The Impact of Foreign Governing Law on European Government Bond Yields

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Abstract
The European debt-crisis and Greece's government debt restructuring in 2012 in particular, have highlighted the importance of the law governing bonds for investors and authorities alike. Sovereign bonds issued under foreign law are generally harder to restructure given the issuers' limited ability to change bond terms without the consent of a qualified majority or even the entirety of bondholders. In contrast, local law bonds can be restructured by simply changing domestic law. This paper examines the impact of the governing law on European government bond yields between 2008 and 2012. We find strong evidence to suggest that bonds issued under foreign law trade at a premium when political risk and restructuring risk are at their greatest. We find that the size of this premium can be used as a direct measure of restructuring or '*breach-of-contract*' risk in government bond markets. We find that the average premium paid for foreign law bonds, as compared to bonds governed by local law, peaked at 262bp in terms of yield during the height of the crisis, when the very future of the Eurozone was at stake. However, by the end of 2012 investors seemed once again to be factoring a very low level of restructuring risk, despite the fact that between 88% and 100% of each Eurozone members' debt is currently issued under local law. Our view is that investors in Eurozone government debt would do well to remember the phrase: '*caveat emptor'*.

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1. Introduction

This paper examines the impact of the governing law on European government bond yields between 2008 and 2012 – a period that covered the Eurozone's sovereign debt crisis. Market participants should pay a premium for foreign law bonds compared to bonds issued under local law because governments can effectively modify (Zettelmeyer et al, 2012) the terms of local law bond "*however it chose[es]*" (The Economist, 2013). The recent turmoil in Eurozone government bond markets has afforded us an excellent opportunity to study the legal status and its pricing effects on sovereign bonds. The Greek Debt Exchange of 2012 triggered an entirely new discussion and perception about sovereign debt restructuring. However, the advantages of foreign law debt are only relevant for as long as the debtor is willing and able to pay or for as long as there are foreign assets to confiscate. In the case of the sovereign issuers of the European Union, the strong bond between member countries and the fear of a disorderly default within the Eurozone and the European Union means that there is a strong willingness to pay, given that the consequences of not paying are viewed as being too disastrous for most to contemplate. The case of Elliott Management v the Argentinian government illustrates why this distinction is important. Elliott Management is still holding out for repayment of the face value of Argentinean bonds issued under New York law, plus eleven years of interest following the Argentinean sovereign default of 2001.

With the introduction of the Euro in 1999, most European government bond yields declined and converged at historically low levels for former high inflation sovereign issuers such as Portugal, Greece, Spain and Ireland. This convergence was driven by the monetary union and by the seemingly discipline-enhancing Maastricht Treaty (1992), which sets limits on both annual government deficits as well as on the ratio of gross government debt to gross

domestic product. Until 2009 bond markets seemed to differentiate little between the credit qualities of individual Eurozone members (Ardagna and Caselli, 2012), default as well as legal risks were perceived to be close to zero (Boudreau, 2012).

The Greek government-debt crisis began in late 2009, Greek government bonds were downgraded to junk status in April 2010 (Brown, 2010) and the Hellenic Republic finally bailed out by the Eurozone countries and the IMF one month later. These events raised investors' awareness about the possibility of a sovereign default within the Eurozone and the European Union. The second EU/IMF Greek bailout package in 2012 was conditional upon a restructuring of Greek's sovereign debt stock. The restructuring plan proposed a swap of existing Greek government bonds into new bonds with considerably extended maturities, lowered coupons. Effectively this meant that investors would have to accept a reduction in the face value of Greek government bond holdings of up to 65% (Zettelmeyer *et al*, 2012). In order to facilitate these plans, the Greek parliament "retrofitted" Collective Action Clauses (CAC) on all bonds governed by Greek law by passing the Greek Bondholder Act[2]. This new provision enabled a qualified majority of two thirds of the aggregate Greek law bondholders to change the terms of the bonds and exchange the securities for the new bonds with reduced face values (Simmons, 2013). Because of the Collective Action Clauses, any decision voted for by this supermajority was binding for all holders of local law Greek government bonds. In total, this affected 95.7% of bondholders. In the extreme case, the Greek parliament could have even "*legislated different payment terms, or give itself the power to exchange the bonds for the new securities*" (Zettelmeyer *et al*, 2012:7) by passing a new law, without the consent of the local law bondholders.

[2] CACs had not been included in these bond terms before.

The majority of Greek foreign law bondholders (issued under English, Swiss, Italian and Japanese law), however, refused to participate in the proposed bond exchange. Although most of these bonds already contained CAC provisions in their bond contracts, they were held primarily by foreign investors and the respective CAC voting only affected each individual bond series[3]. It was therefore less risky for individual bondholders to vote against the proposed restructuring, leading to the so-called '*holdout problem*' (Wright, 2011) where a minority of bondholders can effectively block the restructuring for the respective bond series they are invested in. Because of the foreign governing law, Greece could not amend the terms of these bonds by legislative fiat, which effectively shielded these bonds from the change-of-law threat (Zettelmeyer *et al*, 2012).

In the case of Greek foreign law bonds, after the first vote on a CHF 650m Swiss-law bonds failed to achieve the required quorum, investors were granted two weeks of extra time to join the debt swap voluntarily, with Evangelos Venizelos, Greece's finance minister at that time, threatening the holdouts by announcing that "*Whoever thinks that they will hold out and be paid in full, is mistaken*" (Sassard and Kyriakidou, 2012). In total, €6bn of foreign law bondholders refused to take part in the debt swap (BIS Quarterly Review, 2012) and a first foreign law €435m bond issued under English law was repaid on time in May 2012, two months after the debt restructuring (Landon, 2012).

Importantly, the newly issued Greek bonds, into which the local law bonds had been exchanged, were issued under English law. This was one of the major preconditions for private sector creditors to give their consent to the debt exchange, shielding them from any further change-of-law risk (Zettelmeyer *et al*, 2012).

[3] Whereas the "retrofitted" local law bonds had an aggregation clause.

Given these advantages of bonds issued under foreign law in times of crisis and restructuring (Gelpern, 2008), this paper examines the impact of the governing law on bond yields over time, covering the time period between the third quarter of 2008 until the end of 2012. We address two main questions in this paper: i) do markets differentiate between local and foreign law governed bonds, and, if so, ii) how does the yield differential between these two subsets of bonds evolve over time? We also examine whether the issuer's credit quality has an impact on the foreign governing law effect. By combining the results of this paper with the legal background of sovereign debt restructurings, we show how an index can be constructed to capture the political risk inherent in European sovereign bond yields. Whereas most previous papers examined in this area have analysed the impact of Collective Action Clauses on Emerging Market bonds in the wake of the Mexican and Argentinian defaults, this paper focuses solely on the yield differences between bonds issued under local and foreign law in Europe.

We find strong evidence to suggest that European sovereign bonds issued under foreign law traded up to 260bp lower in terms of yield compared to local law bonds when the political and restructuring risks of the Eurozone sovereign debt crisis were at their greatest. For lower-rated issuers, the premium paid increased by up to 420bp, while there is no impact of foreign governing law on the yields of high rated debt. Given this relationship, the impact of the foreign law bond status can also be used as a direct measure of restructuring or 'breach-of-contract' risk in sovereign bond markets. Another main finding is that by the end of 2012, European sovereign debt markets hardly seem to be differentiating between foreign and local law bonds in terms of yield, implying a rather optimistic stance regarding possible further sovereign debt restructurings. This rest of this paper is organized as

follows. Section 2 provides background on the different types of governing law, the legal situation, and gives an overview of foreign law bonds in Europe. Section 3 contains the literature review, covering both past research regarding the influence of governing law on bond yields, as well as a review of the relevant legal aspects of sovereign debt restructurings. In section 4 the data basis, methodology, regression results as well as the development of the political risk index is presented. Section 5 provides a discussion of the advantages and drawbacks foreign law bonds offer investors in the future. Section 6 concludes.

2. Background and Nature of Governing Law

2.1 Different Types of Governing Law and Collective Action Clauses

The underlying bond contract usually clarifies the governing law under which a debt instrument is issued. In particular this contract defines the law "*that will govern in the case of a dispute*" (Choi *et al*, 2011a: 8). Most international bonds can be categorized as being either "*American-style*" or "*British-style*", with the former being governed by New York law, German law and Japanese law and the latter referring to bonds issued under English and Swiss governing law (Becker *et al*, 2002; Eichengreen and Mody, 2004). The main difference between these two kinds of governing law is the absence of Collective Action Clauses in American style bonds before 2003 (Choi *et al*, 2011a), whereas most English law bonds have incorporated features such as majority voting to change financial and non-financial terms, collective representation and sharing clauses for a long time (Eichengreen and Mody, 2004). After the first introduction of CACs into New York law bonds by Mexico (Richards and Gugiatti, 2004) in 2003, most American-style bonds nowadays contain these majority clauses as well (Bradley and Gulati, 2011; Gelpern and Gulati, 2000). In the pre-2003 era, the financial terms of New York law bonds could only be changed with the

unanimous consent of bondholders, inevitably leading to holdout problems created by even a small fraction of dissenting creditors. Collective Action Clauses are typically defined (Becker *et al*, 2002) as provisions in the bond contract covering i) collective representation, meaning that bondholders can designate a representative to negotiate with the debtor, ii) qualified majority voting enabling the amendment of terms and conditions without the unanimous consent of bondholders (i.e. partially overcoming the hold-out problem) and iii) sharing among bondholders requiring bondholders to share any proceeds of litigation with all creditors, effectively preventing individual creditors to take legal action against the debtor (Becker *et al*, 2002; Dixon and Wall, 2000). Importantly, the amendments agreed upon by a qualified majority are binding for all investors holding that bond.

2.2 Why do Countries Issue Bonds under Foreign Law?

When investors do not wish to participate in a proposed debt exchange they usually fare best with pre-2003 American-style foreign law bonds since in that case all investors have to consent to the amendments of the bond contract, effectively enabling even small bondholders to block any changes. However, since most bonds typically issued under foreign law are sold to and consequently held by foreigners, it is often assumed that no qualified majority for a voluntarily restructuring can be reached in the case of British style bonds as well without creating a holdout problem. This assumption is supported by the 2012 Greek CAC votes where the majority of foreign law bondholders voted against the proposed debt restructuring, holding out for better terms or full repayment (Zettelmeyer *et al*, 2012).

