Trustees versus fiscal agents and default risk in international sovereign bonds

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Abstract

Over the last ten years, organisations such as the IMF have launched several initiatives to change market practice with respect to sovereign bond contract drafting to ease restructuring after defaults. The first of these, the universal adoption of collective action clauses, was embraced by the market after some hesitation. Another proposal - the more widespread appointment of trustees to represent bondholders in times of crisis, to centralise enforcement action against the debtor and thus to facilitate debt relief - has so far failed to have the desired impact. Amongst other potential reasons for this failure, the argument has been made that to vest enforcement rights in the trustee, as opposed to individual bondholder rights, would be to reduce the deterrence against opportunistic defaults and thus to exacerbate moral hazard. Using a sample of secondary market bond spreads and information on default status, this paper assesses empirically whether sovereign bonds issued under a trust structure indeed carry a higher default risk. It finds no systematic evidence of either a spread premium or higher actual default rates for bonds with collective enforcement rights.

Keywords: trustee; fiscal agent; sovereign bonds; default; moral hazard; collective action clauses
JEL classification: F34; K12; K33

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1 – Introduction

At the turn of the century, sovereign bond markets were perceived by policy makers and scholars alike to be ripe with problems - and little has changed since to warrant a rethinking of that perception. The problems revolved around the fact that these markets were ill equipped to deal with sovereign default in any satisfactory manner. A series of debt crises during the 1990s showed that sovereign bonds are subject to non-payment and rescheduling much like other classes of debt, but that they lack provisions and procedures to cope with such situations in an efficient and orderly way. This lack of structure has a number of consequences, the most important of which can be summarized under the heading of collective action problems.

Until recently, the majority of sovereign bond contracts - all but those that are governed by the laws of England, Japan or Luxembourg - required the unanimous approval of all bondholders if any of their payment terms were to be amended. Thus, when a sovereign debtor approached its bond creditors to seek a reduction of principal or interest, or a deferral of repayment, this could as a practical matter not be achieved within the constraints of the existing bond contracts. The only viable route to debt relief was therefore to offer the bondholders new securities with more lenient payment terms in exchange for the ones they currently held. Since - leaving aside semi-coercive strategies such as exit consents - participation in a bond exchange is voluntary, these exchanges are vulnerable to various types of strategic behaviour on the part of bondholders. There is an incentive for some creditors to hold out by rejecting the exchange offer and hoping for full repayment under the original terms, thus free-riding on their more cooperative peers who, by agreeing to debt relief, help restore the debtor's ability to pay. As this behaviour is widely anticipated, the bondholders' general preparedness to participate in a proposed exchange is reduced, which serves to prolong the crisis. In the absence of a powerful coordination mechanism, this discrepancy between what is individually rational and collectively desirable creates outcomes that are inferior from the perspective of but a few creditors, and unambiguously harmful to the debtor country and third parties.

To make matters worse, most bonds afford each bondholder the right to largely unconstrained individual and independent legal action against a sovereign debtor in case of default. This litigation option increases the incentive to hold out and may result in a race to the courthouse, a well-known phenomenon in which every creditor attempts to be the first to sue for full repayment at the detriment of all others.

These collective action problems are aggravated by the lack of collective representation. Bondholders usually have no reliable means of communication with each other or with the debtor country, no systematic procedure of representation *vis à vis* the sovereign, for example in restructuring negotiations, and no binding rules that would allow them to coordinate their strategies, e.g. to refrain from engaging in harmful individual action. For various reasons, bonds are much more prone to these problems than other types of sovereign debt, such as bank loans and inter-government debt (Fisch and Gentile, 2004).

In light of these difficulties and to avoid large output losses in the debtor countries following lengthy and agonizing restructuring processes, the international community in many instances felt compelled to provide bail-outs. These subsidized loans shift the burden of the crisis from investors to tax payers both in the donor countries and in the recipient country. They are therefore an unsatisfactory solution on the grounds of equity as well as efficiency because of the resulting moral hazard on the part of the lenders. It is against this background that three major proposals for changes in bond drafting practice emerged from public sector institutions, in particular the International Monetary Fund (IMF), around the year 2002.

The most ambitious of these proposals, which later came to be called the Sovereign Debt Restructuring Mechanism (SDRM), was initiated by the US Treasury in 2001 and then developed by the IMF (Gelpern and Gulati, 2007). The SDRM was known as the statutory approach to sovereign debt restructuring because it envisaged a legal framework that would give troubled debtor countries the option of subjecting themselves to an international analogy to Chapter 11 of the US Bankruptcy Code. The

proposal was greeted with formidable resistance, in particular from market participants, and in consequence was quietly dropped in 2003. Points of criticism included the strong role of the IMF and its potential conflict of interest as both a major lender and a facilitator of the process, the enormous political efforts required to create the necessary legal framework, and the potential for debtor moral hazard because the SDRM was perceived as being soft on borrowers. A number of authors have, however, voiced the suspicion that the SDRM was never intended as a viable solution in the first place, but that instead its purpose was always that of a threat which was to be carried out in case the market did not accept the proposal that was actually favoured by US policy makers (see, for example, Portes, 2003).

This second proposal called for the universal adoption of collective action clauses (CACs) in sovereign bond contracts. CACs break with unanimity by enabling a qualified majority of bondholders, typically 75%, to agree with the debtor country on amending the payment terms of the bonds to provide debt relief. That amendment then becomes binding also for non-participating bondholders. These provisions had already featured in bonds governed by the laws of England, Japan, and Luxembourg, but their effectiveness was limited by the fact that almost all countries continued to issue bonds that required unanimous consent, such as those governed by the laws of Germany and the state of New York. Beginning in the mid-1990s, a growing body of research articles, policy papers and statements by academics and officials emphasized the benefits of CACs and called for their inclusion in all new bond issues. The calls were eventually[1] heard when Mexico made the first publicly noted[2] issue with CACs under New York law in March 2003. Almost all issues in that jurisdiction have followed Mexico's precedent. German law, however, remains the last stronghold of unanimous consent.[3]

Once all outstanding bonds with unanimous consent provisions have matured or have been exchanged, CACs promise to effectively put a stop to holdout behaviour – but only after a restructuring agreement has been reached. From the moment the debtor has defaulted until the resolution of the crisis – a period that may span years – bondholders typically remain unconstrained in exercising their individual legal rights. Moreover, once they have exercised those rights, bondholders are not required to share the proceeds of litigation with their peers, even though the use of sharing clauses was endorsed repeatedly by institutions such as the IMF. CACs in their present form therefore fail to solve collective action problems during a crucial stage of the restructuring process. Furthermore, despite several initiatives, recent bond issues with CACs have made no progress towards addressing the collective representation problem (Drage and Hovaguimian, 2004). This is where the third reform proposal comes in.

It has long been the custom in US corporate bonds, as well as in a minority of international sovereign bonds, to appoint a trustee who will represent the interests of bondholders in their relations with the debtor country. Though market practice is not uniform, the trustee typically has powers to monitor the debtor's compliance with the terms of the bonds, to accelerate the debt in the event of default, to initiate legal action on behalf of, and instead of, the individual bondholders, and to share the proceeds on a *pro rata* basis. The appointment of a trustee thus constitutes an obvious complement to the use of CACs and a feasible and suitable solution to the remaining collective action problems.

