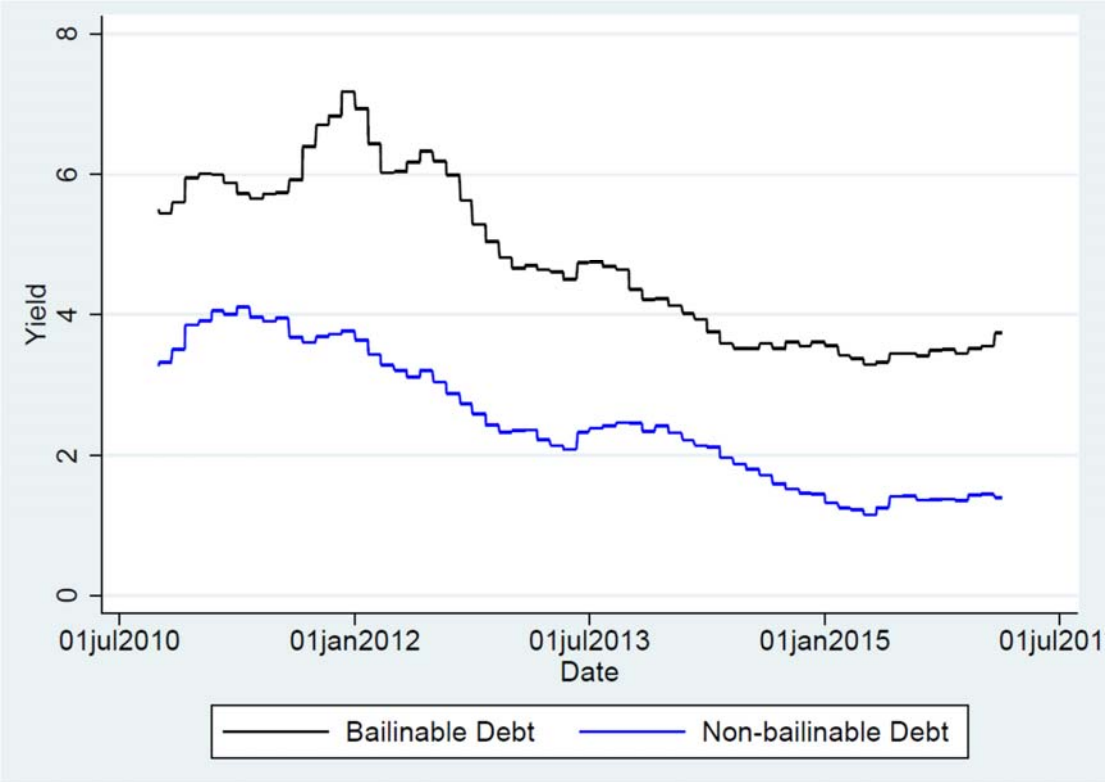
Table 1 illustrates the descriptive statistics concerning the total assets, time to maturity, the bailinable dummy variable. We can notice that the bailinable bonds represent the 71% of the sample.

Table 1. Descriptive Statistics.
This table illustrates the summary statistics for the entire sample relative to the total assets, time to maturity, the bailinable dummy variable (which take the value of one if the debt is unsecured and zero if the debt is secured) and the yield to maturity.

Variables	Mean	Median	St.Dev.	N
Tot. Assets (Mln Eur)	233749	36340	459817	383081
Time to Mat. (days)	2905	2263	2036	383081
Bailinable status	0,717	1,000	0,450	383081
Yield to Mat.	4,118	3,086	9,792	383081

In Figure 1, the time series of the monthly average of the bailinable and non-bailinable bonds are depicted. The time window is from September 2010 to December 2015. Both groups of yields show a general downward trend, but it seems clear in the end of 2011 and in the middle of the year 2012 the difference between the yields increased sharply. These two periods maybe related to the Greek crisis and to the bail-in of Bankia. Another increase of the difference takes place in the 2014 and it might be presumably related to the approval of the BRRD. However, we should stress the idea that Figure 1 offers only a visual description of two unconditional monthly means and therefore we need to further investigate the yields with an appropriate set of control variables and by differentiating across countries.

Figure 1. Time trends of yields' unconditional means.
This Figure illustrates the unconditional monthly average of all bailinable bonds and the one relative to all non-bailinable bonds. The time window starts in September 2010 and ends in December 2015.