Sovereigns deciding not to pay holdout bondholders are sometimes even cut off from international debt markets (Zamour, 2013) At present, a case is still pending in New York (NML Capital Ltd. *et al* v. Republic of Argentina), where holdouts are still waiting to be

repaid in full (Benson, 2012). In the meantime, Argentina is unlikely to be able to tap international capital markets unless the dispute is resolved (Zamour, 2013). Given these problems in restructuring sovereign non-domestic debt, it is interesting to see why and which developed countries in Europe issue bonds under foreign law.

Analysing the relationship between European issuers' choice of governing law, issue size, and denomination, we find that Europe's biggest debtors including Germany, France and the United Kingdom have no foreign law issues outstanding, which can be attributed to the strong demand from domestic investors as well as a positive perception in terms of political risk from foreign investors, even accepting less save bonds being issued under local law (Gelpern and Gulati, 2013). The main issuers of foreign law bonds in Europe are smaller countries with a less developed domestic investor base, which include the Czech Republic, Denmark, Finland, Latvia, Lithuania, and Poland but also big issuers like Austria, Portugal, Spain, and Italy. In terms of foreign law debt as a percentage of total debt, predominantly Eastern European countries including Lithuania, Poland, Latvia, and Czech Republic show have the highest proportions of outstanding foreign law debt.

The reasons for tapping foreign law debt markets are two-fold: first, countries may be forced to issue debt into international markets because of lack of domestic demand. Second, international investors might demand the foreign law structure as an additional safety feature (Bradley and Gulati, 2011; Allen and Overy, 2012). Whereas the latter is relatively hard to measure, the degree of domestic demand can be analyzed as the ratio of domestic credit provided by banking sector as a percentage of GDP (DCP/GDP). As figure 1 shows[4], there is a strong relationship between the activity in the foreign law debt markets and the size of

[4] This graph excludes Lithuania and Cyprus. Cyprus can be considered an outlier, the inclusion of Lithuania negatively affects the readability of the graph.

the domestic banking sector.

This relationship is exponential, given the fact that a DCP/GDP value in excess of 100% should ensure that there is enough domestic demand and hence there is no or only very limited need to issue bonds into international markets. This causes the line to be flat and close to zero for DCP/GDP values above 100%. On the other hand, for countries with an underdeveloped banking sector, there is a far greater need to access international markets, resulting in the exponential increase in debt issued under foreign law as a percentage of total debt.

2.3 The Ultimate Power of Governments: Why Foreign Governing Law Matters

Holders of local law bonds generally face a higher restructuring risk than foreign law holders of bonds issued by the same country (Zettelmeyer *et al*, 2012). Sovereigns issuing most of their debt under local law retain an especially strong position in debt restructuring proceedings given their ability to change the terms and conditions of their debt "by passing a domestic law to that effect" (Zettelmeyer *et al*, 2012: 7). In the extreme case, governments even have the power to expropriate the holders of local law bonds, although this could be challenged in international courts and might even violate the European Convention of Human Rights (Boudreau, 2012; Zettelmeyer *et al*, 2012). This compares to bonds governed by foreign law that are not affected by these actions, consequently making them safer in terms of restructuring risk. Again referring to the Greek debt exchange of 2012, out of 43 foreign law bonds, only 18 had been exchanged, whereas all others had a blocking minority in the CAC voting or failed to reach the necessary quorum in first place (Zettelmeyer *et al*, 2012). So far, every investor in Greek government bonds refused to take part in the debt exchange – the 'hold outs' – has been paid back in full and on time. Recent local law debt

restructurings in Russia between 1998 and 2000, Jamaica's default in 2000, as well as Uruguay's restructuring in 2003 reiterate the safer characteristics of foreign law bonds since all of these restructurings involved only domestic law debt (Sturzenegger and Zettelmeyer, 2007; Erce and Diaz-Casspu, 2010). Considering these advantages when faced with a significant prospect of a debt restructuring investors should prefer foreign law over local law bonds.

Breach-of-contract risk has not least been highlighted in Europe thanks to the contentious ECB bond swap shortly before the Greek debt restructuring. Bonds held by the ECB and other national central banks were excluded from the Greek bond exchange by swapping their holdings into new series with identical payment structures shortly before the restructuring (Zettelmeyer *et al*, 2012). This protected them from the haircuts imposed on all other holder of local law debt, effectively subordinating all other Greek bondholders and making the ECB "*more equal than others*" (Black, 2012). Another incident involved Anglo Irish Bank, a then state owned Irish bank, which asked creditors to take a haircut of 80% on their subordinated bonds. By accepting this haircut, investors also automatically agreed to exit consents imposing a haircut of 99.9% on non-participating bondholders. Threatened by this outcome, 92% of bondholders agreed to the 80% haircut, thereby imposing the far worse haircut on holdout creditors (Drake, 2013). Unsurprisingly, the holdouts sued Anglo Irish Bank for violating their creditor rights under English law and won the case on the grounds that the offer was unduly coercive (Zettelmeyer *et al*, 2012). Most recently, the debiting of insured and uninsured bank accounts in Cyprus during the EU bailout in 2013 highlighted that even senior ranking liabilities can be exposed to restructuring risk within Europe (Buchheit and Gulati, 2013a). Even the UK government used its legislative power to change the coupon of its war bonds in the 1930's (Worstall, 2012). And in the very extreme

case even countries with the ability to pay can restructure their debt, hence exposing sovereign debt investors also to some sort of despotism risk, for example in the case of Ecuador in 2008 (Buchheit and Gulati, 2009).

Finally, the European no-bail-out clause, stating that "*[a] Member State shall not be liable for or assume the commitments of central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings [. . .]*[5] has been treated with indifference since the outbreak of the crisis, further highlighting the need to account for political risk when assessing sovereign bond investments in Europe (Gelpern and Gulati, 2011).

3. Literature Review

3.1 Past Economic Research

In the wake of the Greek debt crisis, Choi *et al* (2011a) examined the differences in yields of Greek foreign law and local law bonds between 2009 and 2010 and found that foreign law bonds were indeed being priced at a premium, especially when restructuring risk was greatest. However, with the exception of this paper, there are no studies examining the effect of governing law covering both local and foreign law bonds.

There are however numerous studies focusing on the impact of the choice of governing law on bond yields (though not drawing the distinction between foreign and local law issues) and the impact of Collective Action Clauses on yields in primary and secondary markets. In the earliest study on the effect of governing law on bond yields, Petas and Rahman (1999) found that English law bonds traded at a slightly higher valuation than New York law bonds and

[5] The Treaty on the Functioning of the European Union, Clause 125.

concluded that market participants at that time were unaware of the differences in governing law. Dixon and Wall (2000) found no material differences between otherwise similar English and New York law bond yields in the cases of China, Hungary, Lebanon, Philippines, Poland and Turkey by simply comparing the yields of given bond pairs. Again, this study focused on Emerging Market debt and did not compare foreign law bonds to local law issues. Another study by Tsatsaronis (1999) compared primary market data on yields at the date of issuance and found no statistically significant difference in bond yields among different governing laws.

In 2000 and 2001, Eichengreen and Mody (2001, 2004) performed the first major studies using more than 3,000 New York and English law Emerging Market bonds issued between 1991 and 2000, regressing the yield spread against a set of explanatory variables including dummies for governing law. They find that the use of English law increases the yield on average by 150bp for issuers with poor credit ratings, whereas markets pay a premium of 105bp for higher rated countries using English law. The authors explain these results with the low perception of moral hazard regarding highly rated issuers, in contrast to the high moral hazard risk of eventually using the CACs in the case of poorly rated issuers. In an update of their previous work, Eichengreen and Mody (2000) show that their previous findings also hold true for issuers other than sovereigns and on a stand-alone basis per sovereign.

Becker *et al* (2002) examined the impact of CACs on primary and secondary market bond yields of Emerging Market issuers (defined as A1/A+ rated or below) on two particular dates in the mid-1998 and mid-2000 capturing pre-and post-Russian crisis data. By contrast to the results of Eichengreen and Mody, they find no impact of the presence of CACs on the yields, regardless of the issuers rating. Gugiatti and Richards (2003) examined the topic further via

an event study as well as using the methodology applied by Becker *et al* (2002) and found no impact of the implementation of CACs in several emerging markets. They also found no abnormal returns observable between issuers switching their CAC policy and those abiding by their original CAC policy.

More recently, Bradley and Gulati (2011) examined the impact of different Collective Action Clauses such as the minimum modification vote, mandatory meetings, disenfranchisement, and acceleration on the yield spread of 746 bonds of seventy-five nations between 1990 and 2011. They find that countries with a weak credit rating benefit from the inclusion of CACs in their bonds, whereas the yield of higher rated issuers is not affected by the inclusion of CAC in the bond contracts.

In 2008, Bradley *et al* (2008) studied the impact of pari passu provisions in bond contracts following a surprising court ruling concerning the interpretation of the pari passu clause. They found that markets reacted to this event, as shown by increasing yield spreads for bonds containing these provisions, hence concluding that markets are aware of differences in bond contracts. Using a different methodology Alfaro *et al* (2010) found no such relationship.

Although these empirical studies can be considered as being the most extensive, only foreign law bonds (English-and New York-law) in emerging markets were examined[6]. In the light of the Greek debt exchange, it is clear that it is the legal status – foreign or local – that is the critical factor in determining a bond's attractiveness rather than the existence or otherwise of the a CAC. Previous research focussing on emerging market debt has focussed, rightly, on

[6] With the exception of Bradley and Gulati (2011), who use a sample of both, developed and emerging market issuers.

the presence or otherwise of CAC provisions, however in developed countries where the majority of debt is governed by local law, the yield differences between local law and foreign law bonds should be the main point of interest.