The benefits of channelling bondholder action and communication through a trustee have been stated repeatedly for almost 30 years (Smart, 1982; Goodall, 1983; Herbert, 1987; as well as numerous more recent publications by the IMF, the Bank of England, and practitioners such as Lee Buchheit). The increased use of trustees first appeared on the policy agenda in a report by the G10 Working Group (Group of Ten, 1996), and was picked up and reiterated by the IMF staff (IMF, 2002, 2003), amongst others. Meanwhile, as will be shown in more detail below, new bond issues have not relied on trust structures to the extent that their proponents would like to see.

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[1] For potential reasons for the delayed market reaction, see Gelpern and Gulati (2007) and Häseler (2009).

[2] Gugiatti and Richards (2004) and Gelpern and Gulati (2008) document a number of sovereign bond contracts from before 2003 that include CACs despite being governed by New York law.

[3] To erase the doubts about the admissibility of CACs under German law (Häseler, 2009), a reform of the *Schuldverschreibungs-gesetz* (indenture law) was enacted on August 5th, 2009. Whether or not there will be any impact on market practice is difficult to say because only a single bond has been issued under German law since 2004, according to the dataset used in this study.

Häseler (2008) discusses several potential reasons for this lack of progress. Among them is the perception that bondholders' individual enforcement rights provide an essential deterrent against opportunistic sovereign defaults, and that the reallocation of enforcement rights to a trustee would in consequence destroy this deterrent and thus cause a deterioration of market discipline. This view has been expressed both by academics (Fisch and Gentile, 2004; Bedford, 2005) and by practitioners (Chamberlin, 2002).[4] While Häseler (2008) examines the market reaction over time to an event that reveals investor's attitudes towards collective enforcement rights more generally, this paper focuses specifically on the question as to whether bonds with collective enforcement rights – those governed by trust structures – are perceived as being in greater risk of default. This question is addressed for the first time through a number of tests based on a cross-section of international sovereign bonds. Using the literature on borrowing costs effects of collective action clauses as a starting point, this paper applies that literature's methodology to trustees and expands on it by presenting additional empirical approaches. While Fisch and Gentile (2004) propose a similar research agenda, this is, to the best of our knowledge, the first implementation.

The paper proceeds as follows: The next section sets out more clearly the implications for enforcement rights of trust structures as compared to their alternative, fiscal agency agreements. Section 3 describes the dataset and presents some descriptive statistics on sovereign bond issuing practice which supplement the earlier literature on collective action clauses and trustees. Section 4 is dedicated to the empirical methodology and results. Section 5 concludes.

2 – Trustees versus Fiscal Agents

Governance Structure and Enforcement Rights

This section introduces the term 'governance structure' to denote the way a sovereign debtor's relations with its creditors are organised. The governance structure of a bond can take three forms - trust deed, trust indenture, or fiscal agency agreement only - and determines certain aspects of the communication between debtor and bondholders, the representation of bondholders, and the set of rights that bondholders enjoy, either individually or collectively, in dealing with the debtor country. We will show that the three governance structures provide a menu of choice between the extremes of individual and collective action, the latter having important advantages both during a crisis and in times of normal debt service. The exposition will be brief since the differences between trust structures and fiscal agency agreements have been covered in depth elsewhere.[5]

Most sovereign bonds are subject to a fiscal agency agreement. When issuing the bond, the debtor appoints a fiscal agent, typically a bank, to perform a set of largely administrative functions, in particular to receive payments of interest and principal from the debtor for distribution to the creditors, but also to distribute and register the bonds themselves and to relay information from the debtor country to the bondholders. The fiscal agent serves solely the issuer and bears no obligation towards the bondholders, except that all monies received from the debtor are held in trust for them. Importantly, under a fiscal agency agreement each bondholder retains the right to contractual remedies in the event of a default. This includes the right to accelerate their claims under certain conditions, such as a missed interest payment, and to initiate legal proceedings against the debtor. In some cases, however, acceleration requires a vote by the holders of a certain proportion of the principal.

[4] In correspondence with the author, Michael Chamberlin, Executive Director of the Emerging Markets Traders Association, said, "My personal view is that market discipline and individual rights of action are important protections for investors."

[5] See, for example, Horn (1972), Smart (1982), Goodall (1983), Pergam (1985b,c), Herbert (1987), Buchheit and Gulati (2002), Häseler (2008, 2009).

Instead of, or in addition to, the fiscal agent, the issuer may appoint a trustee to represent and protect the interests of the bondholders.[6] The trustee will take over most enforcement powers from the individual bondholders, the details depending on whether the trust is created under English law (trust deed) or US law (trust indenture). The trust concept is not recognised or used in most other jurisdictions.

The English-style trust deed is a contract between the issuer and the trustee which specifies the extensive ways in which the trustee is obliged to serve the interests of the bondholders. The trustee has both the power and the duty to monitor the debtor's compliance with the terms of the instrument, and to take remedial measures in case the debtor fails to meet its contractual obligations. The trustee may act either on its own initiative or when instructed to do so by the required proportion of bondholders. The right to accelerate the debt and to initiate legal proceedings against the debtor rests exclusively with the trustee, rather than with the individual bondholders, and the proceeds from litigation will be shared among the bondholders on a pro rata basis. An exception lies in the case where the trustee fails to take action despite being prompted to do so by a certain percentage of bondholders. Only then will the individual bondholders redeem the right to accelerate and enforce their own claims as they would under a fiscal agency agreement.

New York-style trust indentures generally follow the requirements of the US Trust Indenture Act of 1939, even though the act applies only to corporate bonds. The Act stipulates that "each bondholder has an unqualified right to bring an individual enforcement action to recover her share of any amounts of principal and interest not paid on their respective due dates. Apart from this individual right to recover overdue amounts, however, only the trustee has the right to pursue other remedies, including the important right to sue for accelerated amounts" (Buchheit and Gulati, 2002, pp. 15). Unlike the trust deed, the trust indenture does not imply a sharing requirement. Thus, trust indentures constitute a middle ground in terms of enforcement rights between the extremes of fiscal agency agreements and trust deeds.

Despite the differences, trust structures of either description share a set of advantages over fiscal agency agreements. Herbert (1987) stresses the greater flexibility of trustees in dealing with changing circumstances. The trustee may consent to minor changes in the debt instrument and even waive breaches of the contract terms, which might otherwise trigger acceleration or legal action, as long as the interests of the bondholders are not 'materially prejudiced'. Pergam (1985c) highlights the trustee's ability to call a meeting of bondholders, something which the fiscal agent cannot typically do. Not least in this sense, trust structures complement collective action clauses. According to Goodall (1983), an additional benefit lies in the fact that all funds received by the trustee from the debtor are held in trust for the bondholders, whereas funds held by a fiscal agent for the same purpose can be used to settle any debts of the issuer.

Arguably the greatest advantage, however, is the trustee's ability to restrain individual bondholder action. And it is here where, according to Buchheit and Karpinski (2006, p. 230), US-style trust indentures fall dramatically short of their English counterparts: "[I]f individual holders are free to bring their own lawsuits to recover their share of missed payments, then a Hobbesian state of nature is created among the bondholders." Only a trust structure according to the English pattern can completely eliminate the well-documented risk of a 'race to the courthouse' where bondholders use whatever individual enforcement rights they possess to satisfy their claims while the efficient approach to crisis resolution clearly demands coordination both among the bondholders as well as with the debtor country. By suppressing selfish and premature individual enforcement of the bonds, trust deeds provide greater protection both for investors, but also for the issuer, who will be spared a multiplicity of actions.