Hypotheses

The role of fiscal capacity

One plausible explanation for the particularly strong reaction of banks in GIIPS countries is these countries' much stronger indebtedness as measured by the ratio of government debt over GDP. This is supported by Figure 7, which shows a scatter plot of the average country-specific abnormal rises in CDS spreads on 25 March 2013 against each country's debt-to-GDP ratio. The figure suggests a positive relationship between the size of public debt (relative to GDP) and the CDS spread increase. Interestingly, banks located in the severely indebted country Greece do not seem to have been impressed much by the decision to bail in senior debt in Cyprus. This could be due to the fact that Greece banks were already in intensive care at the time, such that reactions were subdued due to the already strong interventions in the Greek banking sector. In contrast, Switzerland and the United Kingdom show a notable increase in CDS spreads even though their public debt levels stand at comparatively low levels. Especially for Switzerland, this could be due to too-big-to-be-saved considerations.

The strong relationship between the abnormal change in CDS spreads and the debt-to-GDP ratio can be explained by the importance of fiscal capacity for bail-out expectations. Only a country with sufficient fiscal space would be able to bail out banks. In contrast, an already highly indebted country would very likely be forced into a bail-in in case of disturbances in the banking sector. In order to further investigate this issue we run cross-sectional regressions, explaining the bankspecific
abnormal change in CDS spreads on 25 March 2013 by a number of country- and bankspecific variables (Tables 11 and 12). Besides the debt-to-GDP ratio (as of 2012), we include
banks' risk characteristics, which could be correlated with a sovereign's indebtedness and affect abnormal changes in CDS spreads. As a broad measure of bank risk, we include the bank's CDS spreads as of 31 December 2012. In additional specifications, we include the interaction term of

those two variables to capture the idea that CDS spreads of weaker banks may react more strongly if these banks are located in fiscally weak countries. The debt-to-GDP ratio and CDS levels are demeaned in order to facilitate the interpretation when using interaction terms. We furthermore control for other bank-specific variables: the natural logarithm of average assets as a measure of bank size, a dummy variable indicating whether a bank is a G-SIB, the average equity ratio as a measure of a bank's leverage, and net income relative to total assets to measure profitability. Finally, we include a dummy variable for supersized banking sectors if the ratio of bank assets over GDP is larger than 400 percent in order to capture the effect that some banking sectors may be too large to be rescued, which would also affect the probability of a bail-in.[33]
Tables 11 and 12 show the results from the cross-sectional OLS regressions for the full sample and for a sample excluding banks from countries, which were already under an ESM (European Stability Mechanism) program, namely Greece, Spain, Ireland, and Portugal.

The intensity of the shock of the bail-in event on the difference between the yield of bailinable and non-bailinable debt likely depends on the two following factors (Shafer et al. (2016)): the Debt-to-GDP of the country and which levels of bonds' seniorities were involved in the bail-in.

The Debt-to-GDP of the country is relevant because a financially unconstrained country has less impediments, for instance, in autonomously conveying funds or improving the non-performing loans of a distressed national bank (even considering that the BRRD strongly limits the direct support to domestic banks). For example, the fact that European institutions impose a bail-in in a high-debt country likely does not constitute a particularly credible commitment against future government (implicit and autonomous) banks support in the low-debt countries. Hence, I expect that the countries with a low debt-to-GDP are not responsive to the bail-in taking place in high debt-to-GDP countries; but I expect that the countries with a low debt-to-GDP will be responsive to the bail-in taking place in low debt-to-GDP countries.

Another - correlated - reason for expecting a smaller response in the countries with a low debt-to-GDP is the fact that the effects of the bail-in are stronger for the banks that are closer to default

because the bail-in regulation increases the juniority conditional on a (quasi)default case. If the default probability is close to zero, the bail-in regulation may not increase the expected juniority. Since the banks in the countries with a low debt-to-GDP (Germany, Austria and U.K.) are doing business in a national economy that is less risky compared to the countries with a high debt-to-GDP (Italy, Spain, France), the banks in the low debt-to-GDP countries might generally have a lower default probability and, hence, might be less responsive to the bail-in events.

The levels of bonds' seniorities involved in the bail-in is an important indicator of the intensity of the bail-in. For instance, the Bank of Cyprus' bail-in involved "high seniority" securities - by including even depositors - and the bail-in of SNS Reaal involved "low seniority" securities. Like in Schäfer et al. (2016), I expect that the bail-in has a stronger spillover when the bonds included in the bail-in have higher seniority.

Event-specific hypotheses and Diff-in-Diffs estimates

July, August and October 2012: Bankia, Spain.

In May 2012, the stock prices of Bankia and of the entire Madrid Stock Exchange experienced a strong a steady decline, after the nationalization of the bank at the beginning of the month.