3.2 Relevant Legal and Broader Issues Relating to Economic Sovereign Debt Restructuring

In addition to the studies discussed in section 3.1 there exist a number of papers that focus on the legal and broader economic aspects of sovereign debt restructurings and the impact of the respective governing law. Erce and Diaz-Cassou (2010) found that governments discriminate between domestic and external debt during debt restructuring depending on the origin of the liquidity pressures, the robustness of the banking system, and the corporate sector's reliance on foreign capital.

Boudreau (2012) examined whether the '*retrofitting*' of existing local law bonds with CACs would be considered expropriation under US law and concluded that in this case, "a successful claim of invalid expropriation is unlikely" (Bourdreau, 2012: 164). A complete expropriation by imposing a 100% haircut through a change of law, however, would be unlikely given the prevailing view in the literature that investors on the receiving end of this such action could make an appeal in an international court and probably also violates European Conventions on Human Rights (Bourdreau, 2012; Zettelmeyer *et al*, 2012).

Another relevant legal aspect for investors and lawmakers to consider is how to deal with holdouts in sovereign debt restructurings. Buchheit *et al* (2013) examine various possibilities on how to overcome the holdout problem. They propose to address the issue by making amendments to the 2012 Treaty Establishing the European Stability Mechanism (ESM), granting immunity to all foreign country assets as long as the country is receiving

ESM stability support. This should discourage holdouts purchasing blocking positions in foreign law bonds and subsequently seizing assets or revenue streams in foreign countries. In an earlier paper, Buchheit and Gulati (2001) also proposed and discussed exit consents in order to overcome the holdout problem.

4. Data and Methodology

We attempt to gauge the impact that the governing law of European sovereign bonds has on their yields by constructing a model to of bond yields and then by adding a dummy variable representing the foreign or local law governing status of each bond. While past papers have mostly focused on the impact of CACs in emerging market sovereign debt issued under foreign law, this paper examines the differences between bonds issued under foreign law and local law in Europe which is especially interesting, given the complete absence of defaults over the past few decades for European sovereign issuers prior to the recent Greek debt crisis. This event and the subsequent handling of the crisis by European authorities can be considered a paradigm shift for sovereign debt investors, potentially triggering a change in the way in which sovereign debt risk is perceived and in particular the relevance of the law governing sovereign issues.

4.1 Data

This paper uses secondary market data from Bloomberg. We augment this source with data on bond specifications available via the Dealogic/Bondware database, as well as information from bond documentation. We began by collecting data on all European sovereign issuers that were outstanding on 31st December 2012 from Bloomberg and Bondware, from the following countries: Austria, Belgium, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg,

Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom. These countries are the main issuers of sovereign debt in Europe. The total sample of bonds was 1,780. From this initial sample we then excluded countries that solely issued debt under local law (like Germany, France, United Kingdom), which reduced the sample size to 870 bonds that were issued by countries under either exclusively foreign law, or that issued both local and foreign law bonds. After further detailed analysis we then eliminated those bonds in our sample that contained put or call features or that were inflation-linked. This left a sample of 475 bonds.

For each of these 475 bonds we then collected the following information: ISIN, maturity date, issue date, amount issued, coupon, bid and ask price, S&P rating, currency, years to maturity, governing law, CAC, floater, and whether or not the bond has been issued into international markets. The rating data was gathered from S&P and reflects the specific risk according to the issuer borrowing in its own or foreign currency[7]. Data on governing law is rarely readily available and reliable. To overcome this problem, we used data Bloomberg and DealLogic/Bondware to confirm the governing law of each bond and to fill in any gaps by reading the specific term sheets and bond documentation. All of the price, yield and market-related data were quarterly and spanned the period from 2008Q3 to 2012Q4. This period spans the European sovereign bond crisis. Figure 2 shows the equally weighted development of the 10 year bond yields for Portugal, Italy, Ireland, Greece, and Spain over the sample period. Virtually every foreign-currency bond in our sample is issued under its respective law, leading to English law issues for GBP and EUR (in case of foreign law) based-debt, New York law for bonds denominated in USD and Japanese law for bonds issued in Yen. Figure 3 shows this relationship. 89.1% of all outstanding Euro foreign law bonds

[7] A list of the rating development can be found in the appendix, table 6.

in this sample are issued under English law.

The total sample of outstanding bonds denominated in Euro (domestic and foreign law) is 475. Of these, 75 had to be excluded due to the lack of quoted market prices[8], bringing the total sample to 400 bonds, of which 64 are governed by foreign law, corresponding to a foreign law quota of 16%. Following the debt exchange of Greece, these newly issued bonds were excluded from the sample. Also, Cyprus' government bonds were excluded, given the price distortions preceding and following the bail-out discussions in 2012. Besides bonds issued in Euro, which account for 53% of the sample, US-Dollar bonds make up the second largest group with 13.6% of the total sample. Of these, 80.1% are issued under foreign law which is unsurprising since no country in the sample uses the US-Dollar as their domestic currency in Europe. Bonds issued in US-Dollars are therefore not appropriate to examine the effects of foreign law status on yields given their skew towards few countries and the lack of comparable domestic law bonds issued in US-Dollar within Europe.

Against this background, only bonds issued in Euros satisfy all the preconditions to examine yield differences in foreign law and domestic law bonds within Europe given the large, diversified sample, a sufficient share of foreign law-bonds and good data quality with few outliers. Hence, the final sample of bonds was gathered by taking into account all outstanding European bonds denominated in Euro of countries having issued foreign law bonds[9] as of 31st December 2012 and obtaining yields for these bonds on a quarterly basis back to 30th September 2008. Since some bonds outstanding in Q4 2012 were not in issue at the start of the sample period, the number of bonds examined increases with time. The number and

[8] Most of them being domestic law private placements by big issuers like Austria, Italy and Spain.
[9] The sample also includes bonds issued by Slovenia, which issued first foreign law bonds in 2013 and the Netherlands, to include a small AAA issuer in the dataset.

governing law status of the bonds in our sample is shown in Figure 4.

4.2 Methodology

This paper uses ordinary least squares (OLS) regressions to model the yields of European sovereign bonds, and is based upon the methodology and specification followed by Becker *et al* (2002), Eichengreen and Mody (2004) and Bradley *et al* (2011). The expression that we estimate is given by:

$$Yield_{it} = \alpha+\beta_1 YM_{it}+\beta 2 RATING_{it}+\beta 3 CP_{it}+\beta 4 AMT_{it}+\beta 5 SPREAD_{it}+\beta 6 DFL_{it}+\varepsilon_{it} \quad (1)$$

where the dependent variable is the yield on sovereign bond i at time t, YM is years to maturity, RATING is a numerical rating of the bond, CP is the coupon, AMT is the amount outstanding in euros and SPREAD is the bid/ask spread. DFL is the foreign law dummy, which means that the focus of our attention in this regression is β_6. The YM variable shows the years to maturity of each bond for the relevant observation period. The RATING variable converts the respective S&P Rating (for domestic and foreign currency issues) into a numerical rating score as shown in Table 5, and therefore implies a possible linear relationship between rating quality and yield[10]. The SPREAD variable is calculated as the difference between the bid and ask price divided by the average bid and ask price. This measure, along with the amount outstanding in euros (AMT), is designed to control for potential liquidity premiums being paid, given that bonds issued into international markets sometimes exhibit lower trading volumes. The average spread of

[10] By translating S&P ratings into default probabilities (using the average of 10 and 20 year bond default data), gives an exponential relationship between default probability and a bond's yield. However this does not improve the explanatory power of the model. Therefore, this paper uses, in accordance with previous papers, the linear model outlined above. This is also supported by Becker et al (2002) who finds that "[...] the impact of declining credit quality is to increase yields close to monotonically." (Becker et al, 2002: 11).

the sample is 0.3%, which can be considered adequately liquid. Finally, the DFL variable indicates whether or not a given bond is issued under foreign or domestic law, taking the value of 1 for foreign governing law. An issue under foreign law is defined as the governing law of the bond being different from the local law used in the respective country.

For the results to be meaningful we need expression (1) to be a good description of the bond yields in our sample before the inclusion of the foreign law dummy. The foreign law dummy is included to examine whether the explanatory power increases and to test which sign and statistical significance the estimated coefficients display. In addition to this 'base model' comprising all the bonds in our sample, we also estimate the model for two sub-samples; the first for the issuers of bonds that were rated AAA to AA; and the second for those rated AA- or lower. Splitting the sample in this way allows us to determine whether the foreign law effect is greater for borrowers with a lower credit quality.

4.3 Main results

For the observation period between 2008Q3 and 2012Q4, we estimate time series regressions based upon expression (1) for each bond in our sample. The average R-squared for expression 1 excluding the foreign law dummy is 59.2%. The inclusion of the foreign law dummy increases the average R-squared to 64.8%, underlining the additional explanatory power of the choice of governing law on bond yields. Figure 5 shows the development of the R-squared for both models, while Table 1 presents the regression results. Throughout the sample, the vast majority of coefficients take their expected sign. YM is positive and, unsurprisingly, highly significant at the 99.9% confidence level in all but one year. RATING is estimated to have a negative sign, where the average yield falls by 0.37% for every step

down on the rating scale, and is estimated to be highly significant at the 99.9% confidence level in 17 out of 18 observation periods and significant at the 95% confidence level in all observation periods. CP has a positive impact on the yield, increasing the yield by 0.10% on average for every 100bp increase in the coupon. This result may look counter intuitive, given the fact that a high coupon should generally lower the duration. However, in this case, the high coupon is related to the issuer's low creditworthiness at the time of issuance. The statistical significance of the coupon is mixed over the observation period, with p-values between 0.01% and 43.7%. We use both AMT and SPREAD to control for bond liquidity. The results for AMT suggest that an increasing amount bonds outstanding decreases the average yield of the bonds. The spread is estimated to have a positive impact on yield, increasing it for less liquid bonds. The statistical significance of both coefficients is rather mixed, ranging between highly significant to having no additional explanatory power at all.

However, it is the coefficient on the foreign law dummy that is of most interest here. The coefficient on DFL is positive in the first quarters of the observation period, changing to significantly negative values during the turbulent times of the Euro crisis and shrinks towards zero as the Euro zone debt crisis subsides. Except for 2009Q4 and 2010Q1, when the value of the foreign law coefficient changed from positive to negative, all coefficients are highly statistically significant at the 99.9% confidence level.