These benefits of bond enforcement through a trustee naturally refer to a trustee who does not hesitate to make use of the powers vested in him, and whose powers are properly specified in the first place. Buchheit and Gulati (2009) point out the tendency of bond drafters to dilute the standard of care that the trustee must exercise in representing the bondholders and the dire consequences for debt enforcement.

[6] See Horn (1972) and Herbert (1987) on the nomenclature of, and interaction between, fiscal agent and trustee when both are present in a sovereign bond issue.

The added services of a trustee naturally come at a cost, which is borne by the issuer. Yet, at "a few thousand dollars a year" (Lee Buchheit) or "a basis point or two" (Smart, 1982, p. 18), the difference relative to a fiscal agent is rather moderate. For borrowers who are most unlikely ever to default, all that needs to be done is to distribute payments of interest and principal, and that is achieved more cheaply by a fiscal agent (Smart, 1982; Goodall, 1983). As soon as default becomes a real possibility, however, most scholars would agree that a country is well advised to issue new bonds under a trust structure, and in particular one with collective enforcement rights only. And in fact there are signs that market practice may begin to move in that direction. Following the advice of Lee Buchheit on behalf of Cleary Gottlieb Steen & Hamilton LLP, "Grenada (in 2005) and Belize (in 2007) have issued New York-law bonds under US-style trust indentures that lodge all enforcement powers in the trustee, similar to an English trust deed. This represents a significant convergence of English trust deed and US trust indenture documentation practices" (Buchheit, 2007, p. 2). The Republic of Congo also issued bonds under a trust indenture but with full collective enforcement rights in December 2007.

Deterrence

As noted before, it has been argued that bondholders' individual enforcement rights provide an essential check on the borrowers' inherent ability to discontinue debt service as they see fit. An English-style trust deed, by contrast, is the governance structure which is perceived as being the least likely to produce creditor litigation. The trustee may elect not to react upon a breach of the bond contract, and several authors have in fact noted a certain tendency for trustees to move against the debtor only when obliged to do so.[7] A trustee is also much easier for the debtor country to deal with in the case of default, making the prospect of creditor reaction to default yet more bearable, as compared to individual creditor rights. In section four, this paper thus tests the hypothesis of a systematic relationship between governance structure and default. According to the hypothesis, trustees, and in particular those of the English variety, are not as effective as individual bondholder action in deterring default.

This deterrence view of enforcement rights is open to scepticism. It appears to rest on a set of specific assumptions about the debtor's motives to default (Häseler, 2008). First, deterrence can play a role only if the debtor has some discretion over the continuation of debt service. If most defaults arise out of genuine distress, then there little scope for deterrence, except perhaps in the policies that lead up to the distress.[8] Second, even if the debtor has a choice, the hazard of creditor litigation is only one of many looming costs of default, which also include loss of reputation and consequently higher borrowing costs, negative effects on economic growth, political or trade sanctions, and so on. Third, debtors often default on several classes of debt at once (Pergam, 1985a), which further reduces the importance of the threat of legal action from one particular class of creditors.

Moreover, assuming for the sake of the argument that the prospect of bondholder action does tend to deter defaults, it is by no means clear that a regime of individual enforcement rights will give rise to more of such action. Given returns to scale and externalities in litigation, it may well be that a trustee will initiate legal proceedings when no individual bondholder would. This is because for smaller claims the costs of going to court will outweigh the potential gains and because the costs of legal action under a fiscal agency agreement are purely private whereas the benefits in terms of disciplining the debtor are partly public in nature.[9] Evidently, theoretical considerations on the deterrence effect of individual enforcement rights are inconclusive, which is why we turn to empirical data in the next two sections.

[7] As Michael Chamberlin said in correspondence with the author: "Trustees are notable for their caution, occasional incompetence and being subject to institutional constraints (need indemnities, may have conflicts of interest or be subject to political suasion) that make them less effective as litigants than individual holders." See also Goodall (1983, p. 2): "[I]nvestors often complain that trustees do not act positively enough." Buchheit and Gulati (2009) document the case of a "bovinely passive trustee" who failed to safeguard creditor rights in Ecuador's recent default in 2008.

[8] Buchheit and Gulati (2009) provide an account of Ecuador's said default, which was clearly not of the distress type.

[9] These arguments are developed more fully in Häseler (2008).

3 – Data

Sources

The basis of this study is the universe of international[10] sovereign bonds whose information was available for download from the Bloomberg[11] database on March 5th, 2009, including matured and recalled bonds. In contrast to most of the existing literature, the data is not restricted to emerging market economies. The advantage of including the whole range of credit ratings is - besides the greater sample size - that the resulting increase in variation in some of the variables will produce better estimates.

Figure 1 shows the rating composition of a typical sample used in the regressions below. While, relative to earlier studies,[12] the rating range is extended on the left by about one third, less than 15% of the bonds in the sample fall in that part of the spectrum.

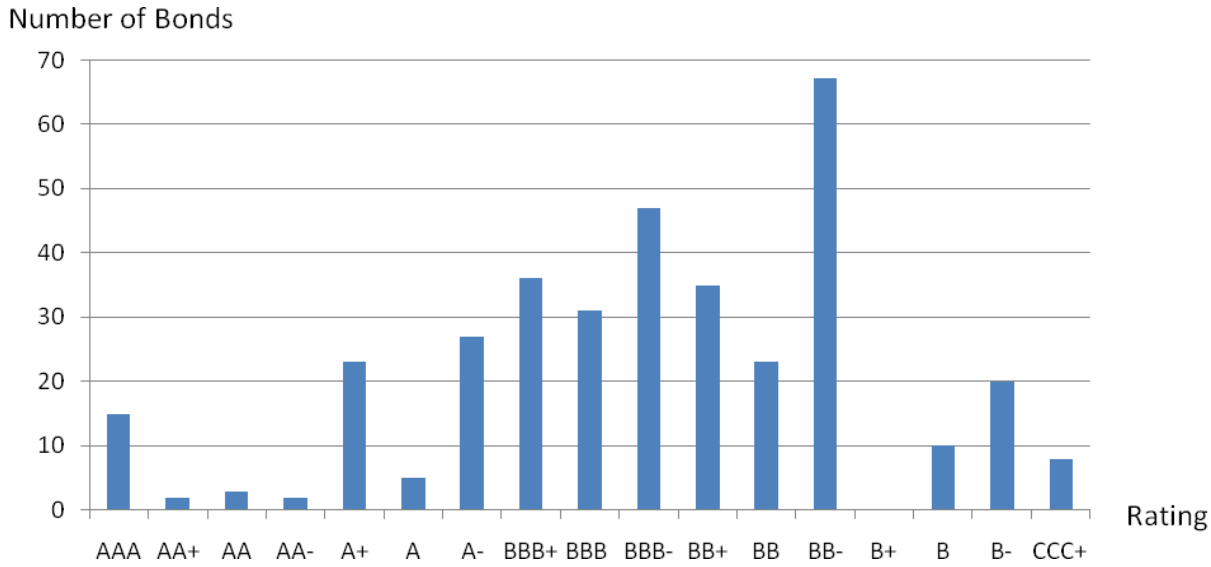

Figure 1: Rating composition of a typical sample

The download encompasses a total of 3941 bond issues; however, depending on the subject of analysis, only a few hundred bonds feature all the required information. The download information was supplemented with details from the prospectuses, where available, in order to increase the sample size for bonds with rare characteristics, in particular defaulted bonds that were issued under trust deeds. A sample of the data comprising 20 bonds was checked for accuracy with respect to governance structure by comparing the downloaded information with the prospectuses. No deviations were found. Issue sizes were converted into dollar amounts using exchange rates from www.oanda.com. Relying primarily on Standard and Poor's figures, ratings were converted to a numerical scale, where a high value corresponds to high default risk. Blanks were filled with the help of Moody's ratings or on the basis of the fact that all bond issues by a particular country almost always receive the same rating.