On 11 July 2012, after long negotiations, Spanish government and the European Stability Mechanism created the first proposal for the financial support of Bankia (and other banks) that contains the bail-in provision. It is a European event because it is not the expression of an autonomous action put forward by the Spanish national government thus we can expect a positive effect on Spanish banks and a spillover to other high debt countries (Italy, France).

On 20 July 2012, German government, the main political counterparty during Spanish negotiations, backed the agreed general program for financial aid. It is a European event and, having solved a large uncertainty regarding the program for financial support, we can expect a

significant spillover. Since Spain is considered a high debt country, we do not expect a large impact on low debt countries (Germany, Austria, U.K.).

On 29 October 2012, after prolonged tractatives with European Commission, ECB and IMF, Spanish government agrees on the details of the bail-in of Bankia (and other banks) and concretely receives the agreed funds. This is a European event because it is an update about the intentions of the supranational institutions. We can expect a significantly positive reaction in the countries with high debt (Italy, Spain, France).

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Table 2, Bankia. The DD coefficient is the estimate of $\boldsymbol{\beta_1}$ relative to the model $yld_{i\,t} = \alpha + \alpha_j + \beta_1(bln_{i\,t}\ \ post_t) + \delta_1(bln_{i\,t}) + \delta_2(post_t) + (day_t) + \delta_3(ttm_{i\,t}) + \varepsilon_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
11.7.12	Savers face losses in Spain's plan	-0,08	160	0,67	0,10***	104	0,85	0,03*	204	0,99	0,56	472	0,98	0,02	136	0,91	-0,38	370	0,95
20.7.12	German government backs the financial aid	0,12***	160	0,86	0,18*	104	0,88	0,05***	206	0,99	-0,04	472	0,97	0,11	136	0,92	3,26	375	0,80
29oct2012	Bailout funds are on track	0,10**	160	0,98	0,13***	104	0,85	0,06**	218	0,99	-0,04	496	0,96	0,03	144	0,85	-0,33	390	0,99

Table 2 illustrates the estimates of the events related to Bankia. In the first date, only the coefficient relative to Spain is significant because there was not an official approval by all counterparties. It is interesting to notice that the adjusted R-squared is very high (for French banks, it even reaches 99%), even considering that event study normally delivers very large R-squared. The main driver of these values is the bank fixed effects and when we do not include the bank fixed effects, the adjusted R-squared declines to 40%, approximately, which is in line with other event studies.

In the second date, 20 July 2012, as expected the shock is strong and it affects French, Italian and Spanish bonds. The insignificant coefficients for the rich countries are not surprising because the

restructuring of a bank in a high-debt country is not a solid commitment for the banks incorporated in a low-debt country.

Concerning the event of 29 October 2012, about the final agreement about the bail-in, we find significantly positive reactions only for high-debt countries, as conjectured.

February 2013: SNS Reaal, Netherland.

The Dutch institution SNS Reaal, with less than 85 billion euros in assets, during 2012 was bearing very heavy losses and also the percentage of non-performing loans was endlessly expanding.

On 01 February 2013, in coincidence with its nationalization, shareholders and junior creditors lost their whole capital. It is a European event because it reflected the intentions of the Dutch Finance Minister Dijsselbloem who had been designated as the president of the Eurogroup (which has a strong decision power in the banks' resolutions). Therefore, we can expect a significant spillover to other countries. Another feature of this bail-in was the fact that it concerned a country, the Netherlands, with a low public debt. Thus, we can expect also a significant effect in low-debt countries.

Table 3, SNS Reaal. The DD coefficient is the estimate of β_1 relative to the model $yld_{i\,t} = \alpha + \alpha_j + \beta_1(bln_{i\,t}\ \ post_t) + \delta_1(bln_{i\,t}) + \delta_2(post_t) + (day_t) + \delta_3(ttm_{i\,t}) + \varepsilon_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
1.2.13	Nationalization of the SNS Reaal	0,06*	168	0,99	0,03	112	0,89	0,02*	236	0,99	0,03**	512	0,96	-0,03	144	0,86	-0,20	404	0,98

In Table 3, we find the Diff-in-Diffs estimates relative to the bail-in of Dutch SNS Reaal, on 01 February 2013. As conjectured, we find significantly positive coefficients for the high-debt countries (except for Spain, which had already faced a strong increase in the cost of bailinable bonds for the occurrence of Bankia's bail-in). We also observe a positive response for U.K. banks, which is consistent with the bail-in of a bank in a low-debt country.

March and April 2013: Cyprus.