Expression (1) appears to be able to explain European sovereign bond yields well. The addition of the foreign law dummy clearly enhances the explanatory power of the model. Figure 6 shows the average value of the coefficient on the foreign law dummy over time. It appears that until the end of 2009 investors paid little attention to the benefits that come with bonds issued under foreign law. This most probably reflects the fact that foreign law issuers are

commonly second tier countries with not enough domestic demand. With the outbreak of the European debt crisis, the perception of foreign governing bond law changed dramatically, lowering the yield by 262bp during the height of the crisis in Q2 2011, in other words, on average a domestic law bond had additional yield of 262bp relative to equivalent foreign law bonds. After the successful Greek debt restructuring and the ECB bond purchase announcement (European Central Bank, 2012) the foreign law coefficient rose to -0.56% by the fourth quarter of 2012, indicating an improvement in sentiment towards European sovereign issuers. Indeed, comparing the development of the foreign law coefficient to the yield of a basket of ten year bonds issued by Portugal, Italy, Ireland, Greece and Spain (weighted 1/5th each) yields a correlation of minus 83.7%. Hence, as the yield on peripheral bonds decreased, the impact of their foreign law status decreased as well.

As yields issued by so-called peripheral countries increased, the value of the foreign law coefficient decreased, consequently lowering the yield for foreign law issues, as shown in Figure 7, where we plot the average foreign law coefficient on an inverted scale. The two series have a correlation coefficient of 83.7%. On closer examination, Figure 7 seems to show that the foreign law coefficient leads the development in yields by around 6 months, it might therefore serve as a leading indicator for periphery bond yields. Figure 8 shows this relationship by adding a lag of two quarters to the foreign dummy coefficient. The correlation between the foreign law dummy coefficient, lagged two quarters, and the yield on this basket of bonds increases to 92.2%. It is possible that this lead-lag relationship reveals the impact of those investors who were informed about the issue of a bond's legal status and those that were not. Indeed there is evidence that 'smart money' was aware of the foreign law features of bonds as evidenced by the number of hedge funds that invested in Greek Swiss law and English law bonds (Landon, 2012b). In fact, brokers and traders registered an increased interest in

Greek foreign law bonds before the debt restructuring in May 2012 (Landon, 2012a).

4.4 Sub-sample results: accounting for credit quality

Most studies examining the impact of Collective Action Clauses on Emerging Market bond yields found that distinct effects could only be found for issuers with poor credit ratings (Eichengreen and Mody, 2004). Investors did not seem to factor in CAC provisions in the case of high-quality issuers (Bradley and Gulati, 2011). In order to examine the impact of credit quality in our sample, we separated it into high quality and low quality issuers with the cut-off rating being AA minus, hence giving one sample rated AAA to AA and the other AA- or lower. Previous studies have set the cut-off rating considerable lower. Bradley and Gulati, 2011 differentiated between investment grade and non-investment grade issuers. However, given the focus in this paper on developed market issuers (compared to the focus in earlier studies on the emerging market issuers), a higher cut-off rating is inevitable. Also, by applying this methodology, the sample is split into two groups of comparable size.

Table 2 shows the impact of foreign governing law on the higher rated bond issues. The foreign law coefficient is not statistically significant and close to zero over the observation period for this group. However Table 3 presents equivalent results for the bonds with lower credit quality. The coefficient is mostly statistically significant and is very negative during the height of the crisis. These results confirm past research that investors only seem to factor in contractual provisions, such as the choice of foreign governing law for low rated issuers, or when restructuring risk is high. The data shows that the bonds of the poor credit quality group governed by foreign law traded at a discount of up to 427bp compared to local law issues at the end of the second quarter 2011. By the end of 2012, the yield spread was still 116bp.

4.5 The Use of the Foreign Law Coefficient to Capture 'Breach-of-Contract' Risk

Political risk can be defined as:

"*the risk that a government will expropriate property or violate a contract without providing adequate compensation*" (Choi *et al*, 2011b: 1).

Consequently, the properties of the foreign law coefficient as an indicator of political risk inherent in sovereign bonds qualify the coefficient as a new benchmark, separating the actual credit risk (which is inherent in both domestic and foreign law bonds) from the breach-of-contract risk itself.

When we consider Figure 6, four outstanding events during the European debt crisis can be identified on the chart as pivotal points not only towards the yield development in peripheral countries, but also regarding the reception of the benefits of foreign law bonds.

- the 110m EU/IMF bailout in 2010, Deauville summit in October 2010;
- Portugal's bail-out in 2011;
- the successful Greek debt restructuring in 2012; and
- ECB bond purchase programme: Outright Monetary Transactions

With the announcement of the first EU/IMF bail-out package in May 2010 and the increasing awareness of market participants that sovereign defaults could not be ruled out within the Eurozone, the foreign law dummy became negative, meaning that foreign law bonds traded at a premium to local law bonds. Importantly, the sample used to derive this index did not contain Greek bonds, showing that the increase in political risk perception at the time was a Europe-wide problem. With the successful debt restructuring and the subsequent announcement of the ECB bond purchase programme, the Outright Monetary Transactions, the

perceived risks in the sovereign bond market decreased substantially, reflected in the strong reversion of the Foreign dummy coefficient to -0.56% by Q4 2012.

4.6 Model limitations

Although the model fits the data well, and accords well with real events in Europe over that crisis period, there are some issues that would be difficult to capture. First, not all foreign law bonds offer the same protection because of differences in the contractual details which only become evident with close inspection of the bond documentation (Gelpern and Gulati, 2009). The same issuers sometimes use different words in individual bond series (Choi *et al*, 2011b). Also, although the majority of foreign law bonds in our sample were issued under English law, some are issued under New York law or Swiss law, our foreign law dummy does not account for these differences. Finally, the attractiveness of any given foreign law bond in the case of a restructuring is heavily dependent upon the share of the bond that is held by possible holdout-investors. As long as national institutions, which are the most likely to participate in restructurings, are major holders of the bond, it is rather unlikely that a minority position sufficient to block any changes, can be bought and hence the bond loses its protection. Since, to our knowledge, there is no data available on the ownership per bond, this factor could not be included in the regression.

In the wake of the Greek debt restructuring, (and other sovereign debt workouts), the next section of our paper draws conclusions on how investors can minimize risk and capitalise on opportunities in future restructuring cases using foreign law bonds.

5. Caveat emptor, or why investors should read bond documentation carefully

5.1 Local and foreign law governed sovereign bond issues

As the results in section 4 demonstrate, the law governing a bond issue can have a substantial impact on its risk and return characteristics, especially during times of stress and distress. Our results raise questions about how safe foreign law bonds may be during possible future debt restructurings. What mechanisms do politicians have at hand to impose losses on holdout investors? And which contractual features, other than the governing law, provide sovereign bond investors with lasting security?

The majority of sovereign debt in Europe is being governed by local law (Gelpern and Gulati, 2010; Gelpern and Gulati, 2013) and hence – irrespective of its contractual basis – is subject to restructuring risk, since governments can change the bond terms by legislative fiat (Gelpern and Gulati, 2013; Zettelmeyer *et al*, 2012). Indeed, "*[d]omestic contracts are often short, sometimes no more than a few lines in a law or regulation*" (Gelpern and Gulati, 2013: 369), adding to their rather unsafe nature in times of crisis.

Local law bonds are least likely to survive a debt restructuring unscathed. However, this does not mean that foreign law bonds are without risk. Not all foreign law bonds contain the same contractual language and individual provisions in their documentation do vary. These differences arise from various provisions buried deep in bond contracts, the precise language used, as well as from the percentage thresholds included for majority actions. For example, the Greek foreign law bonds issued before 2004 contained '*negative pledge*' clauses that diverged in substance from the ones used post 2004 (Buchheit and Gulati, 2010). A close analysis of the bond prospectus is therefore always warranted in order to evaluate the attractiveness of any given sovereign bond, especially if for issuers that are experiencing heightened political difficulties, since such issuers seem to change their bond terms from issue to issue more often than the highest-rated issuers (see Choi *et al*, 2011b). The share of

foreign law debt is low measured on a Europe-wide basis. However, smaller countries and provinces with little domestic demand still often have to issue debt governed by foreign law. Also, the granting of state-guarantees for corporate debt governed by foreign law has increased substantially during the financial crisis, leading to potential holdout problems in future restructurings (Buchheit *et al*, 2013).

5.2 Holdouts versus debtors in default

There are several well-known techniques available in order to persuade investors, particularly those holding foreign law bonds, to accept an exchange offer. Such an offer will normally impose haircuts on the nominal value of the bond, extend the maturity or adjust other non-financial terms. However, those investors that opt not to participate in the exchange offer, known as 'holdouts', generally face two outcomes in any sovereign debt restructuring. In the optimal case, the debtor eventually pays holdout creditors in full in order to prevent a messy default. But if the debtor is unable or unwilling to pay the holdouts, investors generally have the option to sue the debtor country in an international court. In fact, Schumacher *et al* (2013) find that litigation has become "*a standard ingredient of sovereign debt restructuring*". However, given the sovereign immunity of any country, even an unfavourable international court ruling cannot force the debtor country to payout in full or settle with the holdout investors[11]. But holdouts usually do have the power to seize foreign assets of recalcitrant sovereign debtors. These assets might include oil sales and privatization revenues (Ahmed *et al*, 2010) as well as government-owned airplanes, central bank assets, foreign social security funds and even fossils on exhibitions abroad (Schumacher *et al*, 2013).