[10] Bloomberg's definition of "international" refers to the bonds that are issued on non-domestic markets. For the purpose of this study and throughout the literature, "international" means that the bonds are governed by laws other than those of the issuing country. Adjustments were made to account for the difference in definitions.

[11] Besides Bondware, Bloomberg is the standard source of bond information in the literature. Becker et al (2001) and Gugiatti and Richards (2003) obtain details such as governing law and ratings from Bloomberg. All data is available upon request.

[12] For example, Becker et al (2001) use only bonds from countries rated A1/A+ or below.

Before turning to the analysis proper, some descriptive statistics will be derived from this sample to expand on the figures that are available in the earlier literature on governance structure and collective action clauses, respectively.

Governance Structure

The literature contains fairly detailed figures on the use of collective action clauses both over time (e.g., Bradley et al, 2008) and across jurisdictions (IMF, 2003). Comparable figures on governance structure are, however, difficult to find. Any information provided is usually of a rather vague nature, such as "trust structures are common under English law". The dataset collected for this study provides a good opportunity to close that gap. It must be noted, though, that the statistics below cover only about 40% of all bond issues during the respective period due to the limited availability of information, in particular with respect to governance structure and governing law.

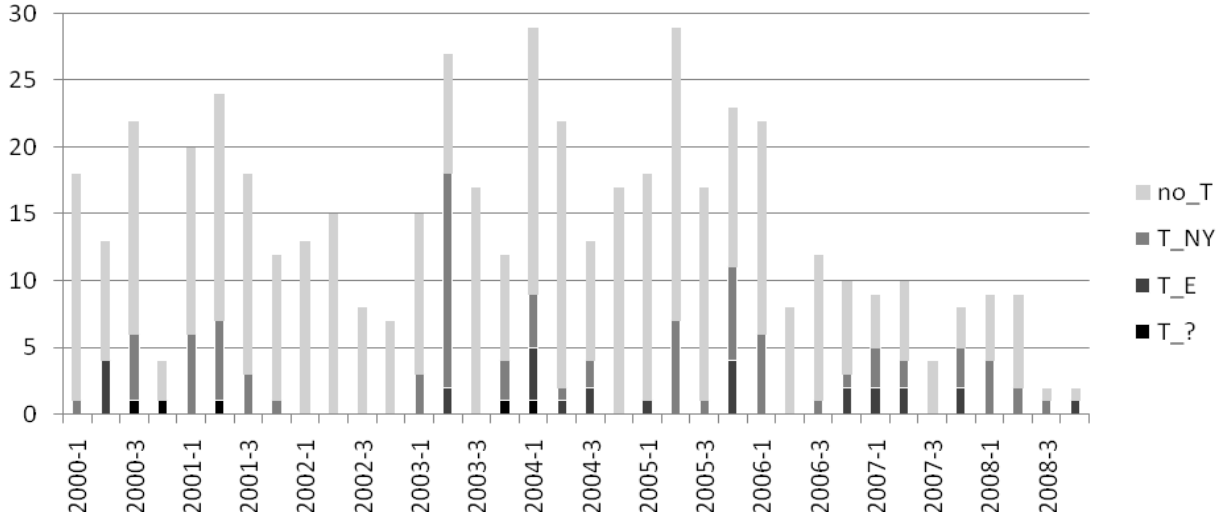

Figure 2: Number of bond issues per quarter with and without trustees

Figure 2 shows the number of bond issues per quarter over the last eight years and the associated governance structures. "no_T" refers to bonds that were issued under fiscal agency agreements only; "T_NY" means trustee and New York governing law; "T_E" means English-style trust deed; "T_?" means trust structure but unknown governing law. Two things should be noted at this point. First, throughout the analysis, a bond that is labelled as having a trust structure may or may not also have a fiscal agent. It is the presence of a trustee, rather than the fiscal agent, that determines the nature of enforcement rights. Second, a number of bonds are listed as T_E even though they are in fact governed by the laws of New York. This applies to two bonds issued by each of Belize and the Congo, and three bonds issued by Grenada, all of which concentrate enforcement rights in the trustee to the same extent as they would under English law, as mentioned in section two.[13]

The chart shows that in all but three quarters, the majority of bond issues feature no trustee. Among those that do have collective representation, trust indentures are far more common than trust deeds. This is not to say that issuers dislike the stronger version of collective enforcement rights in trust deeds; it may

[13] If the markets care about such subtle differences in contract terms, they will be aware of them, given the coverage in trade publications (Buchheit, 2007). The impact of this re-coding on the subsequent regressions is, however, negligible because at most two of such bonds carry sufficient information to be included in any given regression.

simply reflect the fact that New York is the more popular choice for governing law. In fact, the proportion of bonds that is issued under a trust structure is quite similar in the two jurisdictions: 24% in England versus 28% in New York.[14] This finding is at odds with an impression that is sometimes conveyed in the literature, according to which trustees are more popular in England than in the US where there is a stronger emphasis on individualism.

Trustees were not used in any other jurisdiction in this dataset, except for one notable exception: Morgan Stanley Bank AG acted as trustee for a Zloty-denominated bond that was issued under German law by the Federal Republic of Austria on June 11th, 1997, even though trust structures are generally thought not to be recognised by civil law jurisdictions.[15]

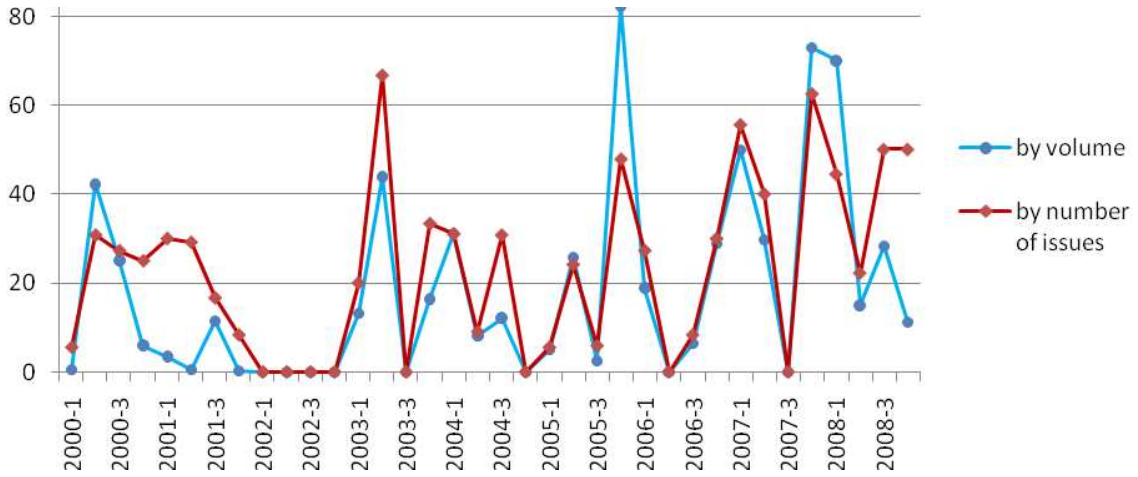

Figure 3: Percentage of bonds that were issued under a trust structure

Figure 3 more clearly shows the development of trustee usage (under either governing law) over time. The breakup by volume and by number of issues is almost identical because bonds with and without trustees differ in issue size by no more than 5% on average. The graph suggests a slight upward trend. However, variability over time remains high. Thus, the data are in accordance with Buchheit's (2007, p. 2) statement that there "has been a noticeable shift toward the use of trust structures in sovereign bond issuances over the last few years." Alas, trustees remain far from becoming the market standard.