On 18 March 2013, after very intense discussions with the European Finance Ministers, Cyprus' government declared that a likely condition for the bailout was that all unsecured debt and even deposits below 100.000 euros, should be converted or written-off. This is a European event. Even though it was a program that was not yet approved, given that the planned set of instruments involved in the bail-in was so large, we can expect a positive response to the announcement not only for countries with high debt.

On April 2013, Cyprus and European officials concluded the tractatives and, therefore, a large part of the uncertainty linked to the program was solved. The involvement of a very large set of unsecured instruments was confirmed, even though the depositors with less than 100.000 euros did not bear haircuts. For this European event, we expect a spillover that is not just confined to high-debt countries because all the unsecured debt instruments (even large deposits) were involved.

Table 4, Cyprus. The DD coefficient is the estimate of β_1 relative to the model $yld_{i\,t} = \alpha + \alpha_j + \beta_1(bln_{i\,t}\ \ post_t) + \delta_1(bln_{i\,t}) + \delta_2(post_t) + (day_t) + \delta_3(ttm_{i\,t}) + \varepsilon_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
18.3.13	Cyprus rescue plan	0,10***	168	0,99	0,10**	112	0,89	0,02*	238	0,99	0,03	520	0,94	0,04***	144	0,87	0,19	418	0,98
2.4.13	Cyprus concluded the negotiations	0,11***	126	0,99	0,06**	84	0,90	0,04***	216	0,99	0,01*	535	0,96	0,00	108	0,89	0,07	359	0,98

With Table 4, we comprehend that the restructuring of Cyprus Bank represented a very intense shock for bail-in expectations in Europe. On 18 March 2013, the three high-debt states and Austria show a positive impact, while Germany has a (not shown) t-statistic of 1.61, which is close to a 10% confidence level. The main driver of these outcomes is the fact that this project of bail-in also involved the depositors.

As presumed, also the event of April 2013 exerted a strong positive shock on the high debt countries and also on the U.K..

April 2014: European Approval of BRRD.

On 26 August 2013, the EU Finance Ministers agreed on the proposal of BRRD to be presented in the EU Parliament. It is a European event and we can expect that it had a positive shock for the banks of high-debt countries.

On 15 April 2014, the EU Parliament backs the BRRD proposal. This is a European event and I hypothesize that it exerted a positive shock for the banks of high-debt countries.

Table 5, BRRD approval. The DD coefficient is the estimate of β_1 relative to the model $yld_{i\,t} = \alpha + \alpha_j + \beta_1(bln_{i\,t}\ \ post_t) + \delta_1(bln_{i\,t}) + \delta_2(post_t) + (day_t) + \delta_3(ttm_{i\,t}) + \varepsilon_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
26.8.13	Finance Ministers back BRRD	0,00	168	0,94	0,02	112	0,86	0,01	237	0,99	-0,02	560	0,99	0,01	144	0,89	0,00	433	0,92
15.4.14	EU Parliament backs proposal	0,10*	277	0,94	0,04**	120	0,86	0,03***	308	0,99	0,07	722	0,99	-0,02	272	0,89	0,00	583	0,92

As expected, Table 5 illustrates that the backing of the BRRD by the European Parliament was an event that had significant spillovers in Spain, France and Italy.

However, the same Table 5 shows that the effect of the agreement of the EU Finance Ministers did not have a significant shock on the six countries.

August 2014: Banco Espirito Santo, Portugal.

In the evening of 04 August 2014, Reuteurs announces that Banco Espirito Santo (also referred to as BES), has been transformed into a "bad bank" after vehement discussions between the Portuguese Government and the European Union. The junior creditors will have to bear the risks related to the bad bank, while a new "good bank" will contain only the profitable part of the assets. This is a European event that is expected to affect only high debt countries, since Portugal has a very high public debt.

Table 6 BES Bail-in, Portugal. The DD coefficient is the estimate of $\boldsymbol{\beta_1}$ relative to the model $yld_{i\,t} = \alpha + \alpha_j + \beta_1(bln_{i\,t} \;\; post_t) + \delta_1(bln_{i\,t}) + \delta_2(post_t) + (day_t) + \delta_3(ttm_{i\,t}) + \varepsilon_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
5.8.14	BES knocked on bail-in	0,07**	301	0,97	0,01*	120	0,84	0,02	313	0,99	0,04	760	0,99	0,00	280	0,88	0,12	587	0,85

Table 6 illustrates that, on 04 August 2014, there is a positive propagation of the effect into Spain and Italy, as expected.

From September 2014 to August 2015: Austria.