Another problem for debtor countries in default is that holdouts can interfere with a country's

[11] For example Argentina's reluctance to pay Elliott Management despite a New York Second Circuit ruling to do so. See Weber (2013)

fund-raising abroad, effectively cutting it off from international capital markets (Buchheit *et al*, 2013). These actions however have been mostly unsuccessful "*in the sense that attachments were ultimately rejected by US and European courts*", (Schumacher *et al*, 2013: 9). One notable exception is the case Elliott Management v Panama in 1996 where the vulture fund sued for full repayment of its government bond holdings and ultimately succeeded after attaching the privatization proceeds of Panama's telecommunication company (Ahmed *et al*, 2010). The real bargaining power of holdouts however arises from the possibility of barring further payments to other, in the exchange participating creditors, as long as the holdout's claims have not been paid (Schumacher *et al*, 2013). This possibility arises from *pari passu* clauses [12] containing the special "payment"-language included in some sovereign bond contracts which ensures equal treatment of equally-ranked creditors. The power of this clause has been demonstrated in the case of Elliott Management v. Republic of Peru in 2000 when Elliott effectively blocked the payment to non-holdouts via Euroclear in Belgium (Weidemaier *et al*, 2011). The Peruvian government subsequently settled with Elliott to avoid defaulting on its restructured, outstanding debt. In fact, while the actual attachment of foreign assets has proven to be unsuccessful for holdout investors, "*nearly half of all out of court settlements [with sovereign debtors] took place after creditors were granted an attachment order*" (Schumacher *et al*, 2013: 12), indicating the pressure that attachment strategies can bring to bear on debtors.

Indeed, Schumacher *et al* (2013) examined 100 lawsuits connected to sovereign defaults and found that "*only 4 were outright failures*" (Schumacher *et al*, 2013: 12) while 11 cases were won directly by holdout creditors and nearly half of the cases settled out of court (Schumacher *et al*, 2013). The increase in lawsuits against sovereign debtors can also be explained by the

[12] Although there is widespread doubt about the interpretation of this clause. See Weidemaier et al (2011).

increase in average haircut sizes, which "*has increased from 26% in the 1980s to 62% in recent years*" (Schumacher *et al*, 2013: 20).

One issue with the history of creditor litigation against sovereign entities is that so far the vast majority of the defendants were emerging market borrowers, as such the lessons may not be as applicable to sovereign issuers in the Eurozone. Indeed, the availability of foreign assets within the European Union, the interconnectedness among the member states as well as the existence of the European Stability Mechanism make it likely that holders of foreign law bonds in Europe would not have to litigate in order to get paid back in full, as the case of Greece demonstrates. European officials will want to prevent a (messy) default, at least within the Eurozone, in order to preserve the perception that the Euro is a stable reserve currency. This raises the question of what holdout investors have to fear in developed countries?

5.3 What do Holdout Investors have to Fear from Developed Economy Issuers?

In general, holdout investors face three different possible outcomes. First, the debtor is unwilling, or worse, unable to pay. In this case, the only possibility is to litigate as outlined above. Second, the debtor chooses to make a better offer to the holdouts or pay them straight away, which is certainly not in the mind of creditors participating in the restructuring. Third, the debtor applies various legal techniques based on the bond documentation in order to persuade holdout investors to accept the original restructuring proposal. Regarding this third option, Collective Action Clauses play a major role.

Collective Action Clauses (CACs) allow a supermajority of bondholders to change unilaterally the bond's terms, which is binding for all holders of the particular bond. In fact, Buchheit *et al* (2002) argue that CACs can be used to recreate some corporate bankruptcy features in sovereign debt restructurings. Since most foreign law bonds in Europe are issued under

English law, they already contain CACs. Adding to this, beginning in 2003, all foreign law bonds issued in Europe have to contain Collective Action Clauses (Gelpern and Gulati, 2013). This makes CACs the weapon of choice to restructure foreign law debt. The problem, of course, is that the holders of foreign law bonds, being shielded from legislative action, face no pressure to vote in favour of the proposed amendments and can even build up blocking minorities[13].

CACs usually allow for amendments to the financial and non-financial terms of a bond contract. In most cases, it takes a supermajority of 66.6% or even 75% of the bondholders attending the bondholder meeting to change the financial and other important terms of a bond whereas usually a 50% threshold has to be met in order to change most non-financial terms of a bond. However, since most foreign law bonds are often held by investors unwilling to participate voluntarily in debt exchanges, the debtor has to apply pressure in order to reach these thresholds. Governments faced with potential holdouts in their foreign law bonds mainly have two powerful options: *exit consents* and *exacerbate attachments*.

5.4 Exit consents

In principal, a government can offer their bondholders new bonds with a reduced face value, adjusted coupons and/or prolonged maturities to reduce its debt burden. If enough bondholders agree to participate in order for the country to achieve its target debt relief, but it does not meet the required CAC thresholds to make the debt swap binding for all bondholders, it could theoretically proceed with the restructuring and leave the holdout investors behind. However, this leads to a complicated situation: now the holdouts will almost certainly form the total majority within this bond issue(s). The holdout investors could then accelerate the bond

[13] Usually, it requires a 25% to 33.3% of bondholders to block a CAC vote.

with a now easily achievable voting majority and demand immediate repayment of the bond (Buchheit and Gulati, 2000).

To deal with this issue exit consents had been introduced. By means of an exit consent, "*[a] specified majority or supermajority of bondholders exercises its power to amend the old bond – just before those creditors leave the old bond – as an incentive for all other holders to come along with them.*" (Buchheit and Gulati, 2000: 66) In a sovereign context, this technique had been introduced in Ecuador's 1999 Brady bond restructuring (Buchheit 2000). These bonds were issued under New York law, without CACs, but with provisions that enabled a 50% majority of bond holders, to change the non-financial terms of the issue. When Ecuador offered to exchange the outstanding Brady Bonds into new bonds with less favourable financial terms, it included exit consents so that every tendering bondholder automatically voted in favour of deleting "*certain financial covenants and the cross default clause*" (Buchheit, 2000: 20) hence leaving non-participating creditors behind with a bond that had been much reduced in value. Another non-financial feature often removed via an exit consent is the listing requirement of the bond. In this case holdout investors are left behind with a potentially illiquid issue. In the case of Ecuador, 97% of bondholders agreed to the exchange (Buchheit, 2000).

In the European foreign law bond context, this issue is somewhat different, since most issues are governed by English law which already contain CACs. As described above, this enables a supermajority of holders to change the financial and non-financial terms for all investors. It is however, rather the exception than the rule that a supermajority can be established in foreign law bondholder meetings. Exit consents can however be applied to change the non-financial terms which usually need to achieve lower thresholds, often requiring just a simple majority.

Since the probability of reaching this threshold is higher, one way to apply exit consents in European foreign law bonds would be to propose the removing of negative pledge, listing requirement, cross default clauses and other bondholder protective provisions (Zettelmeyer *et al*, 2012). In any case, however, it is important to analyse which provisions can be changed by a simple majority and which require a supermajority[14]. In extreme cases, even the inclusion of a provision not to settle with holdout investors at more favourable terms than the participating bondholders can be proposed (Buchheit and Gulati, 2000). By applying these exit consents, non-participating bondholders are forced to agree to the new terms.

5.5 Exacerbate attachments

One major pre-condition for the holdout problem to arise in first place is the ability to attach foreign assets (Choi *et al*, 2011b) of the debtor in the case of a default. Buchheit *et al* (2013) argue that this problem can be overcome in Europe by making amendments to the Treaty Establishing the European Stability Mechanism (ESM), prohibiting the attachment of assets as long as the member is receiving funds from the ESM. In fact, as the authors point out, a similar approach was applied when Iraq restructured its debt in 2003 (Buchheit *et al*, 2013). Despite this approach, contractual modifications can also be applied to bar holdout investors from attaching assets. When exit consents are being used to remove the waiver of sovereign immunity (Choi *et al*, 2011b) in foreign law bond contracts, it is practically impossible for holdouts to seize foreign assets.

6. Conclusions

This paper has presented evidence that investors recognize the positive properties of sovereign bonds issued under foreign law as opposed to local issues in Europe during times of crisis and

[14] If these have not been pre-specified, Chancellor Allen's "Katz-test" usually applies. See Buchheit and Gulati (2000).

that the yield differences between local law and foreign law bonds can be used to construct a proxy for political or breach-of-contract risk over time. This is because foreign law bonds should trade at a premium to bonds governed by local law since they are harder to restructure.

The results in this paper suggest that market participants did not price in the advantages of bonds governed by foreign law before the European sovereign-debt crisis erupted, but quickly adapted to the first alarming signals in Greece and subsequently the whole European periphery. The premium paid for foreign law bonds, as compared to bonds governed by local law, peaked at 262bp in terms of yield during the height of the crisis, when the very future of the Eurozone was at stake. This foreign law effect was especially distinct for lower rated issuers, showing yield differences of up to 420bp in Q2 2011 at the high of the crisis, whereas there is no foreign law impact observable for highly rated debtors. However, following the Greek Debt Exchange and the announcement of the Outright Monetary Transactions-programme (Buchheit and Gulati, 2013b), restructuring risk decreased significantly, as shown by the drop of the foreign law/local law spread to 56bp by the end of 2012.

Interestingly even without the inclusion of Greek and Cypriot government bonds in the dataset, the constructed breach-of-contract index serves as a leading indicator for the yields of European peripheral borrowers, foreshadowing the changes in associated bond yields by approximately six months.

Based on the analysis of the legal differences between local law and foreign law bonds as well as the empirical evidence, foreign law bonds offer investors greater creditor protection. In fact, non-participating creditors, that is, holdout investors, are usually better off in sovereign debt restructurings (Zettelmeyer *et al*, 2012). Investors should be aware that with the rise of

legal and political countermeasures over the last two decades, the distinctive features outlined in each bond's documentation should be analyzed closely before any judgment can be made about the potential holdout value of any bond issue.

In general, however, bonds governed by foreign law do provide holders with more protection against restructuring risk than local law issues and markets did appreciate this during the time period that we examined here. Through the construction of a breach-of-contract index, the amount of political risk inherent in Europe's sovereign bond markets can be separated from the credit risk within European sovereign bond yields.