The data also allow us to probe the question as to what kinds of countries issue under trustees. The previous section offered some thoughts on costs and benefits of trust structures in relation to default risk, and suggested that trustees are particularly advisable for low-rated borrowers. The data in fact confirm the theoretical considerations.

Table 1 shows summary statistics for all bonds whose governance structure (trustee / no trustee) is known. Standard & Poor's ratings were converted to numerical values, where large numbers refer to higher default risk. Bonds with trustees are associated with a higher default risk than those without. The difference in sample means is significant at standard confidence levels.

[14] This refers to all bonds issued between 2000 and 2008 whose governance structure could be ascertained.
[15] See, for example, Liu (2002) or Group of Ten (2002). According to Horn (1972), trustees do exist under German law, but their functions are much more limited than under English or New York law.

	no Trustee	Trustee
No. of Bonds	298	59
Mean Rating	9.81	11
Variance	13.69	12.45
t-test statistic	2.348	

Table 1: Average rating of bonds issued with and without trustees

Statistical association of course has nothing to say about causation and in particular about the direction of causation. As with collective action clauses or governing law (Becker et al, 2001), there is no indication that rating agencies consider the presence of a trust structure as a risk factor in a bond. Thus, if there is causation, it must run from a country's credit quality to its choice of governance structure.

Collective Action Clauses

Though collective action clauses are not the primary subject of this article, the present dataset provides a valuable opportunity to check some of the stylised facts that appear to be widely accepted in the literature. Two bond characteristics are of interest here, use or non-use of CACs (as reported by Bloomberg), and governing law. These two pieces of information are available for a sample of 483 bonds, with issuing dates going back to 1983. The split in terms of governing law is 1:7:9:137:329 bonds under French, Japanese, German, English, and New York law, respectively. Relative to figures reported elsewhere, the absence of Luxembourg law is notable, as is the marked predominance of New York law. Unsurprisingly, none of the small number of German law bonds feature CACs.

According to the stylised facts, both English and Japanese bonds contain CACs, while bonds that are governed by the laws of New York did not contain CACs prior to 2003. These statements are sometimes modified through the use of words such as "traditionally", "usually" or "typically", or through reference to "the market standard".[16] The first half of the empirical literature on CACs[17] relied on these "facts" almost unquestioningly, inasmuch as governing law was used as a proxy for the presence of CACs, whose actual use or non-use was much more difficult to ascertain. The present data indicate that this reliance was unwarranted, and even more so than has been stated previously.[18]

First, none – rather than all – of the Japanese law bonds in the sample contain CACs. This observation is diametrically opposed to common wisdom. Even though at seven, the number of bonds is very small, and even though we have information on only about 10% of all bonds in the dataset, the complete absence of CACs in these few bonds creates at least some discomfort with the view that "all" or "most" Japanese law bonds contain CACs.

Second, the use of CACs is the standard under English law to a far lesser extent than many publications would have the reader believe. Figure 4 below shows that in most years since 2000, the majority of English law bonds did not contain the clauses. In fact, only about 28% of all bonds on which information is available allow for collective action. This is nowhere near "the market standard". And since the number of bonds which this observation is based on is much larger than with respect to the Japanese law bonds, it is possible to say with some confidence that the common perception about issuing practice under English law needs to be revised.

[16] Virtually all publications on collective action clauses contain global statements such as these, for example Liu (2002), IMF (2002, 2003), and Gugiatti and Richards (2003).
[17] This includes the papers by Tsatsaronis (1999), Eichengreen and Mody (2000), and Becker, Richards, and Thaicharoen (2001).
[18] Gugiatti and Richards (2004) and Häseler (2009) remark that the correlation between governing law and CACs is less than perfect.

Third and last, collective action clauses were more prevalent under New York law before 2003 than is commonly thought. Several authors have already documented that Mexico's issue in March of that year was not the first to make use of the clauses in that jurisdiction. Liu (2002, p. 7) mentions "at least one case" of majority restructuring provisions under New York law. Gugiatti and Richards (2004, p. 6) identify "five emerging market sovereign issuers [Bulgaria, Egypt, Kazakhstan, Lebanon and Qatar] that have issued bonds into the international market under New York governing law but which nonetheless include CACs." The authors estimate the total face value of such bonds to be around $11.9 billion. Finally, Gelpern and Gulati (2008, p. 5) mention "examples of CACs in New York law paper going back to 1983" but unfortunately do not provide any clues as to the identity of these securities.

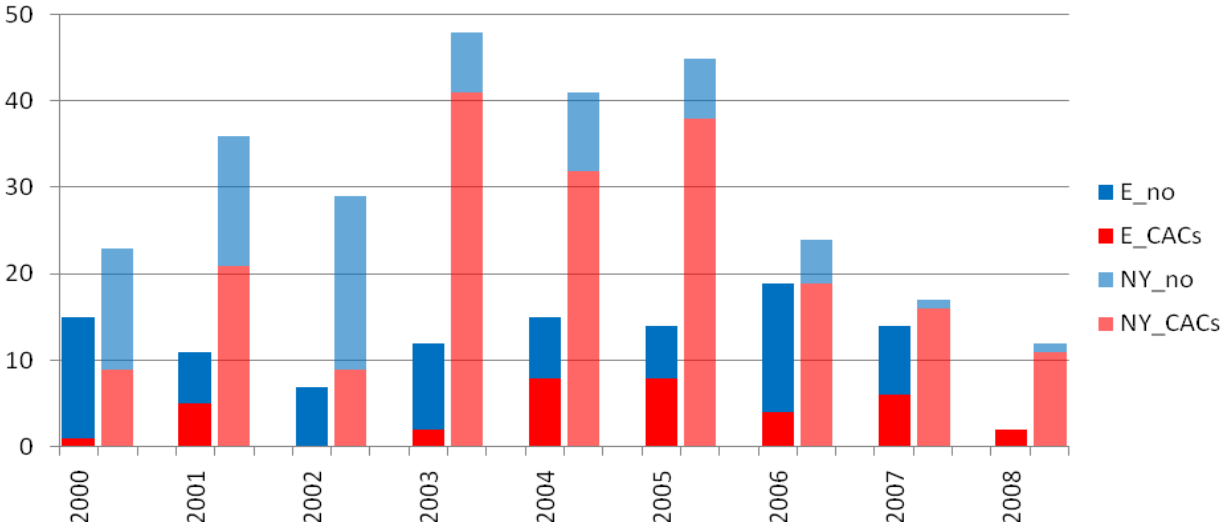

Figure 4: Number of bonds issued by governing law and presence of CACs

The Bloomberg data reveal a picture that is even more strongly at odds with the stylised facts. As shown in figure 4, already in 2001 more than half of all issues under New York law contained CACs. In total, 21 countries issued 67 bonds with CACs despite being governed by New York law before March 2003. The overall issue size amounts to more than $95bn – eight times the amount found by Gugiatti and Richards (2004). Such issues have occurred regularly from 1996 onwards, but also before: Italy in 1993 and New Zealand in 1986. The difference to the existing literature cannot be explained solely by the fact that this sample includes issues by all countries, rather than merely emerging markets, because these figures include only five bonds by two non-emerging market issuers, totalling a mere $8bn in face value.