On 22 September 2014, Austria's Parliament ratifies the BRRD and decides to opt-in for an early implementation of the directive, that is on January the first, 2015 (instead of the January 2016). It is a National event because it does not reflect the intentions of international banking authorities. Thus, we expect a positive shock for Austrian banks only.

On 15 December 2014, Bloomberg explains that after an intense depreciation of the assets in East Europe (in particular for Raiffeisen Bank), the Vice Governor of the National Financial Stability Board Ittner announced in the annual report that the bail-in rules will be applied without amendments. Thus, under the new rules, banks were not able to seek support from taxpayers unless their losses amounted to at least 8 percent of their liabilities. It is considered a European event because the actual bail-in of Austrian banks would have set a solid precedent for the enforcement of the European BRRD. Moreover, it involves a country with low debt and therefore a stringent implementation of the bail-in in such a country is expected to engender a significant spillover even in other low-debt countries.

On 28 July 2015, the Austrian Constitutional Court declared as unconstitutional the law that allowed the bail-in of the financial institution Alpe Adria. However, the interpretation of this statement was convoluted because the Finance Minister continued to reiterate that the federal treasury was not liable for the regional Carinthian guarantees that Alpe Adria possessed and that motivated the pronouncement of unconstitutionality. Thus, it is difficult to find a very intense reaction of the bond market.

This is a national event because it reflects a national political and legislative decision. For these two reasons, we expect a negative effect for the Austrian banks, and we expect this response not to be highly significant.

After clarifications about the fact that the Federal government had actually accepted to guarantee for Alpe Adria's instruments, the interpretation of the Constitutional Court decision became clearer. On 5 August 2015, Moody decided to cut the rating of Carinthia - the direct sponsor of Alpe Adria - stating that the unconstitutionality of the bail-in was the driver of this update. I consider this one as a national event; we can expect that on 5 August 2015 investors updated negatively their expectations of bail-in for Austrian financial institutions.

Table 7, Austria's ratification, bail-in concerns over Raiffeisen and Constitutional Court Decision. The DD coefficient is the estimate of β_1 relative to the model $yld_{i\,t} = \alpha + \alpha_j + \beta_1(bln_{i\,t}\ \ post_t) + \delta_1(bln_{i\,t}) + \delta_2(post_t) + (day_t) + \delta_3(ttm_{i\,t}) + \varepsilon_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
22.9.14	Austria's decision about January 2015	-0,01	304	0,97	0,01	120	0,85	0,00	317	0,99	-0,01	776	0,99	0,20*	280	0,88	-0,04	596	0,84
29.7.15	Uncostitutionality pronouncement.	0,05	304	0,98	0,00	136	0,83	-0,01	387	0,99	0,00	840	0,97	-0,04	296	0,83	0,10	637	0,63
5.8.15	Moody's interpretation of pronouncement.	-0,01	304	0,99	-0,01	136	0,83	-0,01	388	0,99	-0,01	840	0,97	-0,07*	296	0,82	-0,05	636	0,63

Table 7 shows that Austrian decision of opting-in the bail-in regulation on the 1st January 2015 had a positive effect only in the alpine country, as we expected for such a national legislation.

The shocks generated by the distress concerning Austrian banks and the announced intention to firmly implement the BRRD, instead, had an effect on other countries too because, unlike the legislation, the news about a possible actual bail-in represents a more immediate and strict commitment for regulators (as argued also by Schäfer et al. (2016)).

It is important to notice that the decision of the Austrian Constitutional Court constituted a negative update about the expectations of bail-in for Austrian banks. As expected, on the very date of the pronouncement, the coefficient is not significant (though the t-statistic is -1,11). After the clarifications and Moody's amendment of the rating for Carinthia, we see that the negative shock is significant.

August 2015: Eurogroup statement.

The 17th August 2015, is the first trading day after the statement of the Eurogroup President, Dijsselbloem, about the necessity to bail-in the Greek banks if they tap into any of the financial stability funds set aside in the bailout program. This is a European event and is expected to engender a positive response especially in the countries with the highest debt.

Table 8, Eurogroup statement about Greek unsecured debt. The DD coefficient is the estimate of β_1 relative to the model $yld_{i\,t} = \alpha + \alpha_j + \beta_1(bln_{i\,t}\ \ post_t) + \delta_1(bln_{i\,t}) + \delta_2(post_t) + (day_t) + \delta_3(ttm_{i\,t}) + \varepsilon_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
17.8.15	Dijsselbloem: bail in for Greek unsecured bondholders	0,02***	304	0,99	0,02**	136	0,83	0,01	390	0,99	-0,02	840	0,96	-0,01	296	0,82	0,02	634	0,64

Table 8 illustrates that there is a significantly positive spillover to the countries with the highest debt, that is Italy and Spain.