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Figure 1: Foreign law bonds vs. domestic credit provided

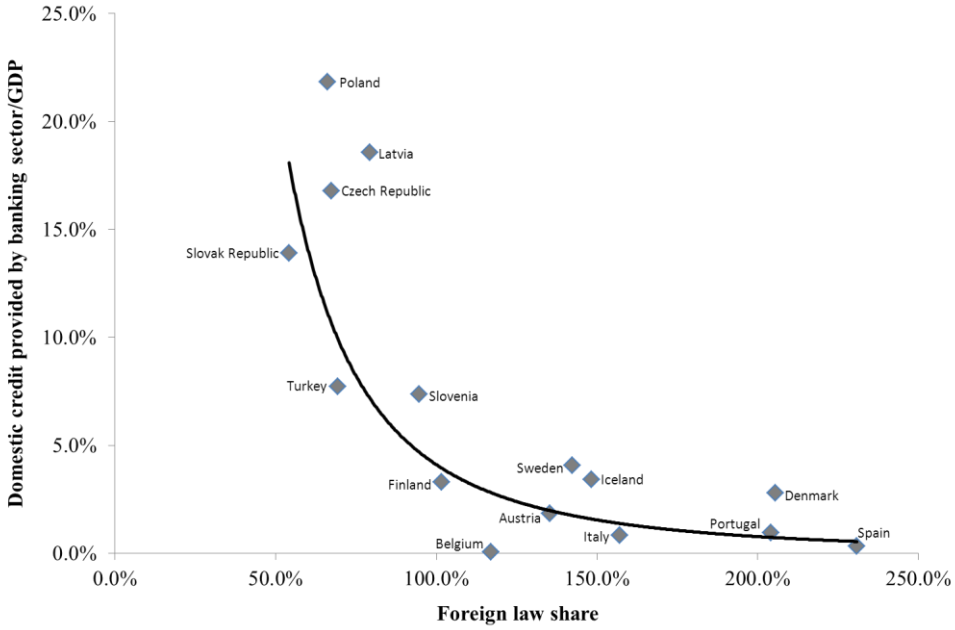

Figure 2: Equally weighted development of the 10 year bond yields for Portugal, Italy, Ireland, Greece, and Spain

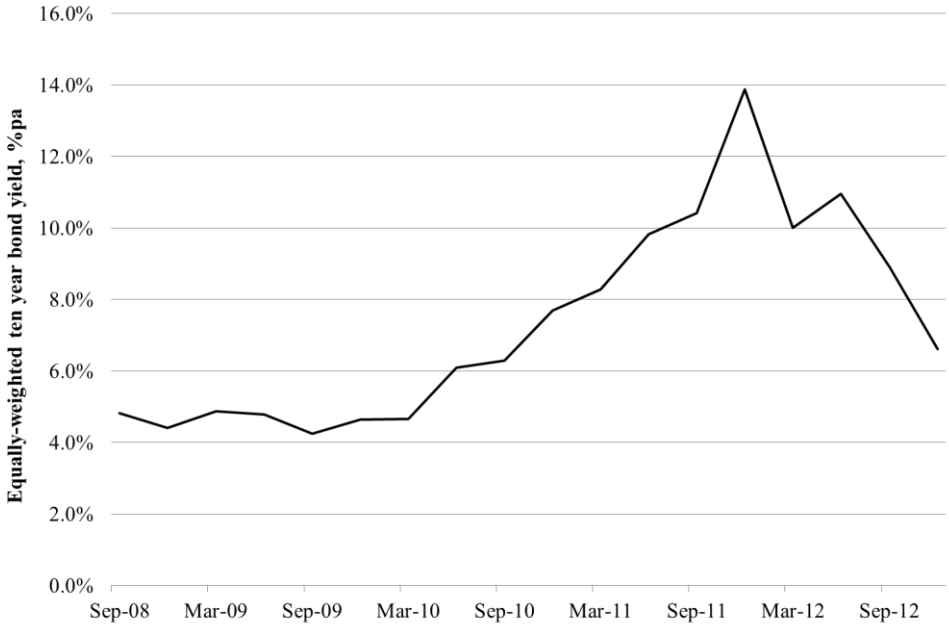

Figure 3: Base sample governing law (2008-2012)

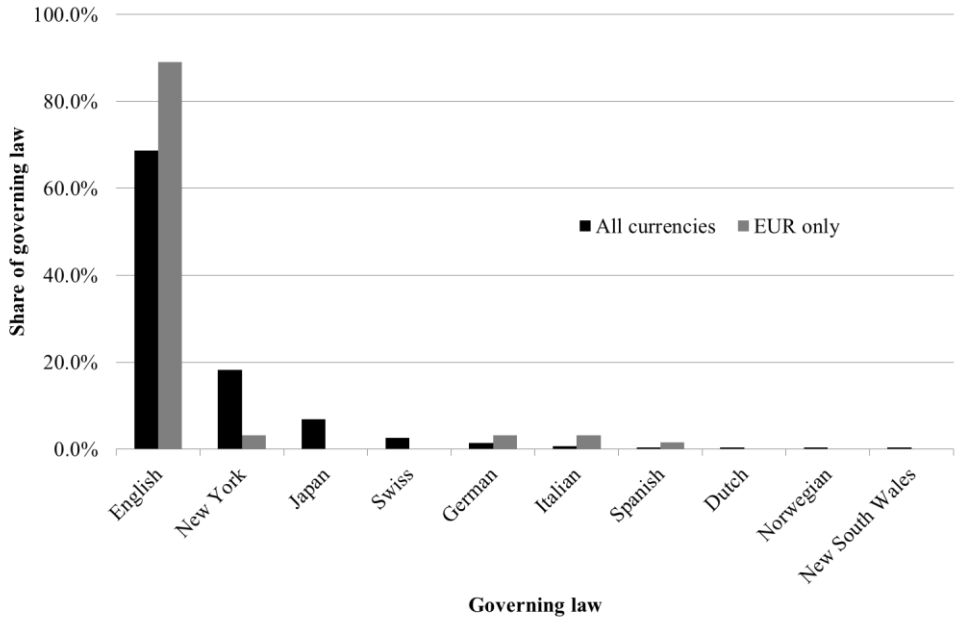

Figure 4: Total number of bonds examined and share of foreign law bonds

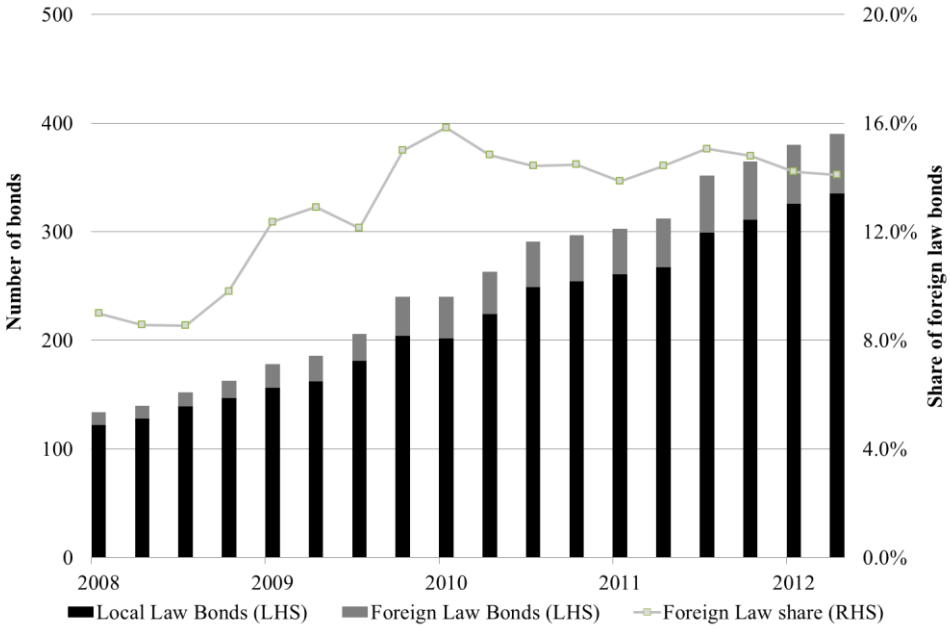

Figure 5: R-squared for the base model and base model with FL-Dummy

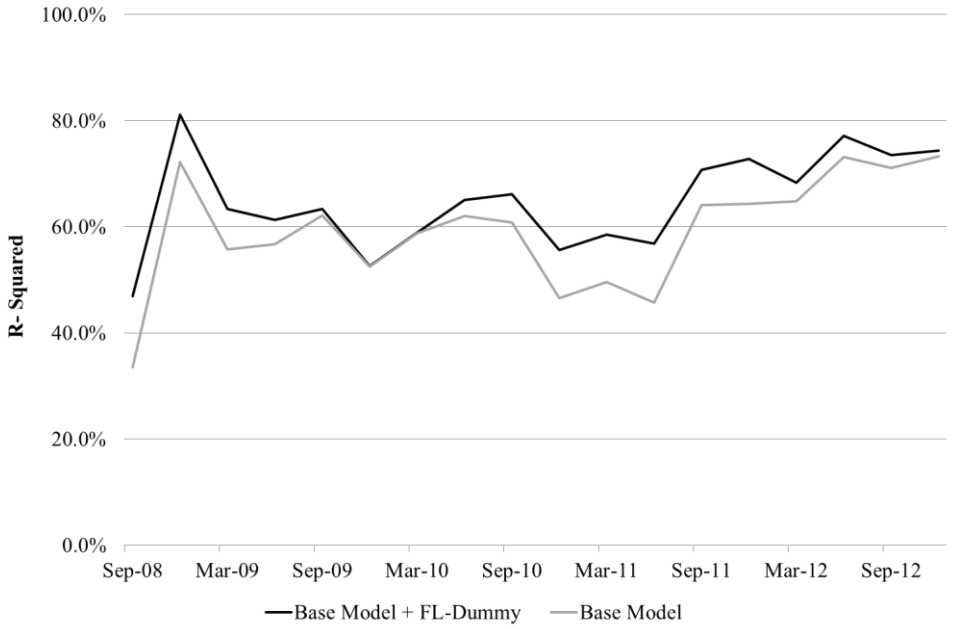

Figure 6: Development of foreign law coefficient over time

Figure 7: Foreign law coefficient (inverted) versus equally-weighted 10yr bond yield for Portugal, Italy, Ireland, Greece, and Spain