The implications of these findings are twofold. Firstly, general statements about the use of CACs in certain jurisdictions are hardly tenable. Secondly, yet more weight should be given to the criticism of the early empirical literature on CACs (1999 to 2001), which equated governing law with the use or non-use of CACs. Given the above evidence on 'irregularities' under Japanese, English, and New York law, it seems likely that those early studies misclassified more than 20%, but perhaps up to one third, of all bonds in their samples. In light of the often shaky coefficient estimates, coding errors of such magnitude can tip the results either way in an unpredictable manner.

4 – Methodology and Results

This section presents two alternative approaches to assessing any potential deterrence effect of individual enforcement rights. First, we extend the methodology of the literature on collective action clauses to test for secondary market spread differentials between bonds issued under trust structures versus fiscal agency agreements. Subsequently, we depart from previous research by testing directly for an effect of governance structure on the incidence of defaults.

Spread Differentials

There was at the beginning of the millennium a controversy as to whether the presence of collective action clauses in a sovereign bond is associated with higher spreads, i.e. higher borrowing costs. If it were, it would be very difficult to persuade sovereigns to include the clauses in new bond issues. It took a sizable body of research to convince the market, as well as academia and the public sector, that CACs do not give rise to higher spreads.[19] Such evidence does not yet exist with respect to governance structure. To show whether the appointment of a trustee increases borrowing costs may help the reform efforts to increase the use of collective enforcement structures.

Spread differentials are also a good approximation of our true variable of interest, default risk. While spreads also reflect other factors, such as liquidity and exchange rate risks, default risk is by far the most important component. A more direct test of default risk follows towards the end of the section.

We proceed as follows. The dependent variable consists of the difference in basis points between a bond's yield-to-maturity and the yield on a matching risk-free bond of the same currency and comparable maturity. Logs are taken in accordance with standard practice in the literature. The independent variables of interest relate to governance structure. The presence of a trustee under English and US law, respectively, is assigned a dummy variable each; fiscal agency agreements constitute the omitted category. The dummies are constructed from the information that is available in the Bloomberg database: the governing law of a bond and the name of the trustee or fiscal agent. Bonds that were reported as having a trustee were coded as such, regardless of whether or not a fiscal agent was also mentioned, for the reasons given above. In parts of the analysis, the distinction between English and US-style trustee is dropped to preserve a sufficiently large number of bonds with a given set of characteristics.

The trustee dummies were added to the regression only once a baseline model with a reasonably good fit was found so as to resist the temptation of adding controls according to their effect on the coefficients of interest. When control variables are added, the availability of information limits the sample size to around 300 observations. Again as before, some observations were adjusted to reflect the full collective enforcement rights in a number of Buchheit-advised New York law bonds, i.e. they were coded as being governed by an English trust deed. The peculiar Austrian law bond mentioned previously was omitted, as were a few bonds with negative spreads.

As for the control variables, credit rating has by far the greatest explanatory power. Further controls which were used in some but not all specifications include the bid-ask-spread as a proxy of liquidity, total duration, remaining time to maturity, dollar amount outstanding, and sets of dummies for the market of issue, maturity type, the presence of options, and the use of collective action clauses. Finally, this particular dataset necessitates an additional dummy variable, which we term MINOR_CURRENCY. A few bonds are issued in currencies whose home countries are associated with considerable default risk. In those cases, Bloomberg's measure of spreads is distorted; it does not reflect the risk of that particular bond but rather the difference to some other risky asset. For example, a bond issued by the Federal Republic of Austria in Turkish lira is much less likely to be in default than the benchmark bond by the

[19] The most important contributions to that literature are discussed in Häseler (2009).

Turkish government, which results in a spread that is biased downwards. The dummy variable MINOR_CURRENCY captures this handful of cases.[20]

Baseline regressions

The first set of regressions is done in simple log-linear ordinary least squares, without regard to any potential issues of endogeneity. Except for the omissions mentioned above, the sample includes all bonds that feature the required information and that were not in default at the time of download.[21] The resulting sample size is 355 bonds.

Dependent Variable: LOG(SPREAD)				
	Model 1	Model 2	Model 3	Model 4
CONSTANT	4.375*** (0.125)	4.365*** (0.129)	4.365*** (0.125)	4.357*** (0.165)
BID_ASK_SPREAD	0.222** (0.071)	0.212** (0.071)	0.199** (0.073)	0.186** (0.076)
RATING	0.237*** (0.028)	0.236*** (0.028)	0.238*** (0.028)	0.232*** (0.036)
RATING^2	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.004** (0.002)
MINOR_CURRENCY	-3.059*** (0.207)	-3.069*** (0.206)	-3.077*** (0.207)	-3.085*** (0.206)
GLOBAL	-0.248*** (0.056)	-0.245*** (0.056)	-0.242*** (0.056)	-0.189*** (0.062)
CALL	0.223*** (0.138)	0.213 (0.138)	0.198 (0.139)	0.25* (0.149)
REPO	-0.11* (0.061)	-0.101* (0.061)	-0.101* (0.061)	-0.151** (0.067)
TRUSTEE		0.118* (0.069)		0.16** (0.073)
TRUSTEE_ENGLISH			0.24 (0.157)	
TRUSTEE_NEW_YORK			0.095 (0.074)	
CACS				-0.092 (0.063)
Observations	355	355	355	308
adj. R^2	0.676	0.678	0.678	0.688
10%-level (*), 5%-level (**) and 1%-level (***) level of significance, two-tailed test. Heteroskedasticity-consistent standard errors in parentheses.				

Table 2: Baseline OLS regressions for spreads

Table 2 summarises the results of some baseline regressions for spreads. Model 1 includes all control variables whose coefficients are statistically significant at standard confidence levels. GLOBAL, CALL,

[20] Becker et al (2001) omit such 'exotic' bonds from the sample. It is probably best to include them as long as their particularities can be reasonably well modelled.

[21] The spread on a bond in default, tautologically, does not reflect default risk. Such bonds are therefore excluded from this part of the analysis.

and REPO are dummy variables for bonds that were marketed globally, have call options attached to them, or have been partly redeemed by the issuer, respectively. The model is able to explain almost 70 per cent of the variation in spreads. The coefficients are fairly robust to the inclusion of additional controls and to specification changes. Model 2 then introduces a dummy variable for the presence of a trustee under either governing law. While the incumbent coefficient estimates are hardly affected, it appears that bonds with trustees carry somewhat higher spreads than those with fiscal agency agreements only, though the difference is barely significant. The point estimate would suggest that bonds which are subject to trust arrangements trade at an eleven per cent spread premium. For a country with an average credit rating like Brazil, this would imply a spread premium for bonds with trustees of 10 to 15 basis points. However, the results cannot be relied upon given the large standard error. Through the inclusion of a dummy variable for governing laws under which trustees may be used (only English and New York law in this sample), it can be shown that the trustee effect is not simply attributable to governing law since the coefficient on that dummy is insignificant whereas the coefficient on trustees remains largely unchanged.

In model 3, a distinction is made between trustees under English versus New York law. Again, none of the other variables are materially affected, and neither of the trustee coefficients is anywhere near statistical significance. Interestingly though, the results suggest that the spread premium is larger for English law trustees than for their American counterparts. This is what one would expect if it were true that trust structures entail a higher default risk because of the reduced threat of disciplining litigation. According to that view, American trust indentures are the lesser of two evils.