The 14th September 2015 is the first trading day after French Government's approval of the Décret 2015-1160, which realizes the transposition of the BRRD. This is a national event that has supposedly produced a positive response among French banks.

Table 9, France's transposition law of the BRRD. The DD coefficient is the estimate of β_1 relative to the model $yld_{i\,t} = \alpha + \alpha_j + \beta_1(bln_{i\,t}\ \ post_t) + \delta_1(bln_{i\,t}) + \delta_2(post_t) + (day_t) + \delta_3(ttm_{i\,t}) + \varepsilon_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
14.9.15	Décret 2015-1160	0,07	304	0,99	0,01	136	0,83	0,03*	389	0,99	0,01	840	0,96	-0,02	296	0,83	0,07	635	0,65

Table 9 illustrates the French ratification of the BRRD. Since the national transposition represents the commitment of national regulators, we can expect an insignificant impact on the other countries. Indeed, we observe a positive and significant shock for France.

From July to December 2015, Italy.

On 02 July 2015, the last approval for the Italian transposition of the BRRD is decided by the Parliament's Camera. The 3rd of July 2015 is the first trading day after Italian Camera's ratification of the BRRD. It is a national event in which we expect a positive shock for Italy.

After the resolution of four small Italian banks, several demonstrations take place and, on 09 December 2015, even a case of suicide among the unsophisticated investors occurs. This news generated a very intense wave of information about the bail-in and the related risks for unsecured bondholders. National media (and even a subsequent Parliamentary Commission) argued that this clientele had huge difficulties in understanding all the novelties concerning the bail-in and it had difficulties even in comprehending even the existence of the bail-in regulation. This event had

likely reached this clientele and changed the expectations about the legal treatment of unsecured bonds for the large class of unsophisticated unsecured bondholders. This is a national event that has likely produced a significantly positive response for Italian banks.

Table 10. Italian approval and suicide of unsophisticated bondholder. The DD coefficient is the estimate of β_1 relative to the model $yld_{i\,t} = \alpha + \alpha_j + \beta_1(bln_{i\,t}\ \ post_t) + \delta_1(bln_{i\,t}) + \delta_2(post_t) + (day_t) + \delta_3(ttm_{i\,t}) + \varepsilon_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
3.7.15	Camera Approval	0,02***	304	0,99	-0,01	136	0,84	0,05	382	0,99	0,02	834	0,97	0,00	296	0,85	0,02	634	0,69
9.12.2015	Suicide of unsophisticated bondholder	0,05***	304	0,98	-0,19	136	0,77	0,01	389	0,99	0,03	864	0,97	0,02	296	0,79	0,24	659	0,65

We can notice the significant positive coefficient for Italy in the date of the suicide which immediately informed a large class of unsophisticated investors about the very existence of a bail-in regulation and the potential financial risks linked to the bail-in regulation.

Triple-differencing estimates

In this section, I investigate the impact on market discipline exerted by the list of bail-in events we have analyzed in the context of the previous Diff-in-Diffs estimations. As argued by Goodhart, Avgouleas (2014) and (Gleeson, 2012), the bail-in scheme is expected to induce unsecured bondholders to regain their monitoring function, which should be tangible in a higher cost of funding for the riskier institutions. This discontinuity in the "creditor inertia" is ascribed to the bail-in in that it prepares bond market' investors for the possibility of an orderly resolution, which is credibly realizable as it safeguards the going concern avoiding disruptive liquidations.

My analyses are not grouped at national level in order to ensure the appropriate statistical power, which is particularly crucial in the cases of triple-differencing tests. The DDD estimates are classified as relative to the high-debt countries and to the low debt countries. We expect positive DDD estimate in particular for the high debt countries and we do not expect a significant impact in the cases of national bail-in events because it is likely that the effect does not remain significant when we aggregate the data at supranational level.