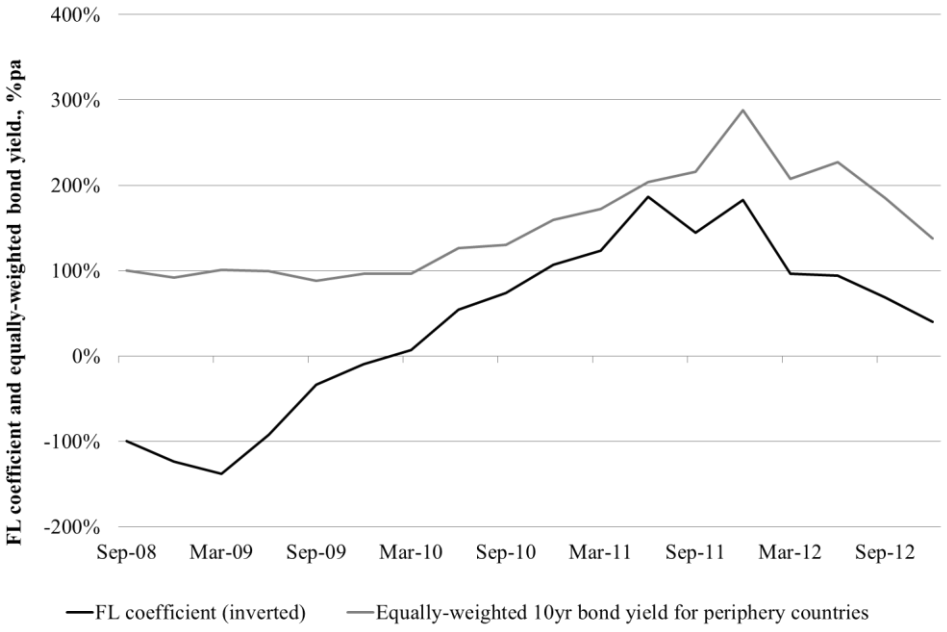

Figure 8: Foreign law coefficient (inverted) versus equally-weighted 10yr bond yield for Portugal, Italy, Ireland, Greece, and Spain (6 months lagged)

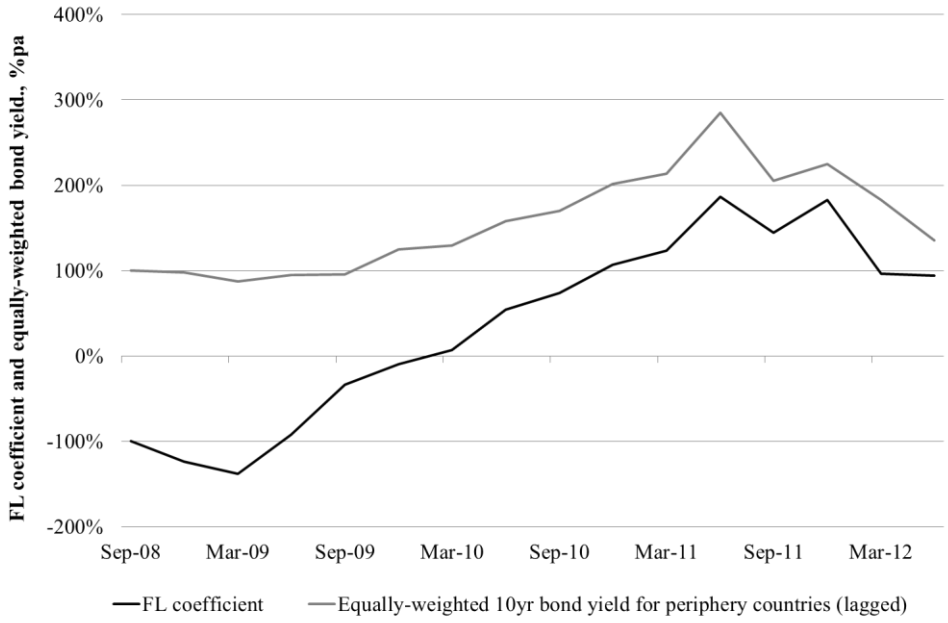

Figure 9: Impact of foreign governing law depending on creditor quality

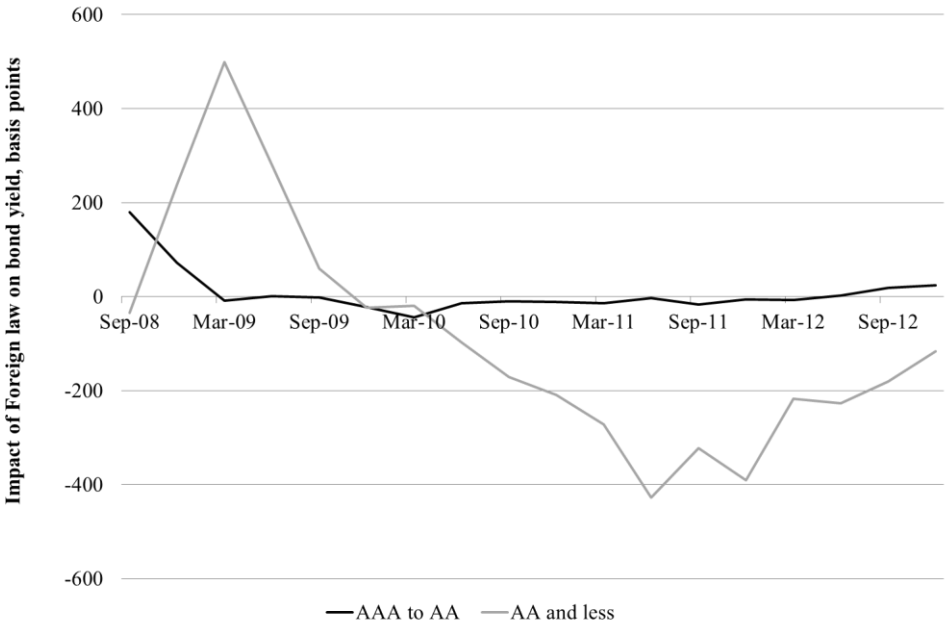

Figure 10: FL coefficient (smoothed) in the Eurozone debt crisis context

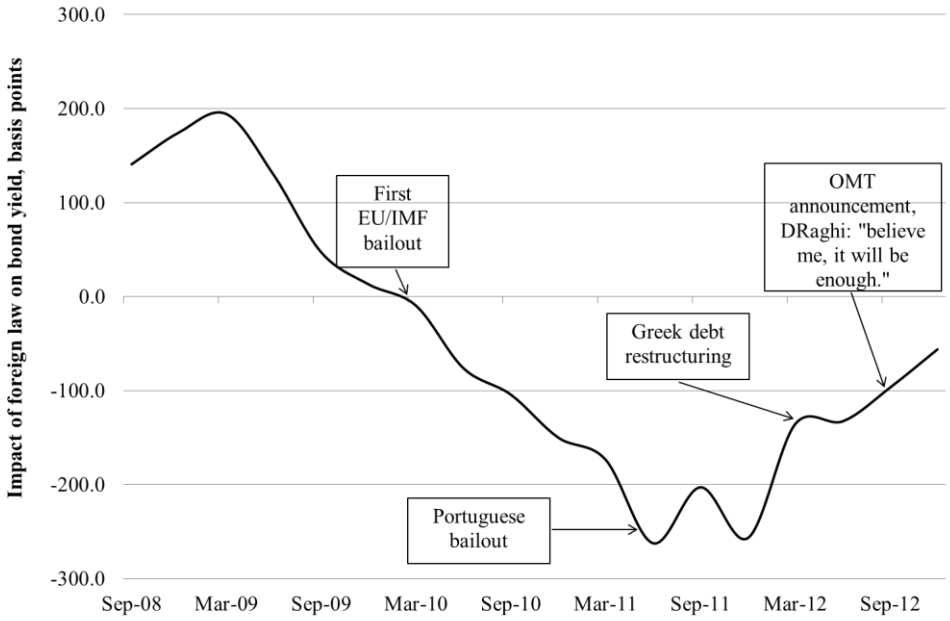

Table 1: Regression coefficients and statistical significances

End of	YM	Rating	CP	AMT	Spread	Foreign Law	N	R-squared
Q3 08	0.035***	-0.055**	0.025	-0.006	-0.129	1.407***	134	0.4689
Q4 08	0.046***	-0.220***	0.03	-0.006	0.028	1.746***	140	0.8113
Q1 09	0.064***	-0.227**	0.065	-0.016*	0.259	1.942***	152	0.6338
Q2 09	0.083***	-0.208***	0.083*	-0.020**	0.125	1.291***	163	0.6129
Q3 09	0.088***	-0.159***	0.071**	-0.014**	0.037	0.471**	178	0.6336
Q4 09	0.084***	-0.160***	0.124**	-0.015**	-0.014	0.13	186	0.5261
Q1 10	0.098***	-0.157***	0.147***	-0.005	0.049	-0.097	206	0.5884
Q2 10	0.082***	-0.299***	0.133***	0.004	0.238*	-0.761***	240	0.6506
Q3 10	0.066***	-0.333***	0.134***	0	0.527**	-1.042***	240	0.6618
Q4 10	0.062***	-0.374***	0.171***	0.005	0.213	-1.499***	263	0.5559
Q1 11	0.058***	-0.457***	0.213***	-0.011	0.045	-1.735***	291	0.585
Q2 11	0.016	-0.634***	0.235***	-0.019	0.601**	-2.623***	297	0.5682
Q3 11	0.040***	-0.719***	0.074	0.002	0.814**	-2.028***	303	0.7076
Q4 11	0.035***	-0.857***	0.063	0.003	1.077***	-2.568***	312	0.7274
Q1 12	0.079***	-0.613***	0.085*	0.006	0.558***	-1.354***	352	0.6336
Q2 12	0.094***	-0.551***	0.04	0.036***	0.501***	-1.327***	365	0.7709
Q3 12	0.100***	-0.416***	0.06	0.043***	0.770***	-0.967***	380	0.7351
Q4 12	0.094***	-0.310***	0.82**	0.032***	0.759***	-0.561***	390	0.7436

***= significant at the 1% level, **= significant at the 5% level, *=significant at the 10% level

Table 2: Regression output for high creditor quality subgroup (AAA to AA)