Finally, in model 4 a further dummy variable for the presence of collective action clauses is introduced. Due to the limited availability of information, the sample is now restricted to 308 bonds. Even in this subsample, the coefficients on the controls remain virtually the same, which speaks once more for the robustness of this set of regressions. The coefficient on collective action clauses is negative but the standard error is too large to rely on the estimate, which would suggest a reduction of spreads by less than 10 basis points. The coefficient on trustees (of either description), however, turns significant at the 5%-level in this specification.

As a final exercise with this set of regressions, the dependent variable was modified somewhat so as to make it more amenable to the default risk interpretation which was originally intended. If, besides default risk, spreads reflect liquidity and a number of other less important factors, then stripping them of the liquidity component will give greater weight to default risk in the variable that results from this transformation. In practical terms, spreads were regressed on the bid-ask-spread as the commonly accepted proxy for liquidity, raised to the first, second and third power. The residuals from this auxiliary regression then become the new dependent variable to replace the log of spreads in the baseline regressions. At least with respect to the trustee coefficients, the results are almost identical to those obtained previously and are therefore not reported.

Sample selectivity

Due to missing information, in most of the regressions throughout this study the sample size amounts to less than 10% of the bonds that were downloaded, which may in term constitute but a sample of the universe of international sovereign bonds. There is thus a possibility that the estimated relationships are not representative of the wider population of bonds; in other words, they could be biased.

The unavailability of information, and thus the selection of the samples, is presumably non-random. Yet, such non-randomness by itself need not cause bias. There would have to be some factor, call it X, that is on the one hand correlated with the availability of information and, on the other hand, with the relationships under investigation, i.e. with the effect of governance structure on default risk. X would have to exhibit both of these properties to create a potential for bias. The former of these is not easily tested; the latter, by contrast, is. We simply add to the baseline regressions interaction terms involving governance structure and all plausible candidates for X to check whether the impact of governance structure changes as X varies. The availability of information might conceivably be correlated with rating,

issue size, global issues, private placements, or duration. The results indicate that none of these variables interact significantly with governance structure or with the presence of collective action clauses.

This is the econometric approach to addressing selectivity concerns; however, there is also a practical approach. Conversations with Bloomberg staff revealed that the availability of information depends primarily on whether Bloomberg is in possession of the bond documentation, in particular the prospectus. This in turn depends on circumstances which are utterly unrelated to the moral hazard effects of collective enforcement. On practical as well as on empirical grounds, we may therefore conclude with some confidence that the danger of sample selection bias is quite limited.

Fixed effects regressions

So far, the econometric sophistication of the analysis is at the level of Tsatsaronis (1999), the first systematic empirical study on collective action clauses. Eichengreen and Mody (2000) then drew attention to the issue of endogeneity, which therefore every subsequent study had to address in some way or other. The authors fail to explain the problem in any detail, but the reasoning goes along the following lines: The presence of collective action clauses, as proxied by the choice of governing law, is endogenous to the model because issuers plausibly make a conscious choice regarding the clauses, based on their own creditworthiness. Consequently, there is the potential for two-way causation between spreads and the variable of interest. The very same considerations apply to the present analysis, given the good reasons for issuers to choose the governance structure according to their credit rating, as discussed above.

Eichengreen and Mody's response to endogeneity concerns is to run an instrumental variables approach. In a first step, the choice of governing law is modelled, and the predicted values of that regression are then plugged into the spread equation instead of the true values. This approach was heavily criticised by Becker et al (2001) on several grounds. The authors argue that endogeneity is not that serious a problem and is therefore perhaps best left uncured. If any correction for endogeneity is to be made, then the instrumental variables approach is not the best choice because it tends to inflate the parameter estimates. Becker et al instead favour fixed effects estimation.

The idea behind this solution is to introduce fixed effects at the country level by assigning a dummy variable to each (but one) issuer. Thus, any influences on spreads that are specific to the issuer are held constant so that the focus can be placed on spread differentials between bonds with and without a certain trait for a given set of issuer characteristics. Fixed effects is also the preferred method in our analysis because the instrumental variables approach is costly in terms of data requirements and yet crude unless a very good instrument can be found. Fixed effects implies excluding countries that have persistently issued either with or without trustees. In the present dataset, we are then left with 22 countries with a total of 236 bonds. A distinction between trustees under English and New York law can no longer be made as the number of relevant bonds is too small (9 and 44 bonds, respectively). Table 3 below shows the results.

Dependent Variable: LOG(SPREAD)						
	Model 1		Model 2		Model 3	
CONSTANT	7.96***	(0.21)	7.999***	(0.204)	8.039***	(0.209)
MINOR_CURRENCY	-0.995**	(0.471)	-1.001**	(0.48)	-1.007**	(0.475)
MINOR_CURRENCY* BID_ASK_SPREAD	-0.76***	(0.287)	-0.744***	(0.286)	-0.77***	(0.29)
GLOBAL	0.094*	(0.049)	0.1**	(0.049)	0.219***	(0.043)
SINKABLE	-0.288***	(0.1)	-0.279***	(0.1)	-0.295**	(0.127)
DURATION	-0.019**	(0.008)	-0.02**	(0.008)	-0.026***	(0.01)
TIME_TO_MATURITY	0.025***	(0.008)	0.026***	(0.008)	0.032***	(0.01)
TRUSTEE			-0.067	(0.048)	0.002	(0.043)
CACS					-0.104**	(0.047)
Obs.	236		236		204	
Adj. R^2	0.88		0.881		0.886	
10%-level (*), 5%-level (**) and 1%-level (***) level of significance, two-tailed test. Heteroskedasticity-consistent standard errors in parentheses. 21 country dummies are not reported.						

Table 3: Fixed effects regressions

The 21 country dummy variables are all strongly significant, individually as well as jointly, but are not reported here. A regression on the dummies alone is able to explain more than 76% of the variation in the log of spreads. Model 1 adds a number of control variables to yield a very high adjusted R^2 of 0.88. The set of controls differs somewhat from the baseline regressions. The duration of a bond, time to maturity, and a dummy for sinkable bonds now add significantly to the explanatory power of the model. The rating variable is no longer useful because bonds from a given country almost always carry the same rating.

Trustees are introduced in model 2. As opposed to the baseline regressions, the coefficient is negative though far from significant. When collective action clauses are introduced as a further control variable in model 3, the trustee dummy coefficient becomes indistinguishable from zero. CACs are estimated to have a significant negative impact on spreads (around ten basis points for a country like Brazil), and the coefficient is similar in size to the estimate without fixed effects. Again as a final exercise, the dependent variable was stripped of any influence of liquidity as proxied by bid-ask-spreads to move the interpretation of the spreads away from borrowing costs and towards default risk. As before, this transformation has hardly any impact on the estimates and the results are therefore not reported.

Incidence of Default

Above we have noted the limits of interpreting spread differentials for the purpose of this study. A much more intuitively appealing way of testing for a deterrence effect of individual enforcement rights is to check whether the *likelihood of a bond being in default* depends on its governance structure.[22] Surprisingly enough, this simple approach was never used in the parallel literature on collective action clauses even though that literature sought to answer very similar questions.

[22] Thanks to Daniel Rubinfeld for suggestion this approach. Strictly speaking, though, the probability of being in default at the time of download is again only an approximation of the probability of default, or in other words, of being in default at any point during the bond's life. The two concepts are equivalent only if the *time spent in default* does not differ systematically across different groups of bonds. But since the probability of default and the time spent in default are both 'bads', the distinction is not that crucial from a policy perspective.

At the simplest level, we may check for an association between the two dichotomous variables - governance structure and default - by counting the number of bonds in each of the four categories and applying a chi-squared test. The sample for this part of the analysis comprises 554 bond issues, that is, all those whose governance structure is known and that have not matured yet. 17 bonds were listed as being in default, of which six were governed by a trust structure and eleven by a fiscal agency agreement. Of the 537 bonds that were not in default, 95 featured a trustee while the remaining bonds did not. Trustee-governed bonds are evidently overrepresented among the bonds in default. A chi-squared test for independence yields a test statistic of 3.425. Whether one believes default status and trustee status to be independently distributed of each other therefore depends on the choice of confidence level: 5% vs 10%.

Such bivariate analysis is simplistic in that the influence of other factors is not controlled for. Probit regression of a dummy for default status on a set of controls will produce more informative results.

Dependent Variable: DEFAULT						
	Model 1		Model 2		Model 3	
CONSTANT	-2.734***	(0.324)	-2.794***	(0.343)	-4.449***	(0.742)
DURATION	0.014**	(0.007)	0.015**	(0.007)	0.075***	(0.019)
GLOBAL	0.799***	(0.309)	0.788**	(0.316)	1.107*	(0.589)
PRIVATE	0.731**	(0.327)	0.689**	(0.323)	0.6	(0.536)
SINKABLE	0.53*	(0.283)	0.475	(0.301)	1.164***	(0.417)
TRUSTEE			0.285	(0.258)	0.851**	(0.427)
CACS					-1.002***	(0.381)
Obs.	554		554		405	
McFadden R^2	0.104		0.112		0.371	
10%-level (*), 5%-level (**) and 1%-level (***) level of significance, two-tailed test.						

Table 4: Probit regressions

The relatively small number of defaulted bonds means that a number of promising control variables cannot be used because they exhibit insufficient variation across the default and non-default categories. In consequence, the probit regressions, as summarised in table 4, do not fit the data particularly well. Also, fixed effects estimation is not an option as only four countries have bonds outstanding that are in and out of default, respectively. This is regrettable because this particular set of results offers the most direct interpretation along the lines of the research question.

Model 1 once more includes all control variables whose coefficients are significant. The inclusion of the dummy for trust structures in model 2 shows that such bonds are somewhat more likely to be in default, but the standard error is almost as great at the coefficient itself. A distinction between English and New York style trustees is again not viable because of the small number of relevant cases. Model 3 adds the dummy for collective action clauses, with some impact on the regression output. The CACs dummy adds substantial explanatory power so that the goodness of fit increases to respectable levels. The coefficients on the existing variables also change noticeably. Remarkably, the trustee dummy coefficient is now significant at the five percent level, which confirms that bonds with collective enforcement appear more likely to be in default. The presence of collective action clauses, by contrast, significantly reduces default risk, as evidenced by the strong negative coefficient.

Thus despite the comparatively poor fit of the first two models, the probit regressions actually deliver the strongest results on the variables of interest. The last result is a particularly interesting one because it suggests that collective action clauses are achieving their goal. Not even the most enthusiastic supporters of the clauses would claim that their inclusion in bond contracts might result in fewer defaults – the discussion much rather centred on the question whether defaults would *increase* due to CACs. Instead, CACs promised to enable smoother and speedier restructurings, i.e. to reduce the time a bond would

spend in default. For a given default rate, the probability of being in default at any given moment should therefore be lower – which is what we see in the data.

Limitations

It has been mentioned repeatedly that all of the regression results obtained are fairly robust to specification changes, such as the inclusion of further variables. This is true for the control variables to a much greater extent than for the variables of interest, and in particular the trustee dummies. The reason is, as also mentioned, the small number of bonds with trustees, despite the respectable overall sample size – the sample of the Probit model with governance structure and CACs (model 3) includes only ten bonds in default. As a result, the coefficients on the trustee dummies in the various models are not very robust to even minor manipulations of the data. Re-coding one or two of the bonds with the largest residuals from 'trustee' to 'non-trustee' or vice versa, or from 'default' to 'non-default' will almost always cause large jumps in the coefficients, and often reverse signs. Such 're-coding' could easily arise unintentionally due to errors in the Bloomberg data or misinterpretation of those data. Furthermore, if the full set of information happened to be available for a different sample of bonds, different outcomes might be obtained even though, as we have argued, there is no systematic bias. All of this is reason to tread with caution when interpreting the regression results.

5 - Conclusion

According to an expert on market opinion, the benefits and moral hazard effects of collective enforcement are currently "not near the top of anyone's mind".[23] We suggest that they should be. Collective enforcement's twin topic, collective action clauses, has received much attention in academic and policy circles during the early 2000s. Here, the argument was made that progress on implementing the clauses was possible only once a sufficient body of empirical evidence had helped overcome concerns about increased moral hazard.

Such evidence was so far completely lacking with respect to trustee usage. This paper is the first to test empirically in a cross-section setting whether individual enforcement rights, as normally found under a fiscal agency agreement, indeed provide a better deterrent against default than the threat of collective enforcement through a trustee. We began by checking for an influence of trustee usage on bond spreads, which may be interpreted as default risk (from the investors' perspective) or as borrowing costs (from the debtors'). The results indicate a slight but statistically insignificant spread premium for bonds with collective enforcement. With the exception of one particular specification, this also holds true when fixed effects are introduced as a remedy for potential endogeneity.

Interpreting the results becomes much more intuitively appealing when we switch to probit analysis. The probability of being in default is slightly higher for bonds with trustees, and significantly so in what is arguably the best specification. Thus, reassuringly, the two different empirical approaches produce broadly comparable results. Incidentally, this study yields an interesting by-product to supplement the earlier literature on CACs: While the effects of trustee usage are generally not very strong, the presence of the clauses reduces spreads and the probability of being in default, respectively, in all specifications.

The empirical analysis makes no claim to perfection. The limitations have been noted, in particular with respect to incomplete data and the relatively small number of bonds with pertinent characteristics. Firmer conclusions would require a richer data set, as may be available from Bondware, as well as more robust econometric techniques, for example in dealing with potential endogeneity or missing information. The questions addressed here deserve the same amounts of resources and expertise as were devoted to the

[23] Michael Chamberlin in correspondence with the author.

issue of collective action clauses - because trustees are an equally important component of a better international financial architecture. What we can say, though, is that if there were any systematic and pronounced relationship between issuing structure and borrowers' incentives to default, this exploratory investigation would have detected it. Further research may be expected to confirm the innocuousness of trust structures as regards moral hazard.

This paper has focused on issues that are similar to the ones pursued in Häseler (2008) and therefore the policy implications are also similar: If one believes in the benefits of trust structures, and if one further believes the costs of trust arrangements in terms of moral hazard to be small, which this paper has begun to indicate, then all necessary steps should be taken to establish the appointment of a trustee as the market standard, at least for medium to low rated borrowers. External pressure may be needed to overcome contract stickiness and prejudice in the market. Whatever mix of public sector encouragement, scholarly opinion, etc. worked for the proliferation of collective action clauses should be applied one more time. The New York Stock Exchange could follow the example of London in making the appointment of a trustee a requirement for listing.

At the same time as increasing the frequency of use though, there is a need to improve the drafting quality of trust deeds and indentures. The trustee's duties must be specified in such a way as to ensure its active role in safeguarding the bondholders' interests and to prevent events such as the recent ones in Ecuador from reoccurring.

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