Table 11.Triple-differencing model for high-debt and low-debt countries. The DDD coefficient is the estimate of β_2 relative to the model $yld_{i\,j\,t} = \alpha + \alpha_i + \beta_2(dft_{j\,t}\ \ bln_{i\,t}\ \ post_t) + \gamma_1(dft_{j\,t}\ \ bln_{i\,t}) + \gamma_2(dft_{j\,t}\ \ post_t) + \gamma_3(bln_{i\,t}\ \ post_t) + \delta_3(dft_{j\,t}) + \delta_4(bln_{i\,t}) + (day_t) + \delta_5(ttm_{i\,t}) + u_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

	bdft_bln_p	ndft_bln_p	rdft_bln_p	bdft_bln_p	ndft_bln_p	rdft_bln_p
10.07.2012", "DMY") //TUES 10.07.2012 Spanish b	0,050*	468	0,92	0,017	978	0,96
19.07.2012", "DMY") //THO 19.07.2012 German g	0,010	470	0,92	-0,09	983	0,80
23.08.2012", "DMY") //THO 23.08.2012 Spain pusl	-0,00	469	0,93	0,009	995	0,98
bbg news, phot, bailout funds are on track	0,025	482	0,94	-0,00	1030	0,98
FRY Nationalization of the SNS Reaal Torrid week	-0,00	516	0,96	0,004	1060	0,98
cyprus rescue plan (cited in shafer	-0,00	518	0,95	0,003	1082	0,97
the Cypriot government concluded the long negot	-0,00	426	0,95	0,000	1002	0,97
FRY 28.06.2013 EU Finance Ministers agreed rules	0,000	517	0,97	0,010	1147	0,96
15.04.2014 EU Parliament backs commission's prc	0,043**	705	0,96	-0,01	1577	0,91
MON 04.08.2014 Creditor bail-in | Banco Espirito	0,004	734	0,97	0,006	1627	0,85
19.09.2014", "DMY") // dAustrian decision about 1	-0,00	741	0,97	0,030	1652	0,85
Camera Approval 11:19 , the majority has the sam	-0,00	822	0,98	0,009	1764	0,69
Uncostitutionality in Austria. National event, so w	0,005	827	0,98	0,003	1773	0,64
04.08.2015", "DMY") //MON austrian uncostitutio	0,049	828	0,98	0,005	1772	0,64
greek bondholders	0,004	830	0,98	0,006	1770	0,64
Décret n°2015-1160 du 11 septembre 2015 portar	-0,03	830	0,98	-0,02	1770	0,65
09.12.2015", "DMY") //WED suicidio (totalmente i	0,056*	829	0,98	-0,00	1819	0,65

Yield-risk sensitivity with lagged risk

Placebo tests

This sections addresses the question of whether we can attribute the Diff-in-Diffs estimates to the changes in the legal treatment of bailinable bonds, compared to non-bailinable ones. Since the bail-in provision does not relevantly affect the differences in the legal treatment of two subcategories both contained into the category of bailinable bonds, I test the differences in responses between two subcategories inside the very same broad category of unsecured debt. We expect these placebo Diff-in-Diffs estimates to be insignificant.

Table 11. Placebo test relative to the six countries. The DD coefficient is the estimate of β_2 relative to the model $yld_{i\,t} = \alpha + \alpha_j + \beta_2(blnplcb_{i\,t} \;\; post_t) + \delta_4(blnplcb_{i\,t}) + \delta_5(post_t) + (day_t) + \delta_6(ttm_{i\,t}) + u_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

Date	Event	DD	Obs.	A.R2	Date	Event	DD	Obs.	A.R2
10.7.12	Savers face losses in Spain's plan	0,01	982	0,98	22.9.14	Austria's decision to opt-in	0,02	1513	0,72
20.7.12	German government backs the financial aid	0,90	997	0,83	15dec2014	Raiffeinsen's bail-in concerns	0,01	1532	0,69
29oct2012	Bailout funds are on track	-0,05	1000	0,99	29.7.15	Uncostitutionality in Austria	0,02	1608	0,59
4.2.13	Nationalization of the SNS Reaal	0,01	1028	0,99	5.8.15	Uncostitutionality of bail-in.	0,05	1612	0,59
18.3.13	Cyprus rescue plan	0,06	1040	0,99	17.8.15	Dijsselbloem: bail in for greek bondholders	0,05	1616	0,59
2.4.13	Cyprus concluded the negotiations	0,00	791	0,99	14.9.15	Décret nfl2015-1160	0,01	1616	0,59
15.4.14	EU Parliament backs proposal	0,02	1413	0,86	3.7.15	Camera Approval	0,05	1600	0,64
5.8.14	BES knocked on bail-in	0,00	1491	0,73	09dec2015	Suicide of unsophisticated bondholder	0,11	1648	0,57

Table 11 illustrates clearly that the Diff-in-Diffs that all coefficients are insignificant. Thus, these results suggest that in the dates of the bail-in events significant changes in expectations involve the difference between bailinable and non-bailinable bonds, not the difference between bailinable subcategories and other bailinable subcategories.

However, it is important also to propose an analysis that, like for the previous cases, can differentiate across countries.

The results in all the tables describing the placebo Diff-in-Diffs illustrate that the estimates are almost in any case insignificant. In addition, the significant estimates seem not following the pattern described in the "Hypotheses" section. Indeed, the countries with high debt do not react more significantly to the bail-in events and the Bank of Cyprus' bail-ins, that involved also depositors, does not generate a stronger positive response.

Tables for placebo Diff-in-Diffs tests, differentiated across countries. The DD coefficient is the estimate of β_2 relative to the model $yld_{i\,t} = \alpha + \alpha_j + \beta_2(blnplcb_{i\,t}\ \ post_t) + \delta_4(blnplcb_{i\,t}) + \delta_5(post_t) + (day_t) + \delta_6(ttm_{i\,t}) + u_{i\,t}$; the Obs. are the number of observations of the -7/0 window; the A.R2 is the adjusted R-squared. Standard errors are adjusted for both heteroscedasticity and within correlation clustered at the bank level. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
11.7.12	Savers face losses in Spain's plan	-0,14	120	0,57	0,09	88	0,97	1,02	78	0,93	0,06	280	0,99	0,02	128	0,93	-0,62	280	0,98
20.7.12	German government backs the financial aid	-0,01	120	0,63	-0,18	88	0,96	0,00	88	0,99	-0,01	280	0,99	-0,18	128	0,90	4,64	285	0,83
29oct2012	Bailout funds are on track	0,00	120	0,79	0,06	88	0,97	0,10*	88	0,99	0,21	280	0,99	0,06	128	0,91	-0,50	288	0,99

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
4.2.13	FRY Nationalization of the SNS Reaal	0,16*	128	0,94	-0,04	92	0,99	0,05	88	0,99	0,03	288	0,99	0,04	128	0,75	-0,20	296	0,99

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
18.3.13	Cyprus rescue plan	0,06*	128	0,95	-0,07	96	0,95	-0,03	88	0,99	-0,05	288	0,99	-0,02	128	0,74	0,35	304	0,99
2.4.13	Cyprus concluded the negotiations	0,03	96	0,95	-0,09	72	0,96	0,09	66	0,99	0,04	227	0,99	-0,01	96	0,76	0,02	228	0,99

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
15.4.14	EU Parliament backs proposal	0,04	245	0,97	0,03	96	0,80	-0,02	96	0,99	-0,04	376	0,99	0,04	232	0,83	0,00	360	0,86

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
5.8.14	BES knocked on bail-in	0,02	285	0,97	0,00	104	0,78	-0,04	86	0,99	-0,02	392	0,99	0,02	240	0,75	0,02	368	0,73

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
22.9.14	Austria's decision about January 2015	0,05	288	0,96	0,05*	104	0,74	0,02	97	0,99	0,00	400	0,99	0,04	240	0,74	0,06	368	0,72
15dec2014	Raiffeisen's bail-in concerns	0,00	288	0,95	0,02	104	0,77	0,01	104	0,99	-0,19*	404	0,96	0,25**	248	0,61	-0,15	368	0,69
29.7.15	Uncostitutionality in Austria	0,04	288	0,95	0,03	104	0,75	0,00	112	0,99	-0,01	440	0,97	-0,04	256	0,50	0,03	392	0,59
5.8.15	Uncostitutionality of bail-in.	-0,02	288	0,96	-0,01	104	0,75	0,01	112	0,99	0,04	440	0,97	0,07	256	0,51	0,16	396	0,59

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
17.8.15	Dijsselbloem: bail in for greek bondholders	-0,04	288	0,96	0,01	104	0,75	0,01**	112	0,99	-0,02	440	0,96	0,03	256	0,50	0,07	400	0,59

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
14.9.15	Décret nfl2015-1160	-0,02	288	0,94	-0,01	104	0,77	-0,01	112	0,99	-0,05	440	0,96	-0,06	256	0,52	0,12	400	0,59

		Italy			Spain			France			U.K.			Austria			Germany		
Date	Event	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2	DD	Obs.	A.R2
3.7.15	Camera Approval	0,01	288	0,97	0,04	104	0,75	-0,03	112	0,99	0,06	440	0,97	-0,04	256	0,48	0,20	384	0,64
09dec2015	Suicide of unsophisticated bondholder	0,43	288	0,92	0,00	104	0,78	-0,05	112	0,99	-0,09	464	0,96	0,18**	256	0,53	0,43	408	0,57