End of	YM	Rating	CP	AMT	Spread	Foreign Law	N	R-squared
Q3 08	0.029***	0.005	-0.104**	0.001	0.13	1.799***	75	0.5006
Q4 08	0.037***	0.007	-0.079***	-0.002	0.535***	0.724***	80	0.7124
Q1 09	0.061***	0.223**	-0.052	-0.004	0.909***	-0.086	90	0.5814
Q2 09	0.086***	-0.033	-0.033	-0.001	0.678***	0.008	96	0.5665
Q3 09	0.088***	-0.212**	-0.002	0.001	0.329**	-0.022	102	0.6674
Q4 09	0.098***	-0.310***	0.002	0.006	0.311*	-0.224	107	0.6936
Q1 10	0.113***	-0.229***	0.058	0.009	0.818	-0.441*	121	0.6302
Q2 10	0.094***	-0.785***	0.081**	0.024***	-0.012	-0.136	124	0.8038
Q3 10	0.080***	-0.623***	0.064**	0.019***	0.858	-0.099	127	0.7991
Q4 10	0.072***	-1.019***	0.0104***	0.024***	-0.353***	-0.118	134	0.7863
Q1 11	0.074***	-0.626***	0.120***	0.020***	-0.145*	-0.141	154	0.7164
Q2 11	0.079***	-0.865***	0.079***	0.010*	-0.038	-0.038	161	0.8033
Q3 11	0.057***	-0.566***	0.061*	0	-0.169	-0.169	124	0.7577
Q4 11	0.070***	-0.845***	0.03	0.001	-0.058	-0.058	127	0.7869
Q1 12	0.068***	-0.464***	0.043	0.025**	-0.069	-0.069	144	0.6788
Q2 12	0.070***	-0.422***	0.029	0.032***	0.028	0.028	150	0.7047
Q3 12	0.081***	-0.245***	0.025	0.028***	0.187	0.187	153	0.7191
Q4 12	0.079***	-0.139***	0.031	0.026***	0.241*	0.241*	153	0.7538

***= significant at the 1% level, **= significant at the 5% level, *=significant at the 10% level

Table 3: Regression output for low creditor quality subgroup (AA- and less)

End of	YM	Rating	CP	AMT	Spread	Foreign Law	N	R-squared
Q3 08	0.037	-0.298***	0.129***	-0.001*	-0.325	-0.345	58	0.5952
Q4 08	0.071***	-0.190**	0.079*	-0.001	-0.440*	2.388***	60	0.8471
Q1 09	0.093***	0.071	0.081	-0.002	-0.116	4.991***	61	0.7239
Q2 09	0.092***	-0.034	0.095	-0.003**	-0.442	2.810***	66	0.6555
Q3 09	0.097***	-0.159**	0.100*	-0.003***	-0.497*	0.6	75	0.5972
Q4 09	0.086***	-0.280***	0.155**	-0.003**	-0.582*	-0.233	78	0.4933
Q1 10	0.094***	-0.206***	0.178***	-0.001	-0.167	-0.195	83	0.5223
Q2 10	0.071***	-0.276***	0.179***	-0.001	0.197	-0.977***	114	0.4609
Q3 10	0.049***	-0.346***	0.228***	-0.002	0.765**	-1.706***	111	0.4888
Q4 10	0.052***	-0.433***	0.244***	0	0.537	-2.091***	127	0.4174
Q1 11	0.046**	-0.672***	0.276***	-0.001	0.545	-2.719***	135	0.5764
Q2 11	-0.018	-0.880***	0.327***	-0.003	1.680***	-4.277***	134	0.6161
Q3 11	0.028**	-0.845***	0.162**	0	0.893***	-3.230***	177	0.5873
Q4 11	0.019	-0.947***	0.189**	-0.001	1.077***	-3.904***	183	0.6023
Q1 12	0.080***	-0.886***	0.181**	0.001	0.703***	-2.170***	206	0.628
Q2 12	0.089***	-0.486***	0.163***	0.002**	0.334**	-2.273***	213	0.618
Q3 12	0.098***	-0.332***	0.178***	0.002***	0.589***	-1.810***	225	0.5824
Q4 12	0.095***	-0.302***	0.176***	0.002***	0.664***	-1.158***	233	0.5787

***= significant at the 1% level, **= significant at the 5% level, *=significant at the 10% level

Table 4: Composition of the final sample (# of bonds)

Country	Foreign Law	Local Law
Austria	4	20
Belgium	1	83
Czech Republic	7	0
Denmark	4	0
Finland	2	13
Ireland	1	17
Italy	1	97
Latvia	2	0
Lithuania	3	2
Poland	17	3
Portugal	1	13
Slovak Republic	4	16
Spain	1	35
Sweden	4	0
Turkey	5	0

* In addition to these issuers, also Slovenia (which issued foreign law bond in 2013) and the Netherlands (to add a small AAA issuer to the sample) have been included.

Table 5: Rating methodology

S&P Rating		Rating Score
AAA		19
AA+		18
AA		17
AA-		16
A+		15
A		14
A-		13
BBB+		12
BBB		11
BBB-		10
BB+		9
BB		8
BB-		7
B+		6
B		5
B-		4
CCC+		3
CCC		2
CCC-		1
D		0

Table 6: Rating development

Country	Q3 08	Q4 08	Q1 09	Q2 09	Q3 09	Q4 09	Q1 10	Q2 10	Q3 10	Q4 10
Italy	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Italy Foreign	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Spain	AAA	AAA	AA+	AA+	AA+	AA+	AA	AA	AA	AA
Spain Foreign	AAA	AAA	AA+	AA+	AA+	AA+	AA	AA	AA	AA
Portugal	AA-	AA-	A+	A+	A+	A+	A+	A-	A-	A-
Portugal Foreign	AA-	AA-	A+	A+	A+	A+	A+	A-	A-	A-
Ireland	AAA	AAA	AAA	AA+	AA	AA	AA	AA-	A	A-
Ireland Foreign	AAA	AAA	AAA	AA+	AA	AA	AA	AA-	A	A-
Belgium	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+
Belgium Foreign	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+
Netherlands	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Netherlands Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Norway	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Norway Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Sweden	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Sweden Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Finland	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Finland Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Latvia	BBB-	BB-	BB-	BB	BB	BB	BB	BB	BB+	BB+
Latvia Foreign	BBB-	BB-	BB-	BB	BB	BB	BB	BB	BB+	BBB-
Lithuania	BBB+	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB
Lithuania	BBB+	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB
Poland	A	A	A	A	A	A	A	A	A	A
Poland Foreign	A-	A-	A-	A-	A-	A-	A-	A-	A-	A-
Czech Republic	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Czech Republic Foreign	A	A	A	A	A	A	A	A	A	A
Slovak Republic	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Slovak Republic Foreign	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Austria	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Austria Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Denmark	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Denmark Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Slovenia	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
Slovenia Foreign	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
Greece	A	A-	A-	A-	BBB+	BBB+	BB+	BB+	BB+	BB-
Greece Foreign	A	A-	A-	A-	BBB+	BBB+	BB+	BB+	BB+	BB-
Cyprus	A+	A+	A+	A+	A+	A+	A+	A+	A	A-
Cyprus Foreign	A+	A+	A+	A+	A+	A+	A+	A+	A	A-
Iceland	BBB+	BBB+	BBB+	BBB+	BBB+	BBB	BBB	BBB	BBB	BBB
Iceland Foreign	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-
Turkey	BB	BB	BB	BB	BB	BB+	BB+	BBB-	BBB-	BBB-
Turkey Foreign	BB-	BB-	BB-	BB-	BB-	BB	BB	BB	BB	BB
Luxembourg	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Luxembourg Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA

Table 7: Rating development, continued

Country	Q1 11	Q2 11	Q3 11	Q4 11	Q1 12	Q2 12	Q3 12	Q4 12
Italy	A+	A+	A	A	A	A	A	BBB+
Italy Foreign	A+	A+	A	A	A	A	A	BBB+
Spain	AA	AA	AA-	AA-	A	BBB+	BBB+	BBB+
Spain Foreign	AA	AA	AA-	AA-	A	BBB+	BBB+	BBB+
Portugal	BBB-	BBB-	BBB-	BBB-	BB	BB	BB	BB
Portugal Foreign	BBB-	BBB-	BBB-	BBB-	BB	BB	BB	BB
Ireland	BBB+	BBB+	BBB+	BBB+	BBB+	BBB+	BBB+	BBB+
Ireland Foreign	BBB+	BBB+	BBB+	BBB+	BBB+	BBB+	BBB+	BBB+
Belgium	AA+	AA+	AA	AA	AA	AA	AA	AA
Belgium Foreign	AA+	AA+	AA	AA	AA	AA	AA	AA
Netherlands	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Netherlands Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Norway	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Norway Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Sweden	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Sweden Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Finland	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Finland Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Latvia	BB+	BB+	BB+	BB+	BBB-	BBB-	BBB	BBB
Latvia Foreign	BB+	BB+	BB+	BB+	BBB-	BBB-	BBB	BBB
Lithuania	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB
Lithuania Foreign	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB
Poland	A	A	A	A	A	A	A	A
Poland Foreign	A-	A-	A-	A-	A-	A-	A-	A-
Czech Republic	A+	AA	AA	AA	AA	AA	AA	AA
Czech Republic Foreign	A	AA-	AA-	AA-	AA-	AA-	AA-	AA-
Slovak Republic	A+	A+	A+	A	A	A	A	A
Slovak Republic Foreign	A+	A+	A+	A	A	A	A	A
Austria	AAA	AAA	AAA	AA+	AA+	AA+	AA+	AA+
Austria Foreign	AAA	AAA	AAA	AA+	AA+	AA+	AA+	AA+
Denmark	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Denmark Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Slovenia	AA	AA	AA-	A+	A	A	A	A-
Slovenia Foreign	AA	AA	AA-	A+	A	A	A	A-
Greece	B	CCC	CCC	D	CCC	CCC	B-	B-
Greece Foreign	B	CCC	CCC	D	CCC	CCC	B-	B-
Cyprus	A-	BBB+	BBB	BB+	BB+	BB	B	CCC+
Cyprus Foreign	A-	BBB+	BBB	BB+	BB+	BB	B	CCC+
Iceland	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-
Iceland Foreign	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-
Turkey	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-
Turkey Foreign	BB	BB	BB	BB	BB	BB	BB	BB
Luxembourg	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Luxembourg Foreign	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA