Collective Action Clauses for the Eurozone:

An Empirical Analysis

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Abstract

Among the policy initiatives announced by European politicians to tackle the current sovereign debt crisis is a requirement that all Eurozone sovereign bonds issued in 2013 and thereafter include a set of new contract provisions. These provisions, referred to as Collective Action Clauses or CACs, are aimed at enabling an orderly restructure of financially distressed sovereign debt, thereby reducing the need for taxpayer-funded bailouts. However making restructurings easier and cheaper could potentially increase the propensity of governments to borrow irresponsibly. If so, mandating the inclusion of such clauses might increase borrowing costs, especially for sovereigns in the weakest financial condition. By examining the historical relation between CACs and yields on bonds written under New York and English law, we attempt to shed light on what would be the effect of including CACs in all Eurozone sovereign bonds. Our general finding is that, contrary to previous research and common belief, CACs are associated with lower rates for sovereigns that are in the weakest financial condition. We provide some possible explanations for this seemingly counter intuitive result.

I. Introduction

In the wake of Greece's bailout in mid 2010, and with problems in Ireland and Portugal looming, politicians in the richer Eurozone nations came under increasing pressure from an angry public to make policy changes that would mitigate the need for future bailouts.[2] One of the primary proposals, announced in a statement by the Eurogroup on November 28, 2010, was to require all Eurozone sovereign bonds issued after June 2013 to include Collective Action Clauses or CACs (Hall et al., 2010). As of this writing (March 2012), the time for the inclusion of these clauses has been set at January 1, 2013 (Neuger, 2012). Roughly, a dozen or so public sector and industry groups are at work drafting proposed clauses in response to this edict. Also competing for attention are the proposed clauses from various drafting groups from the past, including a G-10 expert committee that had responded to a prior initiative by the U.S. a decade ago to require all sovereign bonds issued under New York law to include CACs (Eichengreen, 2003). Further, on March 9, 2012, Greece implemented an exchange offer for all of its outstanding local-law governed sovereign debt where the bonds issued in the exchange have a set of newly designed CACs (FTAlphaville, 2012). In the aftermath of these events, a pressing question for the Eurozone policymakers is to decide which of the various forms of CACs to mandate for all of its members issuing debt after the January 2013 deadline.

The term CAC refers not to a single contract provision, but to a range of contract terms, each of which operates to ameliorate the problem of holdout creditors (Buchheit 1998A, 1998B, 1998C; Drage & Hovaguimian, 2004; Gelpern, 2003). To understand the

[2] Soon thereafter, Ireland and Portugal received bailouts. In August 2011, the Eurozone announced a second bailout package for Greece.

relevance of the holdout problem in the sovereign debt context, it is instructive to keep in mind two things. First, there is no bankruptcy regime for sovereigns. Thus there is no bankruptcy-type process whereby a judge supervises a restructuring and, under certain conditions, can impose a restructuring plan on all holdouts (Sachs, 2003; Schwarcz, 2004).[3] Second, the standard practice in sovereign bonds has long been for bondholder rights to be individual rather than collective. In other words any modification of the debt contract such as reducing or delaying the payment obligation must be negotiated with each bondholder individually. Thus, even if a majority of bondholders who had originally lent to the sovereign as part of a single bond issue agreed that it would be beneficial to grant the debtor some relief, an individual bondholder could refuse to do so and holdout for her promised amount, thus frustrating the attempted reorganization. In a world with a small number of bondholders, all of whom know each other and have repeat interactions, individual negotiations would not pose a serious problem. However, as the number of bondholders increases and they become more autonomous and dispersed, the holdout problem can become severe. The problem is further exacerbated by investors who specialize in taking a position in an issue for the sole purpose of holding out and demanding a disproportionate payment in exchange for their bonds.[4] Essentially, in order to renegotiate the terms of an entire outstanding bond issue, the sovereign must obtain unanimous and simultaneous agreement from all of the outstanding bondholders. As long as there is the possibility of holdouts, all bondholders would have an incentive to

[3] A procedure similar to the so-called cram down provisions of Chapter 11 of the U.S. Bankruptcy Code.
[4] These specialist holdouts are referred to by a number of names, including "vulture creditors" and "distressed debt investors".

refuse to accept a payoff for anything less than the original obligation, which would frustrate any restructuring attempt.[5]

CACs ameliorate the holdout problem in a variety of ways. Most important are those that permit the modification of payment terms for the entire issue if a pre-specified fraction of the outstanding bondholders (in value) agree to the restructuring plan, making it harder for individual subsets of creditors to institute litigation that might disrupt the reorganization process, or forcing any creditor recovering a disproportionate payment to share it proportionally with the others. Essentially CACs obviate the need for individual bargaining and permit renegotiations via the collective actions on the part of a subset of the outstanding bondholders.

The most frequently employed CAC applies to the modification of payment terms. These "modification CACs" come in a variety of forms depending on the percentage of votes needed to change the bond's payment terms. While 75% is the typical requirement, there are modification CACs that require a favorable vote by as many as 85% and as few as 18.75% of the outstanding bondholders.[6] There are also other requirements that have the potential to affect the holdout problem. For example, some modification CACs allow for the vote to occur in writing whereas others require bondholder meetings. CACs also vary in terms of restrictions on who can vote on a restructuring plan. Some bonds allow the issuer carte blanche in voting, whereas others restrict the issuer's ability to vote the bonds it holds or controls.

[5] Of course, the time value of money and legal fees are deterrents to holdouts.
[6] As we explain below, the 18.75% vote typically is applied only if an initial quorum requirement is not satisfied.

Other CACs seek to ameliorate the holdout problem by means other than voting requirements. These CACs apply to matters such as acceleration and the criteria as to who has standing to sue.

The incentives of institutions like the Eurogroup, the ECB, the IMF, the Bundesbank and the U.S. Treasury – collectively referred to as the "Official Sector" – to encourage a shift to CACs are clear. The presence of a CAC reduces the costs of restructuring a distressed sovereign debtor. By implication, that reduces the amount of Official Sector support that is needed. In order to avoid the negative externalities of a complete or partial default, the Official Sector often feels compelled to provide bailouts. But the taxpayers of the countries providing the funds are inevitably annoyed at having to subsidize either sovereigns who over-borrow or financiers who over-lend. CACs provide a way to diminish the wrath of the taxpayers somewhat in that they impose some of the costs of the bailout on private creditors.

Given that CACs are a way of shifting some of the costs of financial distress on to private creditors, the question is whether including CACs will necessarily increase the cost of borrowing in the private markets. That conclusion is not an obvious one because the increased likelihood of haircuts for private bondholders (in addition to any increased propensity on the part of the debtor to ask for a restructuring) has to be balanced by the savings that result from a lower cost restructuring (lower cost because CACs significantly reduce the costs of dealing with holdout creditors).

The idea of including CACs in sovereign bonds is not new. As early as the 1920s, a handful of nations experimented with these clauses. The Czech Republic used a modification CAC with a vote requirement of 50% in a bond offering as far back as 1923

(Weidemaier & Gulati, 2011). Other CACs such as trustee provisions and acceleration provisions were also utilized at that time. The Kingdom of Serbs, Croats and Slovenes used a 25% acceleration provision in 1923 and Austria used a trustee provision in its 1924 issuance (Weidemaier, 2012).[7] These early innovations in collective action contract provisions, however, did not catch on until the last decade.

The initiative for a market-wide shift to CACs, and particularly modification CACs, came toward the end of the twentieth century. In the wake of the Mexican crisis in 1995 and the Argentine default in 2001, segments of the Official Sector began pushing for the adoption of a variety of CACs in sovereign bonds governed by New York law (Eichengreen & Portes, 1995; Gelpern, 2003; Taylor, 2007; Quarles, 2010). Note that the proposals were initiated by the Official Sector. Sovereigns can always include a CAC in their debt contracts if they feel that doing so, on net, reduces the costs of borrowing. These proposals met with resistance initially, but starting in 2003, there began a widespread movement toward anti-holdout provisions by sovereigns issuing under both U.S. and European law. We attribute this tsunami of CACs to two main factors. First, the defaulted Argentinean bonds did not contain CACs. The fact that over a year after the default in late 2001, restructuring plans had not been put into place, led many of those who had opposed CACs previously to perhaps rethink their positions. Second, it was known at the time that bonds written under English Law all contained CACs and traded at lower spreads than New York bonds that did not contain CACs. However, the shift toward CACs in 2003 was not uniform. Different expert drafting groups recommended a variety of possible CACs. The G-10's expert drafting group, for example, proposed a modification CAC with a 75% vote requirement for changes to payment terms, whereas

[7] We base this information on our dataset of roughly 1500 sovereign bonds that dates back to 1820.

the Group of Six (six creditor associations) recommended a vote requirement in the region of 85% (Roubini & Setser, 2003).

When sovereigns began adopting CACs, they fashioned the types of clauses they thought best suited their needs. The end result was variation in the types of CACs that were adopted (Gelpern & Gulati, 2009). The current CAC initiative in the Eurozone seeks to require all bonds to include CACs and mandate uniformity in the form that these CACs should take.

Despite the continued preference for CACs by the Official Sector, these proposals have not always been greeted with enthusiasm by market participants (Rogoff & Zettelmeyer, 2002; Eichengreen, 2003; Portes, 2004; Gelpern & Gulati, 2006, describe the debate). Critics concede that CACs facilitate the coordination of dispersed investors and thereby reduce the likelihood of holdouts, which makes restructurings easier for sovereign debtors. However, they note that if restructurings are made easier and cheaper, then debtor sovereigns might be encouraged to engage in excessive borrowing and behave more irresponsibly after the debt has been issued (Ghosal & Thampanishvong, 2009; Pitchford & Wright, 2010). Recognizing these incentives, creditors, ex ante, would demand compensation for this potential moral hazard and thereby raise the cost of credit to the issuing sovereign.

The proponents of CACs respond that the perceived risk of moral hazard may be exaggerated (Buchheit & Gulati, 2002). They argue that governments are loathe to default on their national debt. Defaults and restructurings generally bring pain to the sovereign's citizens, and the politicians in power tend to bear the brunt of the inevitable public anger. Politicians, therefore, are frequently myopic, seeking temporary solutions

that will delay the need to deal with a debt crisis (Acharya & Rajan 2011; Skeel, 2011; Buchheit & Gulati, 2010). Few if any policymakers have put forth a reasonable (workable) mechanism to force financially impaired sovereigns to restructure their debt. In the absence of any realistic means to prevent the moral hazard problem, short of armed conflict or seizing assets, all that can be done is to try to make restructuring more attractive (less costly) for debt-burdened sovereigns, and most agree that the inclusion of CACs is the appropriate cost-reducing solution. While CACs may well create a moral hazard problem, reducing the costs of restructuring may induce financially strapped sovereigns to elect to restructure their debt rather than delaying and eventually defaulting on their obligations. Perhaps more important, the inclusion of a CAC reduces the costs to third parties if a (partial) bailout is deemed necessary. Thus, somewhat ironically, this inducement may be more valuable to the creditors of those nations that face the highest likelihood of a default.

For all the debate over CACs in academic and policy circles, empirical research on the question of whether the various forms of CACs increase or decrease borrowing costs has been sparse. Roughly speaking, there are at least a half dozen different types of CACs that have been adopted with varying popularity over the last few decades. These include provisions that rely on the use of trustees, creditor committees, sharing clauses, collective acceleration / reverse acceleration clauses and modification procedures. Of these, only one, the modification CAC, has received much attention in the academic literature, and has been subjected to extensive empirical analyses. However, these analyses were performed on data from over a decade ago, when the use and variety of such provisions was sparse.

In this Article, we seek to shed light on the question of how markets have reacted to the variety of CACs that sovereigns have implemented over the past decade. We do not provide any evidence that allows us to determine whether ***on net*** CACs are beneficial to issuing countries. Nor do we purport to provide an answer to the ultimate question of what form of CACs is optimal. However, we can and do report on the types of CACs that have been introduced by sovereigns and their relation to the yield (interest rates) promised creditors when issued.

II. Background: The U.S. Treasury's CAC Initiative

The current Eurozone proposal to include CACs in all sovereign debt issues is reminiscent of the U.S. Treasury's initiative on CACs from roughly a decade ago. As we demonstrate, the result of this initiative was the widespread adoption of CACs (Taylor, 2007; Bradley et al., 2009). Prior to this initiative, only bonds governed by English law, for the most part, contained CAC provisions; virtually no bonds governed by New York law contained CACs (Eichengreen, 2003; Liu, 2002). However within a year of the Mexican government's decision in 2003 to include a modification CAC in one of its external bond issues, nearly every new bond issued thereafter contained such a provision. It is therefore instructive to revisit the debate surrounding this initiative.

The U.S. Treasury's reform proposal was directed at a specific characteristic of sovereign bonds governed by New York law (Taylor, 2002). Up until that time all bonds written under New York law essentially required unanimous consent of the bondholders for there to be any change in the payment terms of a bond issue. Of course bondholders individually had the right to redeem their bonds for something less than the original terms

– a reduction in principal or interest or an extension of maturity – but in order to make such changes applicable to the entire issue the sovereign had to get the consent of all bondholders. As a result of this "unanimity requirement", sovereign bonds governed by the laws of New York were viewed as particularly vulnerable to holdout problems should the issuing sovereign ever find need to restructure its outstanding issue. That vulnerability was viewed as a barrier to effecting quick and cheap restructurings, thereby necessitating the only feasible alternative – a bailout by the Official Sector. Sovereign bonds issued under English law, in contrast, included CACs, which did not require unanimous approval for changes to payment terms. The fact that the market for English-law bonds was thriving and growing at the time provided the proponents of CACs with evidence that the inclusion of CACs would enhance the market for bonds governed by New York law.

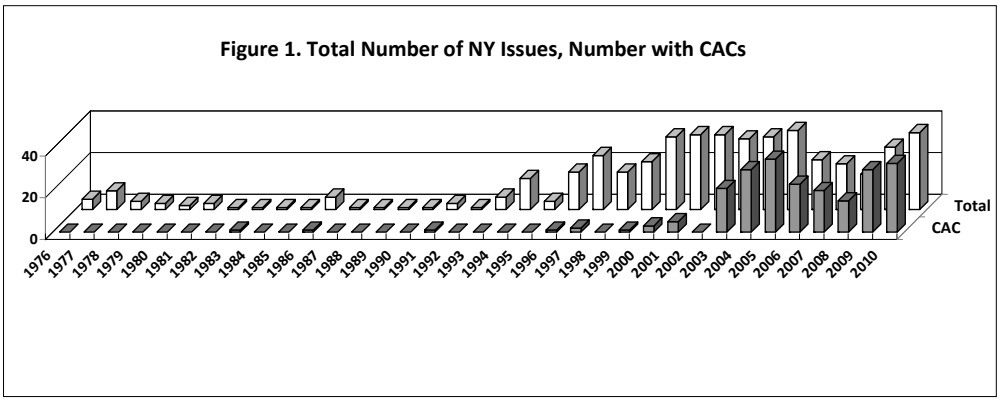
Calls for the reform of sovereign bonds governed by New York law had begun in the wake of the Mexican "Tequila" crisis in 1995 (Eichengreen & Portes, 1995; Eichengreen, 2003). At that time, the need to act quickly and prevent the Mexican crisis from spreading to neighboring economies (like the U.S.) prompted the U.S. Treasury to bail out the Mexican government. Had the bonds in question contained CACs, some argued, Mexico might have been able to negotiate directly with its private creditors for relief by reducing the principal amount or the interest rate or extending the maturity of the bonds.[8] The issue of shifting away from the unanimity requirement in New York-law bonds, however, remained largely a matter of academic debate until Argentina defaulted

[8] In reality, the Mexican bonds at issue were governed by local Mexican law and did not need CACs for them to be restructured. But the story about the need for CACs was nevertheless told (Gelpern & Gulati, 2010), perhaps because of a concern that default on Mexico's local-law instruments would trigger a wider default.

in late 2001. None of the Argentinean bonds contained a CAC. At that time, the largest sovereign debt default in history, the Argentine default catapulted CACs to the top of the international policy agenda (Gelpern & Gulati, 2006, document this history).

Frustrated with the unwillingness of issuers to alter their contracting practices, the International Monetary Fund, in 2002, proposed the institution of a bankruptcy scheme for sovereigns (Krueger 2001; 2002). However, such a process was never adopted (Hagan 2005). At roughly the same time, the U.S. Treasury department urged contract reforms. Within a year of the issuance of a Mexican bond in April 2003, sovereign issuers in New York began shifting away from the unanimity requirement to the institution of CACs.

Figure 1 illustrates the meteoric rise in the use of CACs in New York bonds in the wake of the Mexican bond issue. Prior to 2003, the overwhelming fraction of sovereign bonds issued under New York law required unanimous approval for changes to payment terms. Only 17 out of 204 New York-law bonds in our database for the period 1990-2002 included CACs. Beginning in early 2003, however, almost all new sovereign issuances under New York law included a CAC provision with a 75% vote requirement. By 2010, over 90% of all New York-law governed bonds were being issued with the 75% vote requirement.



As Figure 1 illustrates, the market-wide shift from unanimity to a 75% vote requirement occurred quickly once the Mexican bond was issued in April 2003. As noted earlier, however, the proposals for CACs had initially met with market resistance. Many viewed the reforms as being driven largely by the interest of the Official Sector in getting out of the business or reducing the costs of providing bailouts, which is the precise concern that is motivating the current move in the Eurozone toward CACs. The shift to the 75% vote, critics feared, would make it too easy for sovereigns to restructure and, therefore, provide incentives for sovereign debtors to pursue restructurings prematurely. Arguably, the unanimity provisions in New York bonds made restructurings difficult and costly, and provided a form of ex ante commitment by the debtor to do everything possible to avoid seeking a restructuring. Reformers countered that the modest shift from unanimity to a 75% requirement was unlikely to produce a problem of governments being too quick to claim they needed to restructure. After all, not only did the governments still need to obtain a 75% approval from the bondholders, but experience suggested that the problem was that governments tended to be too slow, not too quick, to acknowledge that they had an unsustainable debt problem. Thus, the reformers argued that the policy objective should be to make restructurings, when financially prudent,

easier, cheaper, and most important, possible, in order to obviate the need for Official Sector bailouts, or at least make bailouts less costly (Eichengreen, 2003; Portes, 2004).

Clearly, the crux of the policy question was the effect that the shift from a unanimity requirement to a 75% vote would have on the cost of debt and which issuers would be more or less affected. A number of researchers took on the challenge of answering this empirical question. A barrier to this line of research was the fact that at the time there were almost no New York-law bonds without a unanimity requirement. On the other hand almost all English-law sovereign bonds did allow alterations to payment terms with less than unanimity. Researchers, therefore, compared the yields on New York-law bonds to English-law bonds and attributed the difference in yields to the different voting requirements in the two jurisdictions (Becker et al., 2003; Eichengreen & Mody, 2000; 2004).

There were, however, at least two potential problems with this methodology at that time. Comparing the yields on a standard New York-law governed bond to the yields on a standard English-law governed bond did not directly answer the policy issue in question because the English-law bonds at the time did not have the simple 75% vote requirement that was being proposed for New York bonds. Instead, the 75% vote in the English-law bonds also required ***a physical meeting of the bondholders***, a condition not contemplated for the New York issues. In addition, the English-law bonds generally had diminishing quorum requirements. The lower the quorum requirement, the lower the number of bondholders needed to alter the terms of the bonds. These two complicating features of the English-law bonds made it problematic to conclude that any yield difference between the pre 2003 English and New York yields was simply the product of

the difference in holdout vulnerability between a bond requiring unanimity and a bond requiring a simple 75% vote for changes in payment terms. This is so for two reasons. On the one hand, due to the diminishing quorum requirement, the English law bonds were arguably much less vulnerable to holdouts than the proposed 75% vote for the New York bonds. According to the provisions in the English-law bonds, if the 75% quorum requirement was not satisfied at the first meeting, the required quorum was reduced to 25% at a second meeting, making the required vote as low as 18.75% (.75 × .25), which is a significantly lower hurdle than the 75% vote that was being proposed for New York issues. On the other hand, the requirement of a physical meeting in the English-law bonds had the potential of exacerbating the holdout problem, since bondholders at a physical meeting could discuss the implications of a restructuring and might actually persuade each other to hold out collectively. Ironically, here, the inclusion of an English-style CAC could exacerbate the holdout problem.[9]

The findings of the early studies comparing the yields of New York- and English-law bonds fall into two categories. One set of studies, the most prominent being by Anthony Richards et al., found little or no difference in the yields, implying that there was no pricing effect of moving away from a rule of unanimity.[10] The explanation given was that the shift from unanimity to collective action had no effect because the reduction

[9] Anecdotally, this concern about holdout problems being exacerbated as a result of allowing physical meetings of the bondholders has been given as an explanation for why countries like Pakistan and Ukraine did not utilize the CACs in their English-style bonds when they restructured in the late 1990s. (Diaz-Cassou et al., 2008; but see Zettelmeyer & Sturzenegger, 2006).

[10] Other papers also finding little price impact of the use of CACs include, Petas & Rahman (1999), Tsatsaronis (1999); Gugiatti & Richards (2003); Weinschelbaum & Wynne (2005). In one of our prior papers, we also found minimal effects of CACs (Bradley et al., 2010). The limitations of the dataset there (only New York-law bonds, and only three years of data after the shift in 2003) led us to re-examine the question with a finer-grained analysis. Moreover we did not distinguish between investment grade and non-investment grade bonds in the prior study. As we show, our hypotheses generate different predictions regarding the effects of CACs for these two classes of bonds and the empirical evidence is consistent with CACs having differential effects on investment and non-investment bonds.

in ex post restructuring costs was balanced by the increase in ex ante moral hazard costs. A second group of papers by Barry Eichengreen and Ashoka Mody found that for riskier issuers, the cost of borrowing increased with the use of CACs, but for financially sound issuers, CACs reduced the cost of borrowing. They argued that the increased flexibility that comes with the English-style modification provisions is most valuable for those nations least in need of demonstrating credibility (financially sound nations), and therefore if they should need to restructure in the future, bondholders would want to make the process as easy as possible. For nations that needed to make their commitments to repay debt credible (because of their relatively weaker financial situation), however, a unanimity rule was needed to convince creditors that these nations were committed to repaying their debts.[11]

To summarize, given the complications of these early studies and their conflicting results, it is hard to predict much about the price effects of the inclusion of CACs in Eurozone bonds from the prior literature.

As noted earlier, the foregoing research utilized data from a period prior to the shift in market practices in 2003 (away from unanimity and toward a 75% vote in New York-law bonds). A more precise test would be based on data after the shift away from unanimity occurred in 2003 in New York. After the shift, presumably there would have been New York bonds both with the unanimity requirement and with the 75% requirement. The problem, however, is that the Treasury induced shift in practices in 2003 was too successful. So much so that post 2002 virtually no New York-law bonds contain a unanimity requirement. (See Figure 1 above.) As we will explain in detail later,

[11] The Eichengreen and Mody results are broadly consistent with the observation that creditors seem to demand tougher and tighter contract provisions from weaker credits (Mody, 2004; Bradley & Roberts, 2004).

however, what the market did produce in the post 2002 period was some, albeit slight, variation in the type of non-unanimity provisions – some bonds used 75% vote requirements, others 85%, still others 18.75% and so on, which enables testing the underlying hypotheses.

Since after 2003 practically every sovereign issuer had shifted away from a rule of unanimity, research on the relation of CACs to the cost of debt waned. However, the shift away from unanimity was but one change in the landscape of sovereign debt. While moving away from a unanimity rule was the primary change in the market for sovereign debt, the contract terms adopted after 2002 were much more complicated. Thus, the policy question being debated today in light of the crisis in the Eurozone remains unanswered: i.e. which of the various forms of collective action clauses increase or decrease a sovereign's cost of debt.

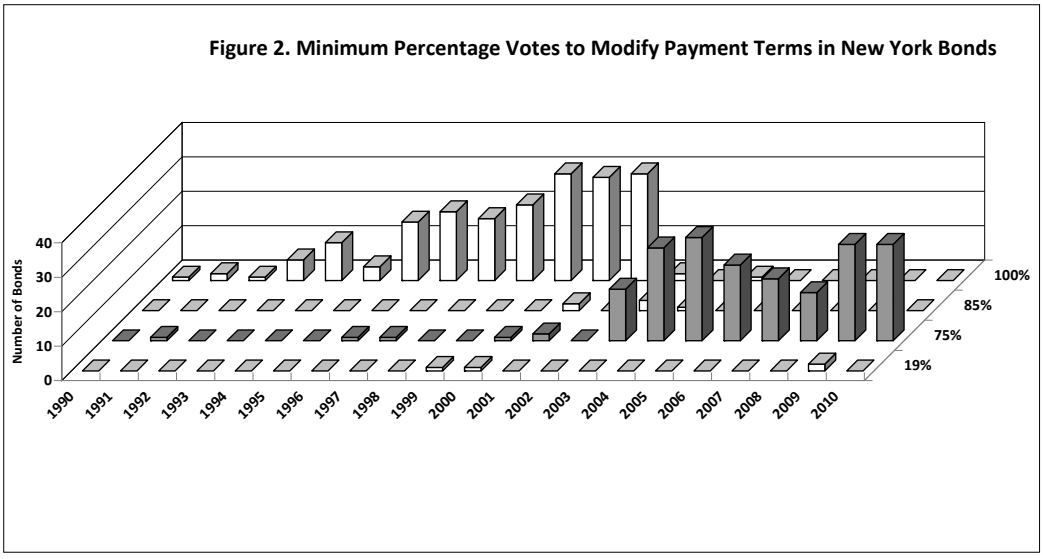
III. The Various Forms of CACs

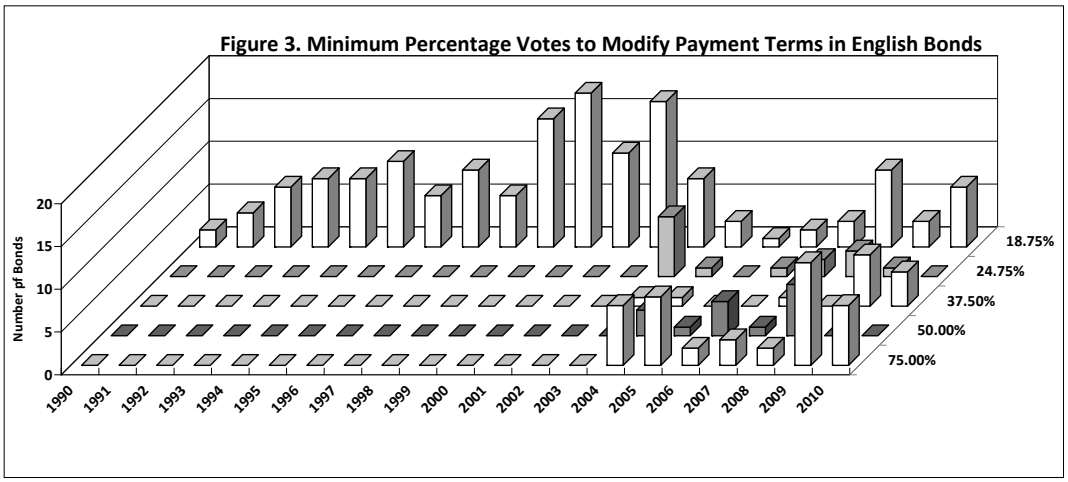
There is variation in the type of CACs that have been adopted by issuers in the post-2002 period. A question of direct relevance to the current Eurozone initiative to include CACs in all Eurozone sovereign bonds, therefore, is whether market participants price the various forms of CACs differently. One would expect that they would since they provide different degrees of vulnerability to the holdout problem. For example, an 85% vote requirement for changes to payment terms versus an 18.75% requirement should be relevant to investors and be reflected in the required rate of interest. Modification CACs, however, are not the only contract provisions that have been

included to ameliorate the holdout problem. Below, we describe the various anti-holdout provisions that have been adopted by sovereigns in the post 2002 era.

A. The Minimum Vote to Modify Payment Terms

The minimum vote required to modify payment terms in any given sovereign bond issue varies considerably. This minimum vote can be as high as 100% (in the case of the handful of issuers who still require unanimity) and as low as 18.75% (for those issuers containing diminishing quorum requirements). Figures 2 and 3 illustrate the variation in the minimum vote requirement for New York-law and English-law bonds, respectively.

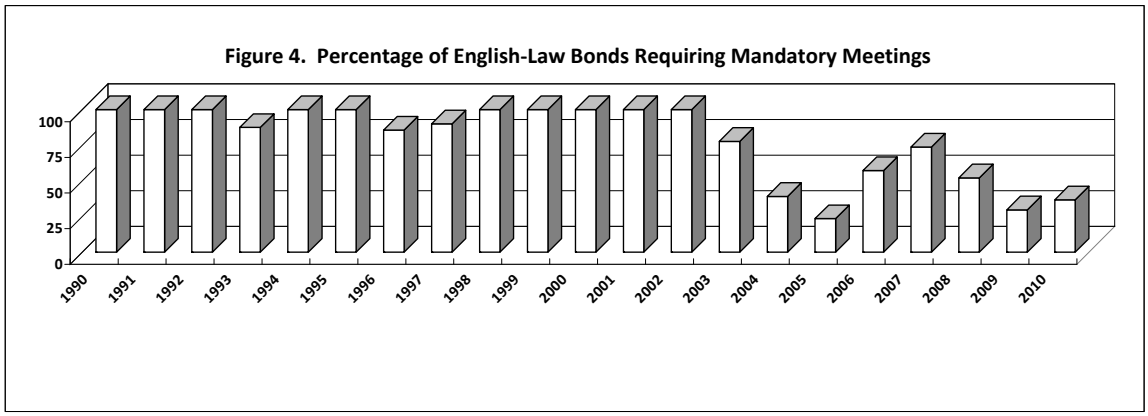




Note that there was a dramatic change in the percentage of votes required for both jurisdictions in 2003. However, whereas the New York bonds decreased the percentage requirement, the English-Law bonds for the most part increased the percentage requirement. The change in the English-Law bonds though was accompanied by the elimination of mandatory meetings.

B. Mandatory Meetings

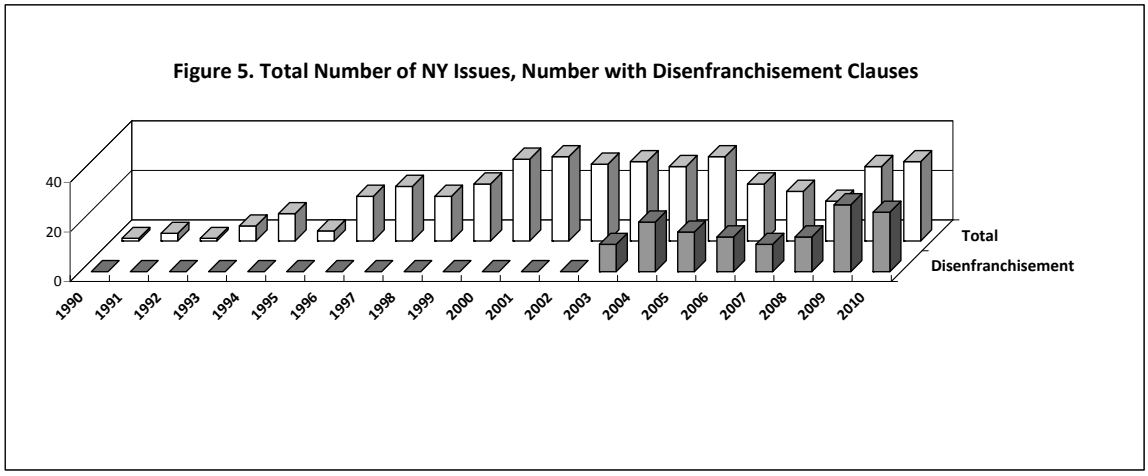
Prior to 2003, practically all English-law bonds required formal meetings to vote on changing the payment terms of outstanding debt issues. Figure 4 illustrates this change in practice. As the figure shows, the fraction of issuers mandating meetings was close to 100% throughout the 1990-2002 period. But then, starting in 2003, a number of issuers dispensed with the mandatory meeting requirement altogether. By 2010, fewer than 50% of the English-law issuances contained mandatory meeting requirements.

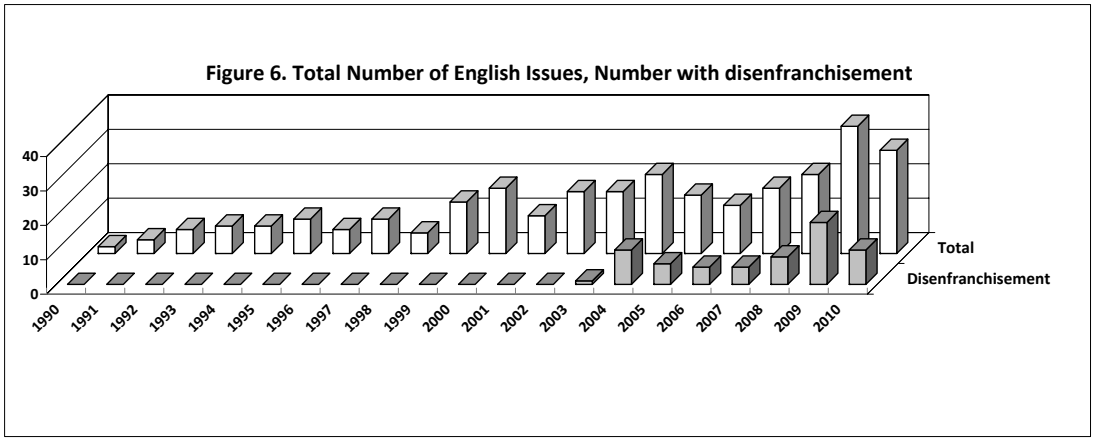


C. Disenfranchisement Clauses

Given that under a unanimity rule each holder essentially has a veto right, no holder has any reason to care about who the other holders are or how they would vote for a restructuring plan. But, in the post-2002 era, with a supermajority being able to impose its preferences on the other bondholders, the issue of who is entitled to vote becomes of paramount importance. Thus, an important aspect of any CAC provision is whether or not it contains a disenfranchisement clause that bars certain bondholders from voting on restructuring plans. It is important to note that unlike the shift away from a unanimity rule, which was almost universal, there is variation in the types of disenfranchisement strategies used. Some issuances have explicit provisions that disenfranchise bonds owned or controlled by the issuers, whereas others allow the issuer's Central Bank to vote, and still others are silent as to who can vote, suggesting that the issuer has the right to vote its own bonds (Drake, 2012). Rational creditors presumably care about the specifics included in disenfranchisement provisions. Figures 5 and 6 report the use of disenfranchisement provisions in New York- and English-law bonds, respectively. The data show that, post 2002, there is a considerable variation in the inclusion of disenfranchisement provisions under both sets of laws. A larger fraction of New York-

law issuers have adopted disenfranchisement clauses than English-law issuers, but the basic point is that starting in 2003, an increasing number of issuers perceived a need to include these clauses. As of 2010, over 50% of the bonds written under the two legal regimes contain these clauses.





D. Aggregation

In the post-2003 period a small subset of New York issuers began including aggregation provisions in their bond issues. These clauses go beyond the basic 75%

modification clause in terms of deterring holdouts. A concern with a distressed debtor having a wide range of bonds issuances outstanding with the 75% vote requirement is that a holdout could buy a 25% interest of an issue in an attempt to disrupt a restructuring. Aggregation provisions not only contain a modification vote for each individual bond, but also specify provisions that govern the modification of the terms of all bonds outstanding. For example, Argentina's post-2002 bonds include a clause that states that, if there is an overall 85% vote approving a modification to payment terms, then it does not matter that an individual bond did not meet the 75% threshold; the bondholders of all issues are all bound so long as each bond issue garners at least 66.67% approval. Only four nations (Argentina, the Dominican Republic, Uruguay and, most recently, Greece) have included this provision.[12]

Thus far, we have discussed only the variations in terms of modification CACs. There were, however, a number of other changes – all of which also relate to the issue of reducing the risks of holdout creditors – that both English- and New York-law bonds adopted after 2002. The proposals for these changes were generated in the debate over individual and collective rights in the 1995-2003 period. However, the U.S. Treasury and other Official Sector institutions had not, as best we know, put pressure on issuers to adopt any of these supplementary anti-holdout provisions. These supplementary anti-holdout provisions were simply part of the recommended set of clauses that that came from a variety of sources (most prominently, the G-10 expert group report released in 2002). As with the disenfranchisement provision discussed above, there is variation in terms of the adoption rates of these supplementary CACs, both in New York- and English-law bonds.

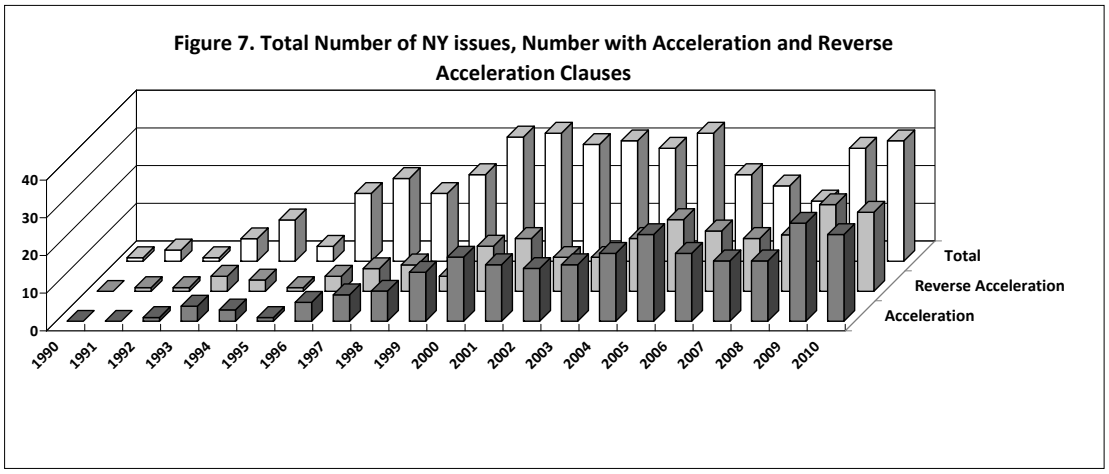
[12] The Province of Buenos Aires also shifted to using Aggregation provisions.

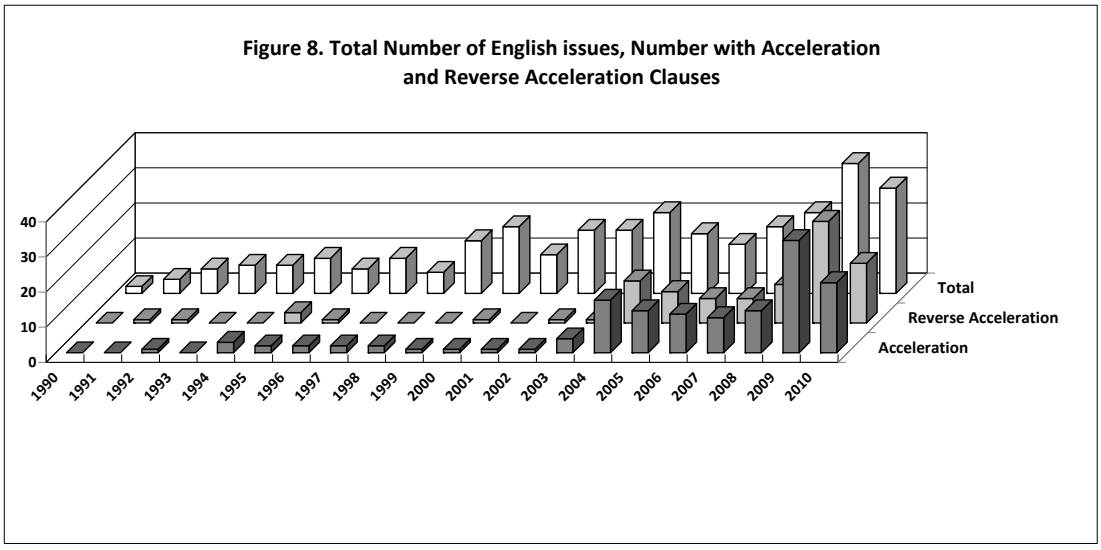
E. Acceleration

Beyond the shift away from unanimity to a 75% vote, the change that found the most adherents was the move away from individual to collective action with respect to acceleration rights. It had been the case that, upon the occurrence of an "Event of Default" in a sovereign debt contract (for example, the declaration of a debt moratorium by the issuer), individual creditors could accelerate all the future payments that were owed to them to the current point in time. This right is relevant to the holdout creditor problem because a holdout creditor's ability to interfere with a restructuring diminishes considerably if all that it can do is to sue the debtor for the single unpaid coupon payment. In fact, if the coupon payment is small, the debtor can pay the holdout creditor its coupon payment and stop its efforts to interfere with a restructuring. On the other hand, if the holdout can accelerate all of its payments (promised interest and principal), then it is more likely to sue. Post-2002, many issuers in both England and New York, moved to acceleration provisions requiring a 25% vote before there could be an acceleration, thereby reducing the ability of holdouts to accelerate their individual claims.

As Figures 7 and 8 reveal, some issuers, particularly those who issued under New York law, implemented collective acceleration clauses as early as the mid 1990s. The 2003 shift to modification CACs seems to have spurred a further move toward acceleration provisions. As seen in the two figures, there is quite a variation in the adoption rates for the two legal regimes. For New York-law bonds, the shift toward acceleration provisions appears to have started much before 2003 and the U.S. Treasury's initiative. In the English-law bonds, however, 2003, looks to be the starting point for the

shift. By 2010, acceleration provisions were being used by over 50% of the issuers under both sets of laws.





F. Reverse Acceleration

A subset of sovereigns went further still by including also a reverse acceleration provision that allowed for a 50% vote to reverse a 25% acceleration clause in the event

that a holdout creditor held a 25% block of the issue. Thus, a reverse acceleration clause frustrates the holdout creditor even if a single entity is able to acquire a 25% block of votes. If the majority of creditors happen to be in the process of negotiating a value-enhancing debt restructuring plan, the last thing they want is for a holdout creditor to manage to get a 25% voting block and interfere with the deal. Hence, for those bonds that contain a reverse acceleration provision, a 50% vote can reverse an acceleration attempt by a 25% block holder.[13]

Figure 7 and 8 also present the frequency of adoptions of reverse acceleration provisions. Not surprisingly, the level of adoption of these clauses, under both English and New York law, is correlated with the adoption levels of the basic 25% acceleration provision (a reverse acceleration provision without an acceleration provision would be pointless). However, it bears reiterating that there was a small subset of issuers who used the acceleration provision, but decided to forego the reversal option.

G. Trustee and Bondholder Committee Clause

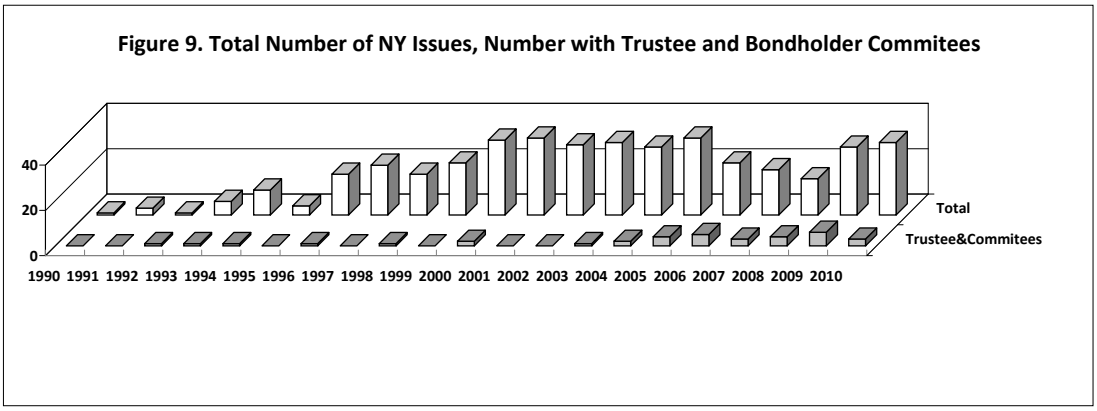
Issuers have also attacked the holdout problem from a different direction by either appointing trustees or putting in place provisions for a bondholder representative committee. The typical sovereign bond lacks a bondholder representative who can make decisions on behalf of the bondholders as a group, including deciding whether to accelerate, when to sue and how to share payments. Instead, sovereigns bonds tend to rely on fiscal agents, who attend to administrative matters (payments and such) on behalf of the issuer. The problem of holdout creditors is further ameliorated through the

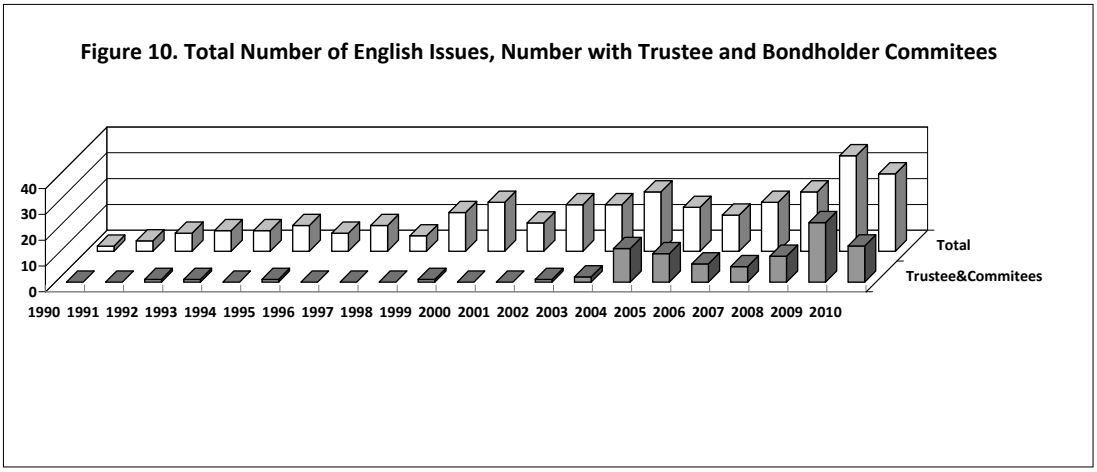
[13] A small handful of bonds use reverse acceleration provisions with a vote of 66.67% and two bonds use a 75% vote. The 50% vote appears to have become the dominant standard though.

appointment of a trustee who owes duties to the bondholders as a group and can block actions by subsets of bondholders that propose value-reducing restructurings,. Further, and this is a point relevant in the context of recent vulture fund litigation against sovereigns, funds that are transferred to a trustee are no longer as vulnerable to attack by a holdout creditor because they are now under the control of a creditor representative (who owes obligations to all the creditors). By contrast, funds that are under the control of a fiscal agent, awaiting disbursement, are technically controlled by the issuer's representative and more vulnerable to holdout litigation.

A related modification clause that some bonds contained in the post-2002 period was a contractual mechanism to appoint and fund a committee to act on behalf of the creditors as a group. These committees, which typically are appointed only in the event of a payment crisis for the bond, also serve a representative role that can thwart holdout creditors.

Figures 9 and 10 report the adoption of these two types of bondholder representative provisions in New York-law and English-law bonds, respectively. The figures show that these provisions were adopted by only a minority of issuers under New York law, whereas they enjoyed greater popularity in issues under English law.





The foregoing differences in adoption rates are interesting because they may be indicative of differences in the two legal regimes. Bondholder representatives, by being designated representatives, take on a set of legal obligations that the local regime specifies. These obligations (often referred to in terms of those of a "fiduciary") are not easy to contract around. The patterns in Figures 9 and 10, therefore, may indicate that the legal system in England, for some reason, provides a more conducive legal environment for the use of trustees and bondholder committees. Again though, note that the shift begins around the 2002-2003 mark, for both legal regimes.

IV. Hypotheses

Drawing from the discussion in the prior two sections, six hypotheses emerge. In setting forth these hypotheses, we take the general perspective of the advocates of CACs, which is that altering contract terms to make them more amenable to collective action (less vulnerable to holdouts) should reduce the cost of capital. And it should be the case

that this reduction is greater for those issuers who are most likely to face restructurings, i.e., sovereigns that are in relatively poorer financial conditions.

A. High-Quality v. Low-Quality Issuers

If the move toward collective action reduces the costs of a future restructuring, the benefits, in terms of reducing the cost of borrowing, should accrue more or less to financially troubled issuers, who by definition have a greater risk of falling into financial distress. It is important to note that rating agencies, most notably S&P, rate the financial condition of countries, not individual bonds. Moreover these country ratings tend to be remarkably stable over time. (See discussion below and The Economist, 2010). In subsequent tests we adopt the designation of U.S. corporate bonds and split our sample into two groups – those with investment grade ratings (ratings above BB+) and non-investment grade ratings.

B. Minimum Modification Vote

The prior generation of CAC studies sought to examine the impact of shifting from unanimity provisions to a 75% vote. Since 2003 though, there have been no more than a handful of sovereigns who have retained the unanimity requirement for an alteration in payment terms. However, there is quite a variation in the minimum percentage of votes required across sovereigns. These minimum percentages range from 100%, in the case of the few still adhering to the pre-2003 New York standard, to 18.75%, for those adhering to the pre-2003 English standard. Most of the issuances fall between these two extremes. Presumably, bonds with lower minimum votes are easier to

restructure, *ceteris paribus*. Therefore, their spreads over the U.S. Treasury rate should be lower than those bonds with higher vote requirements.

C . Mandatory Meetings

Issuers seeking to implement a restructuring may not want to allow their bondholders to meet, out of fear that allowing meetings among angry bondholders could exacerbate, as opposed to ameliorate, holdout problems. Bonds with CACs without the requirement of mandatory meetings, therefore, should be less vulnerable to holdout problems and should reduce issuers' cost of capital.

D. Disenfranchisement

In the prior hypotheses, we assume that shifts away from individual action towards collective action reduce the costs of borrowing for high-risk nations at the time of issuance. However we posit that this reduction in cost will be nullified if the issuer has the ability to manipulate the vote. One way it could do this is by using entities that it controls to vote in its favor and against the interest of the creditor group as a whole. Disenfranchisement provisions protect against such a risk. Not all sovereign issuers, however, use this provision. Creditors, we predict, would be willing to accept a lower interest rate from those issuers that include a disenfranchisement provision.

E. Acceleration and Reverse Acceleration

A significant weapon in a holdout creditor's arsenal is the ability to accelerate all of the amounts due when the sovereign defaults on its debt obligations. Eliminating an individual creditor's right to accelerate his payments by a specified vote reduces the ability of holdouts to disrupt restructuring negotiations that may be ongoing with the remainder of the creditors. The effectiveness of a holdout creditor is diminished greatly, even if has garnered a 25% vote, if a 50% vote can reverse the acceleration. Spreads for issuers using collective acceleration provisions should be lower than those for nations using individual acceleration rights. And those spreads should be lower still in the presence of reverse acceleration provisions.

F. Collective Representation

A number of the problems with holdouts can be solved if there is a bondholder representative who can ensure that the interests of the holders, as a group, are being protected. Such a representative could be a trustee, who has the power to make decisions such as whether to accelerate or sue, or just wait and see. Or the representative could be a special bondholder committee that would be appointed during times of crisis to negotiate a collective settlement for the creditors. Either way, these moves away from individual rights should help ameliorate the holdout problem and reduce the costs of borrowing.

V. Description and Coding of the Data

A. Data Sources and Sample Selection

Our results are based on a dataset taken from the sales documents of sovereign debt issuances available from the Thomson One Banker database and cover the period January 1990 through July 2011. Because the actual contracts are usually not available, we rely on the sales documents (prospectuses, prospectus supplements and offering circulars) to obtain our data. These documents describe the key contract terms. There are two good reasons to expect that the sales documents accurately represent the actual contract terms. First, market participants themselves use these sales documents as their primary source of information regarding the contract terms of each issue. Second, issuers and underwriters face the risk of liability for inaccurate disclosures. As a check, however, we obtained a set of 30 actual contracts from our contacts in law firms who work in this industry and compared the key CAC variables in the full contracts to those in our documents. We found that they were the same.

The Thomson One Banker database is one of the most extensive sets of offering circulars and prospectuses for sovereign debt issues. However, it is not an exhaustive set and, in some cases, the documents on file are incomplete. For those documents where we had incomplete information, we tried to obtain the necessary information by either contacting the government's debt office, or contacting the law firms or banks that worked on the transactions. There are likely, however, a number of offerings for which information was not filed. In particular, we suspect that there is a bias toward including bonds that are likely to be of interest to cross-border investors. One indicator of this is

the fact that the One Banker database contains relatively few bonds governed by local laws. (See Figure 11 below.)

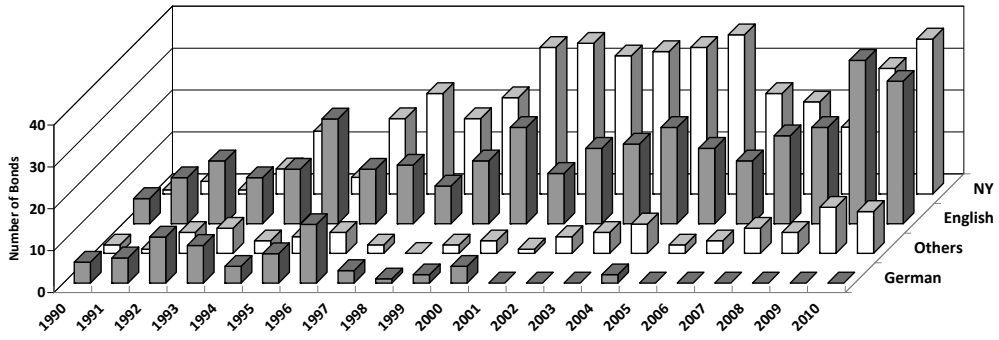
The Thomson One Banker database contains a small number of documents pertaining to sovereign issuances governed by laws other than those of New York and England, particularly Germany, Switzerland and France. We excluded these data for two reasons. First, there are very few issuances for most of these jurisdictions; the exception being Germany. Second, even for Germany, there are almost no issuances for the post-2002 period, which is an important focus of our analysis. The source database also contains a small number of bonds governed by the various local laws of these jurisdictions. Again, we exclude these observations because there are so few. The issuers for whom we have data over the period 1990-2011 include over seventy-five nations and range from issuers who tap the market regularly, such as Mexico and Brazil, to those nations who rarely come to the market, such as Ghana, Vietnam and Nigeria. Overall, we have over 700 issuances over the 1990-2011 period. (See Table 1 below.)

Until about 1990, the sovereign bond market was dominated by a small number of high rated issuers such as Norway, Sweden and Japan. In the post-1990 period, the market expanded, with more variation in the quality of issuers who were able to tap the market. Our dataset also includes a small number of bonds for quasi-sovereigns such as the handful of central banks, foreign cities and states that effected international issuances during the period of our dataset, and for whom information was available from Thomson. For example, in the 1990s, the Greek Central Bank was the primary conduit through which the Hellenic Republic issued bonds. For purposes of our study, we treat the Central Bank bonds as the equivalent of bonds issued by the Hellenic Republic. For the

1990-2011 period, and particularly for the 2003-2011 sub-period, there are but a handful of these bonds.

Figure 11 presents the overall distributions of the bonds by governing law. The figure shows the dominance of New York-law and English-law bonds in the post-2002 period and also the disappearance of the German-law bonds.[14] Table 1 contains the countries and the number of bonds issued by each in our New York and English bond samples. We use these data to test the aforementioned hypotheses.

Figure 11. Total Number of Issues by governing law



B. Dependent Variable

Our dependent variable is the spread between the offering yield and the corresponding U.S. Treasury rate with the same maturity. We express the spreads as

[14] The increase in local-law bonds is largely the result of Eurozone countries beginning to issue to foreign investors under their local laws (we understand that the Thomson database caters primarily to foreign investors).

percentages, i.e., 5% is coded as 5.0. We excluded the relatively small number of floating rate bonds that were issued during the sample period.

Table 1: 1990-2011 Sample

New York Law Bonds				English Law Bonds			
Issuer	OBS	Issuer	OBS	Issuer	OBS	Issuer	OBS
Australia	1	Qatar	7	Albania	1	Latvia	3
Gabon	1	Chile	8	Estonia	1	Morocco	3
Greece	1	Israel	8	Ghana	1	Norway	3
Iceland	1	Poland	8	Jordan	1	Seychelles	3
Iraq	1	Lebanon	9	Lebanon	1	Slovenia	3
Japan	1	Peru	9	Macedonia	1	Turkey	3
Kazakhstan	1	China	11	Malaysia	1	Hungary	4
Micronesia	1	El Salvador	11	Mauritius	1	Ukraine	4
Spain	1	Korea	11	Nigeria	1	Argentina	5
Sri Lanka	1	Jamaica	14	Oman	1	New Zealand	5
Vietnam	1	South Africa	14	South Africa	1	Barbados	6
Aruba	2	Argentina	16	Sri Lanka	1	Romania	6
Austria	2	Panama	19	Thailand	1	Slovakia	7
Bahamas	2	Venezuela	19	Trinidad &Tobago	1	Spain	7
Grenada	2	Colombia	20	Abu Dhabi	2	Portugal	8
Thailand	2	Philippines	24	Bahrain	2	Cyprus	9
Ecuador	3	Turkey	24	Belarus	2	Japan	9
Finland	3	Uruguay	24	Brazil	2	Czech	10
Guatemala	3	Italy	26	Dubai	2	Belgium	11
Egypt	4	Mexico	33	Georgia	2	Denmark	11
Hungary	4	Brazil	34	Iran	2	Finland	11
Trinidad &Tobago	4			Kazakhstan	2	Poland	11
Belize	5			Moldova	2	Austria	12
Bulgaria	5			Montenegro	2	Russia	13
Dominican Republic	5			Pakistan	2	Iceland	14
Portugal	5			Philippines	2	Croatia	15
Costa Rica	7			Serbia	2	Lithuania	16
Indonesia	7			Cuba (Banco Central)	3	Sweden	27
Malaysia	7			Ireland	3	Greece	29
		Total	**432**			**Total**	**314**

C. Primary Independent Variables

As discussed in the previous section, we entertain six variables to test our hypotheses regarding factors that are designed to reduce the holdout problem associated with sovereign debt issues. Our primary explanatory variable is the minimum percentage

of bondholders required to change the payment terms of an outstanding bond issue. In the tables we designate this variable as ***Vote***. Thus, for bonds that do not contain a CAC, ***Vote*** is coded as 1.0. We set the variable ***Meet*** equal to one if the vote must take place at an actual meeting of the bondholders and zero otherwise.[15] We also construct a series of indicator variables depending on whether the bond (1) includes a right to accelerated payments, which can be an individual right, or a collective right if 10% or 25% of the holders have to agree (***ACC***); (2) includes a provision restricting the issuer from voting bonds it "owns or controls" (***Disenfran***); and (3) has a collective representative, either a trustee or a bondholder committee that can act on behalf of all the bondholders of a certain issue (***Trust/Comm*****).**

We conjecture that the foregoing factors are designed to reduce the holdout problem and make restructuring less costly for financially troubled sovereigns and reduce their costs of debt. Disenfranchisement is the one factor here that does not impact holdouts directly; it is a clause that prevents issuer overreaching.

In order to isolate the effect of these factors on the spreads of sovereign bonds we employ a set of control variables that proxy for other effects that might impact the spreads.

D. Control Variables

(1) Credit Ratings

Roughly speaking, sovereign credit ratings provide an estimate of the sovereign's likelihood of default, although governments might exert pressure in the form of veiled threats of regulation and "investigations into practices" (as evidenced by the recent spat

[15] Note that this variable is only relevant to the English-Law issues.

between S&P and the U.S. government) or seek to "compensate" (bribe) the rating agencies to present optimistic prospects of the firm's future by presenting its financial position in the most favorable light. (Consequently, there is the real possibility of an endogeneity problem.) Of course traders are aware of this possibility and take this into consideration when pricing new issues. Nevertheless we expect that the ratings are an indication of underlying quality and that higher ratings are associated with a lower cost of capital.

All of our ratings come from S&P, which is one of the three primary rating agencies for sovereign debt.[16] We divide the bond ratings into six categories (AAA, AA, A, BBB, BB, B). We combine ratings of pluses and minuses into these respective six categories.

In order to determine the extent to which our ratings variable is related to the financial condition of the issuing sovereign, we run an Ordered-Logit Regression in which the dependent variable is the ratings' categories defined above. We arbitrarily assign the value of 1 to our lowest category (B) and a value of 6 to our highest category (AAA). We entertain the independent variables suggested by the literature (Cantor & Packer, 1996; Afonso, Gomes & Packer, 2007).

As the data in the following table show, our ratings categories are significantly related to the variables that are typically referred to when describing a country's financial condition. For example, a country's bond rating is negatively related to its ratio of debt to GNP, GDP Growth and Debt Service to Exports ratio. The only counter intuitive relation is the positive relation between ratings and the ratio of domestic credit to GNP.

[16] We used the S&P ratings because they have the most extensive set of ratings of the three agencies (the other two being Moodys and Fitch).

We speculate, however, that this variable is a proxy for developed economies (countries), whose bonds are typically higher rated.

Ordered-Logit Model of Bond Ratings

Independent Variables	Coefficients	Z - statistic
Debt / GNP	-0.05	-11.06
GDP Growth	-45.67	-6.22
Debt Service / Exports	-0.03	-5.58
Standard Deviation of Export Growth^2	0.00	-3.55
Standard Deviation of Export Growth	-0.54	-3.43
Reserves / Imports	-0.01	-3.22
Debt Rescheduled in Previous Year	-0.77	-2.70
Reserves / Short Term Debt	-0.01	-2.66
Short Term Debt / Total Debt	-0.01	-0.80
Reserves / GDP	0.00	-0.34
Domestic Credit / GNP	0.01	9.48
Observations	881	
Pseudo R^2	0.25	

Dependent variable ranges from 1 (B: the lowest rating category) to 6 (AAA: the highest rating category)

(2) Number of Banks

Sovereign offerings often differ in terms of the investor groups to whom they are targeted. Some issuances are targeted to small groups of sophisticated investors whereas others seek to attract a broader bondholder base. The risk of encountering a problem with holdouts is likely to differ as a function of the nature of the investor base. The smaller and more concentrated the investor base, the lower the risk of holdout problems. The number of banks involved in the offering provides a proxy for the dispersion of the investor base because each bank is likely targeting a different investor group.

(c) Size of Offering

Another factor that can influence the pricing of a bond is its liquidity. Other things equal, investors prefer more liquidity. The size of an offering provides a likely measure of the liquidity of the bond.

(d) Shelf/Private Offering

There are two regulatory structures for bonds governed by U.S. law. The larger and more frequent issuers typically use a structure called a "shelf offering". Shelf offerings tend to be done by the most established issuers, who register a whole series of bonds at one time and "place them on the shelf." These issuers then take a portion of the issue off the shelf and issue them whenever they believe market conditions to be favorable. The issuers that do not use shelf registrations almost all use private offerings, which are offerings restricted to small subgroups of investors (typically, those qualifying as "sophisticated" under the rules of the U.S. Securities and Exchange Commission). The Shelf/Private Offering variable tends to be highly correlated with offering size. Hence, we use the former in tests involving bonds issued under New York law and the latter in tests involving the English-law bonds.

V. Summary Statistics

Tables 2 and 3 report the summary statistics of our dependent and independent variables. Table 2 reports the data from 1990-2011 and Table 3 reports the data from 2003-2011. In the tables, "Invest" is an indicator variable for investment grade bonds and all other variables are as described above.

The data in Table 2 reveal that the mean ***Spread*** for the New York-law bonds is significantly higher than the ***Spread*** for the English-law bonds (3% versus 1.58%). This is consistent with the greater percentage of investment grade bonds in the latter subset (81.75% versus 38.68%). The minimum percentage of bonds required to change payment terms (***Vote***) is significantly higher for the New York sample, reflecting the number of unanimity CACs in the earlier (pre-2003) period. The correlation matrix shows that ***Vote*** is positively related to ***Spread*** for the New York sample, which is consistent with our hypothesis, however the relation is negative for the English sample. The data also show that the mean ***Spread*** is significantly lower for investment grade bonds in both samples. The dummy variable for disenfranchisement is negatively related to ***Spreads*** in the New York sample consistent with our hypothesis, however the relation is positive in the English sample.

Similar to the full sample, the data in Table 3 show that the mean ***Spread*** for the New York bonds is significantly higher than the English bonds in the subset of observations over the 2003-2011 period (2.84% versus 1.68), again reflecting the greater percentage of investment grade bonds in the latter sample (83.25% versus 38.59%). The mean percentage of ***Vote*** is 75% in the New York sample consistent with Figure 2 which shows that essentially all New York bonds issued after 2002 contained a 75% voting requirement to change contract terms. This is also reflected in the zero correlation between ***Vote*** and ***Spread*** indicating that the former is a constant in this sample.

It should be noted that the data in Tables 2 and 3 include both investment and non-investment grade bonds. Recall that our hypotheses posit that the relations between our dependent and independent variables are different for these two subsets of the data.

Table 2: Summary Statistics 1990 - 2011

	Panel 1: NY Law Bonds			Panel 2: English Law Bonds		
	Mean / Percent	Standard Deviation	Number of Observations	Mean / Percent	Standard Deviation	Number of Observations
Variables						
Spread	3.00	2.00	404	1.58	2.35	306
Vote	86.71	14.01	432	31.61	21.91	321
Investment	38.38	48.68	456	81.75	38.68	378
Meet	N/A	N/A	N/A	68.91	44.51	386
Disenfran	43.73	49.67	359	27.07	44.51	266
ACC	74.55	43.62	385	48.88	50.07	313
Trustee / Com	10.83	31.12	360	41.84	49.43	239

Correlation Matrix - New York Law Bonds 1990 - 2011

	Spread	Vote	Investment	Disenfran	ACC	Trustee / Com
Spread	1.00					
Vote	0.03	1.00				
Investment	-0.51	0.00	1.00			
Disenfran	-0.10	-0.71	0.06	1.00		
ACC	0.15	-0.26	-0.29	0.29	1.00	
Trustee / Com	-0.03	-0.15	-0.11	0.20	0.15	1.00
Obs	270					

Correlation Matrix - English Law Bonds 1990 - 2011

	Spread	Vote	Investment	Meet	Disenfran	ACC	Trustee / Com
Spread	1.00						
Vote	-0.05	1.00					
Investment	-0.46	0.03	1.00				
Meet	0.08	-0.72	-0.17	1.00			
Disenfran	0.03	0.63	0.11	-0.69	1.00		
ACC	0.17	0.59	-0.20	-0.68	0.57	1.00	
Trustee / Com	0.04	0.79	-0.08	-0.80	0.76	0.72	1.00
Obs	163						

Table 3: Summary Statistics 2003 - 2011

	Panel 1: NY Law Bonds			Panel 2: English Law Bonds		
	Mean / Percent	Standard Deviation	Number of Observations	Mean / Percent	Standard Deviation	Number of Observations
Variables						
Spread	2.84	1.85	225	1.68	2.30	159
Vote	75.24	6.75	217	46.87	24.21	141
Investment	38.59	48.78	241	83.25	37.44	197
Meet	N/A	N/A	N/A	43.07	49.64	202
Disenfran	78.28	41.34	198	48.65	50.15	148
ACC	84.11	36.64	214	73.45	44.29	177
Trustee / Com	16.41	37.13	195	66.67	47.31	141

Correlation Matrix - New York Law Bonds 2003 - 2011

	Spread	Vote	Investment	Disenfran	ACC	Trustee / Com
Spread	1.00					
Vote	0.00	1.00				
Investment	-0.45	0.11	1.00			
Disenfran	-0.15	-0.30	0.20	1.00		
ACC	-0.03	-0.02	-0.19	0.10	1.00	
Trustee / Com	-0.01	-0.07	-0.13	0.08	0.09	1.00
Obs	147					

Correlation Matrix - English Law Bonds 2003 - 2011

	Spread	Vote	Investment	Meet	Disenfran	ACC	Trustee / Com
Spread	1.00						
Vote	-0.10	1.00					
Investment	-0.26	0.00	1.00				
Meet	0.15	-0.57	-0.25	1.00			
Disenfran	0.04	0.46	0.15	-0.53	1.00		
ACC	-0.02	0.57	0.02	-0.69	0.49	1.00	
Trustee / Com	-0.01	0.73	-0.11	-0.69	0.65	0.69	1.00
Obs	94						

VI. Empirical Results

In reporting our tests of the hypotheses discussed in the previous section, we examine the effects of the independent variables on New York-law bonds and English-law bonds separately, so as not to have to correct for differences in the legal systems. We also separate New York- from English-law bonds in our subsets of high-rated (investment grade) and low-rated (non-investment grate) issuers.

A. Minimum Modification Vote

We define the variable ***Vote*** as the minimum vote required to alter the payment terms of an outstanding bond issue. Historically, the empirical literature on sovereign debt has focused on a dichotomous variable indicating the absence or presence of a CAC. In our sample ***Vote*** ranges from a high of 100% (the old-style New York requirement of a 100% vote to change payment terms) to a low of 18.75% (the English-style diminishing quorum requirement).

We argue that the higher the required vote percentage, the greater the potential holdout problem, which would increase the costs of a restructuring, and therefore the higher the offering spread. Bondholders would anticipate the difficulty of changing the payments of a particular bond issue and would require a premium commensurate with these anticipated costs should a restructuring be necessary in the future. Thus, our hypothesis is that ***Vote*** will be positively related to ***Spread*** – the higher the number of votes required to change payment terms the greater the probability of holdout problems and therefore the higher the issuing spread. In addition, we argue that the relation between ***Vote*** and ***Spread*** should be greater for sovereigns more likely to encounter

financial difficulties in the future. Thus, we expect a stronger relation for low-quality sovereigns (sovereigns with below investment grade debt) than high-quality sovereigns (sovereigns with investment grade debt) and this expectation is borne out by the data.

Tables 4 - 7 report the results of our primary hypothesis that the spread on sovereign bonds is positively related to the percentage of bondholders necessary to approve changes in the payment terms of the bond. Table 4 presents the results based on our sample of New York-law bonds from 1990 to 2011.

All but one of the ratings variables in Table 4 are significant at the 1% level and all but one are monotonic. Our holdout ratings category is BBB. Thus, all ratings above BBB are negative, indicating a lower spread relative to the BBB rating, and all ratings below BBB are positive.

The coefficient on the number of banks (***Bank***) is negative and highly significant, suggesting that the higher the number of banks the broader the investor base and greater liquidity resulting in a lower spread. The coefficient on the dummy variable indicating a shelf registration (***Shelf***) is significantly positive. Consistent with prior research (Bradley et al., 2010), this suggests that market participants anticipate that sovereigns issue debt when they believe that the market conditions are ripe for an offering. In response to the asymmetric information possessed by the issuing sovereign, investors price-protect themselves and require a higher issue premium.

The primary result of interest in Table 4 is the significantly positive relation between ***Vote*** and ***Spread***. This relation suggests that there is a pricing penalty for bonds that face a higher risk of holdout problems (the higher the value of ***Vote***, the higher the risk of holdouts and the higher the issuing spread). Put differently, the shift towards

Table 4
New York Law Bonds
(1990 – 2011)

OLS results. Dependent variable is the **spread** between the interest rate of the bond and the rate on a U.S. Treasury bond with the same maturity. **Ratings** are taken from S&P with the pluses and minuses being combined with the lettered ratings. **Bank** is the number of banks participating in the offer. **Shelf** is equal to 1 if the offer is shelf registered and zero otherwise. **Vote** is the minimum percentage of votes by dollar amount needed to change the payment terms of the bond. t-Statistics are reported in parentheses. Standard errors are clustered at the country level. *** indicates significance at the 1% level, ** indicates significance at the 5% level and * indicates significance at the 10% level.

Independent Variables	Total	Investment Grade	Non-Investment Grade
Ratings:			
AAA	-1.48*** (-4.17)		
AA	-1.94*** (-7.30)		
A	-0.47 (-1.63)		
BB	1.19*** (4.25)		
B	2.38*** (5.75)		
Bank	-0.07*** (-3.16)	-0.18*** (-3.43)	-0.05 (-1.27)
Shelf	0.55*** (2.70)	0.17 (0.47)	0.52* (1.86)
Vote	2.24** (2.47)	-0.61 (-0.51)	3.34*** (3.07)
Constant	0.32 (0.34)	3.11*** (2.96)	0.75 (0.78)
Adjusted R^2	0.48	0.25	0.10
Observatons	294	107	186

CACs – moving from a unanimity regime to a 75% vote requirement – is associated with a reduction in the spreads of New York-law bonds.

The results of the subsets of investment grade and non-investment grade bonds are consistent with our hypothesis that this shift is more important for low quality sovereigns. Indeed, the sign on ***Vote*** is insignificantly negative for the investment grade issuances, whereas the sign is highly significant and positive for the non-investment grade bonds – reducing the required percentage reduces the spread demanded by investors. We note in passing that the signs and statistical significance of the control variables ***Bank*** and ***Shelf*** are consistent with those of the whole sample.

Table 4.A is the result of adding yearly fixed effects to the regression model. Although the estimated coefficient on ***Vote*** is positive it is not statistically different from zero (t=1.12). This is to be expected. As indicated in Figure 1, except for a few "outliers" the value of ***Vote*** is a constant 1.0 from 1990-2002 and a constant of .75 from 2004-2011. It is therefore not surprising that yearly dummy variables would "explain" more than the dichotomous variable ***Vote***. The dummy variables will account for more than the presence or absence of a CAC. These variables will also capture the state of the world economy in a particular year, the prevailing and expected interest rates and exchange rates and the stage of the current business cycle.

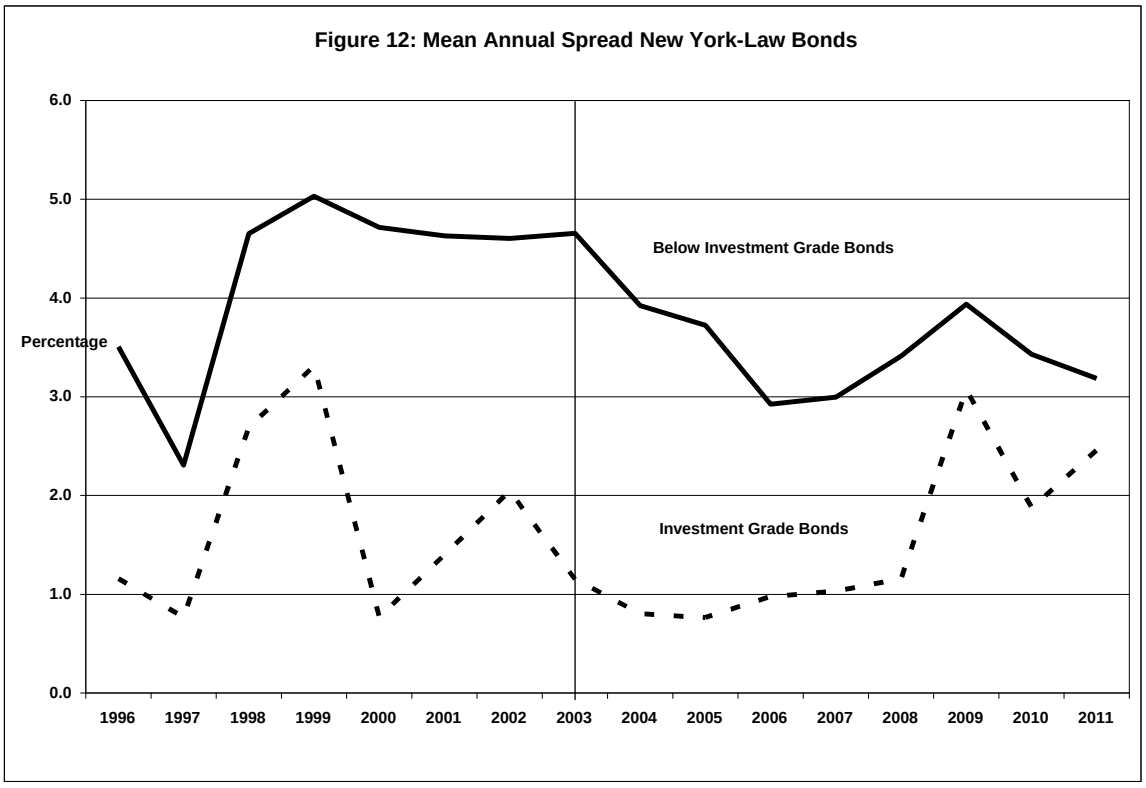
We note in passing the significant negative coefficient on ***Vote*** in the investment grade subsample.

Table 4.A
New York Law Bonds
(1990 – 2011)
Yearly Fixed Effects

OLS results. Dependent variable is the **spread** between the interest rate of the bond and the rate on a U.S. Treasury bond with the same maturity. **Ratings** are taken from S&P with the pluses and minuses being combined with the lettered ratings. **Bank** is the number of banks participating in the offer. **Shelf** is equal to 1 if the offer is shelf registered and zero otherwise. **Vote** is the minimum percentage of votes by dollar amount needed to change the payment terms of the bond. t-Statistics are reported in parentheses. Standard errors are clustered at the country level. *** indicates significance at the 1% level, ** indicates significance at the 5% level and * indicates significance at the 10% level.

Independent Variables	Total	Investment Grade	Non-Investment Grade
Ratings:			
AAA	-1.38*** (-3.27)		
AA	-1.80*** (-5.99)		
A	-0.50** (-2.00)		
BB	1.27** (4.52)		
B	2.72*** (7.04)		
Bank	-0.08 (-3.42)	-0.17 (-3.21)	-0.05 (-1.24)
Shelf	0.54 (-2.55)	0.26 (-0.67)	0.50 (1.67)
Vote	-1.78 (2.21)	-1.99 (-2.99)	1.93 1.12
Constant	4.30 (5.28)	2.80 (5.47)	2.15 (1.26)
Adjusted R^2	0.54	0.40	0.13
Observatons	294	107	186

Figure 12 presents the time series of the mean average spreads for investment and non-investment grade bonds written under New York law from 1996 to 2011[17] and lends further support for our primary hypothesis. As expected, the cost of debt (mean annual spread) is higher for the below-investment grade sample. However, note that the average spread for this sample begins to fall in 2003 corresponding to the advent of CACs. According to previous research, the adoption of CACs by low quality countries should result in an increase in the cost of debt or should produce no effect at all. As can be seen in the graph, however, the average spread for the lower rated issuers begins to decrease with the addition of CACs in 2003.



This graph is particularly informative given the stability of bond ratings for each country through time. There are 204 bonds issued by 42 sovereigns in the 1990-2011

[17] We report data starting in 1996 because of the paucity of bonds issued prior to that date. See Figure 1.

time period. Of these 42 sovereign issuers only 3 issued both investment and non-investment grade bonds over this time period. Likewise there are 222 bonds issued by 37 countries in the 2003-2011 time period and only one country issued both investment grade and non-investment grade bonds over this time frame. Finally there are 29 countries that issued bonds in both periods, and all but 8 issued exclusively either investment or below investment grade bonds. These data underscore the stability of ratings over time and the fact that ratings indicate the quality of the issuing country rather than a specific bond issue. For our purposes here, the data show that sovereigns did not switch from one category to the other in these two time periods.

Table 5 is a regression counterpart to Figure 12. The data show that the mean spread for non-investment grade bonds is significantly lower in the Post-2002 period whereas for the investment grade bonds the mean spread is insignificantly lower in the latter period. It should be noted that in the Post-2002 period, 95% of the bonds in the sample contained a CAC, whereas only 1% of the bonds in the sample contained a CAC in the earlier period. These results suggest that the adoption of CACs in the Post-2002 period had a significant negative effect on the spreads of non-investment grade bonds, whereas the adoption had no effect on investment grade bonds.

Table 5
Dollar Denominated NY-Law Bonds.

OLS Regression. The dependent variable is the spread between the issue rate and the U.S. Treasury rate. The independent variables are the number of banks participating in the issue, dummy variables for investment grade and non-investment grade bonds and an interaction variable equal to 0 if bond was issued before 2002 and 1.0 if issued afterwards. t-Statistics are reported in parentheses. Standard errors are clustered at the country level. *** indicates significance at the 1% level, ** indicates significance at the 5% level and * indicates significance at the 10% level.

Independent Variables	Rating = 1 if Investment Grade	Rating = 1 if Non-Investment Grade
Constant	4.26***	2.21***
	(19.43)	(8.69)
Banks	-0.10**	-0.10***
	(-2.14)	(-2.47)
Rating	-2.03***	2.42***
	(-5.76)	(6.94)
Rating X Post 2002	-0.10	-0.61***
	(-0.35)	(-3.41)
Adjusted R^2	36.78	38.09
Obsrevations	333	333

Table 6 presents our results for the English-law dataset for the 1990 – 2011 period. The signs of the ratings coefficient are monotonic and highly significant. The coefficients on the two control variables ***Bank*** and ***Amount*** (the log of the size of the issue) are not significant but do have the expected signs. Finally, the positive and significant relation between ***Vote*** and ***Spread*** indicates, once again, that the greater the number of votes required to change the payment terms of a bond the greater the issuing spread. Thus, the results of our analysis for the English-law bonds are consistent with our results for the New York-law bonds. The coefficient of ***Vote*** is negative and insignificant for the investment grade sample, while the coefficient is positive and significant in the non-investment grade subsample. Note that we include dummy variables to account for the fact that some of the English law-bonds are denominated in

Euros (*Euro*) and some in pounds (*Pound*). Note also that since the English-law bonds do not face an SEC type registration process, there is no issue of controlling for shelf offerings.

Table 6.A includes yearly fixed effects to the regression models in Table 6. Although the coefficient on ***Vote*** changes from negative to positive with the addition of yearly dummy variables for the investment subsample, the estimate is still statistically insignificant. In contrast, the coefficient on ***Vote*** in the non-investment grade subsample is positive and highly significant (t=8.70).

The foregoing results are based on bonds issued throughout the 1990-2011 period. Table 7 reports results for the sub-period 2003-2011. Again we report results for the New York-law bonds and English-law bonds separately and present subsets of the two based on investment and non-investment grade bonds. The results in Table 7 are consistent with those reported in Tables 4 and 6 generally, and more important are consistent with our primary hypothesis (a positive relation between ***Vote*** and ***Spread*** for low quality sovereigns).

Table 6
English Law Bonds
(1990-2011)

OLS results. Dependent variable is the **Spread** between the interest rate of the bond and the rate on a U.S. Treasury bond with the same maturity. **Ratings** are taken from S&P with the pluses and minuses being combined with the lettered ratings. **Bank** is the number of banks participating in the offer. **Vote** is the minimum percentage of votes by dollar amount needed to change the payment terms of the bond. **Amount** is the log of the size of the issue. **Euro** and **Pound** are dummy variables if the issue is stated in either currency. t-Statistics are reported in parentheses. Standard errors are clustered at the country level. *** indicates significance at the 1% level, ** indicates significance at the 5% level and * indicates significance at the 10% level.

Independent Variables	Total	Investment Grade	Non-Investment Grade
Ratings:			
AAA	-1.48*** (-4.17)		
AA	-1.94*** (-7.30)		
A	-0.47 (-1.63)		
BB	1.19*** (4.25)		
B	2.38*** (5.75)		
Bank	-0.07*** (-3.16)	-0.18*** (-3.43)	-0.05 (-1.27)
Shelf	0.55*** (2.70)	0.17 (0.47)	0.52* (1.86)
Vote	2.24** (2.47)	-0.61 (-0.51)	3.34*** (3.07)
Constant	0.32 (0.34)	3.11*** (2.96)	0.75 (0.78)
Adjusted R^2	0.48	0.25	0.10
Observatons	294	107	186

Table 6.A
English Law Bonds
(1990-2011)
Yearly Fixed Effects

OLS results. Dependent variable is the **Spread** between the interest rate of the bond and the rate on a U.S. Treasury bond with the same maturity. **Ratings** are taken from S&P with the pluses and minuses being combined with the lettered ratings. **Bank** is the number of banks participating in the offer. **Vote** is the minimum percentage of votes by dollar amount needed to change the payment terms of the bond. **Amount** is the log of the size of the issue. **Euro** and **Pound** are dummy variables if the issue is stated in either currency. t-Statistics are reported in parentheses. Standard errors are clustered at the country level. *** indicates significance at the 1% level, ** indicates significance at the 5% level and * indicates significance at the 10% level.

Independent Variables	Total	Investment Grade	Non-Investment Grade
Ratings:			
AAA	-1.40*** (-3.64)		
AA	-1.40*** (-3.79)		
A	-0.57 (-1.79)		
BB	1.39*** (4.11)		
B	3.70*** (9.09)		
Bank	-0.00 (-0.71)	-0.01 (-0.49)	-0.12 (-3.46)
Amount	-0.24* (-2.38)	(-0.22) (-2.17)	0.67*** (4.28)
Vote	1.07* (1.89)	0.82 (1.09)	7.57*** (8.70)
Euro	-0.61 (-3.02)	0.30 -1.57	-0.94 (1.19)
Pound	1.06 2.88	1.32*** (4.05)	.
Constant	3.15 (5.01)	2.00*** (3.20)	0.21 (0.15)
Adjusted R^2	0.78	0.34	0.66
Observatons	148	116	31

The coefficients on the ratings variables in the New York bond sample reported in Panel 1 are monotonic and all but one are statistically significant. The signs of the control variables ***Bank*** and ***Shelf*** are as expected, although neither is statistically significant. Importantly, the sign on the coefficient ***Vote*** is positive and significant for the non-investment grade subset. For the English law-bonds, all but one of the coefficients on ratings are monotonic and all but two are statistically significant. The coefficient on *Vote* for the non-investment grade subset is positive and statistically significant, where as the coefficient on *Vote* for the investment grade subset is not significant. Overall, the coefficients of *Vote* in the two subsets are as expected. The coefficient in the investment grade subsample is negative and insignificant while the coefficient on the non-investment grade subsample is positive and highly significant.

Two important caveats must be made regarding the results in Table 7. First although the positive relation between ***Vote*** and ***Spread*** for the non-investment New York subsample is consistent with our basic hypothesis, it must be noted that there are only 4 observations that are different from 75%, and 3 of the 4 bonds are issued by the same country (Brazil). The value of ***Vote*** for these observations is 85%. Consequently, we do not include the variable ***Vote*** for New York bonds in subsequent analyses as this would essentially create two constants in the regressions. Second, there are only 15 countries in the non-investment sample of English-law bonds. Although the sign and significance are consistent with our hypothesis, the paucity of data in this cell reduces the impact of this result.

Table 7.A reports the results of adding yearly fixed effects to the regression models in Table 7. As shown in this table, adding yearly dummy variables again changes

the sign of the coefficient on ***Vote*** for the investment subsample, but again the estimate is not statistically significant. In contrast the coefficient on ***Vote*** for the non-investment grade subsample is positive and highly significant (t=4.56)

The results reported in Tables 4 through 7 are at odds with the findings of the prior generation of empirical studies on CACs. Those studies found that either modification CACs (the shift from unanimity votes to something less) had a *zero* price effect or that they *lowered* spreads for the high-rated nations and actually *increased* the spreads for the low-rated sovereigns. The implication being that shifting to a lower vote requirement either made no difference or *increased* the costs of borrowing for the weaker nations. Based on those results, it is surprising that any low-rated nation was willing to shift away from unanimity provisions. Yet, they did, en masse. With the caveats discussed above, regarding the small sample sizes, our results may begin to provide an explanation for the observed market behavior.

Our results suggest that the markets, and the advocates of CACs, might have been right to abandon the unanimity requirement. For the post 2002 period, we find that CACs are associated with lower spreads for weaker nations. We attribute this diminution of the spreads for low-quality countries to the fact that restructurings are easier and cheaper when the required vote thresholds for modifications of payment terms are lower.

Table 7
New York and English Law Bonds
(2003-2011)

OLS results. Dependent variable is the **spread** between the interest rate of the bond and the rate on a U.S. Treasury bond with the same maturity. **Ratings** are taken from S&P with the pluses and minuses being combined with the lettered ratings. **Bank** is the number of banks participating in the offer. **Shelf** is equal to 1 if the offer is shelf registered and zero otherwise. **Vote** is the minimum percentage of votes by dollar amount needed to change the payment terms of the bond. **Amount** is the log of the size of the issue. **Euro** and **Pound** are dummy variables if the issue is stated in either currency. t-Statistics are reported in parentheses. Standard errors are clustered at the country level. *** indicates significance at the 1% level, ** indicates significance at the 5% level and * indicates significance at the 10% level.

	Panel 1: NY Law Bonds			Panel 2: English Law Bonds		
Independent Variables	Total	Investment Grade	Non-Investment Grade	Total	Investment Grade	Non-Investment Grade
Ratings:						
AAA	.			-1.58***		
				(-3.237)		
AA	-2.05***			-1.17*		
	(-6.76)			(-1.77)		
A	-0.49			-1.63***		
	(-1.25)			(-3.33)		
BB	1.22***			0.32		
	(4.06)			(0.55)		
B	1.63***			3.13***		
	(5.03)			(2.98)		
Bank	-0.03	-0.19***	0.02*	-0.05	-0.03	-0.02
	(-1.39)	(-3.83)	(1.72)	(-1.50)	(-0.58)	(-0.62)
Shelf	0.14	0.65	0.14			
	(0.72)	(1.66)	(0.14)			
Amount				0.16	0.35	1.05
				(0.81)	(1.62)	(1.79)
Vote	3.95***	0.81	14.18***	0.88	-0.48	8.51***
	(2.83)	(0.45)	(7.08)	(1.09)	(-.57)	(4.23)
Euro				-0.25	0.06	-0.11
				(-0.60)	(0.14)	(-0.18)
Pound				-0.25	-0.17	.
				(-0.49)	(-0.39)	
Constant	-0.83	1.49	-7.36***	1.13	-0.78	-5.60
	(-0.72)	(1.04)	(-4.64)	(1.00)	(-0.69)	(-1.63)
Adjusted R^2	0.44	0.27	0.03	0.58	-0.01	0.64
Observatons	155	57	97	79	65	15

Table 7.A
New York and English Law Bonds
(2003-2011)
Yearly Fixed Effects

OLS results. Dependent variable is the **spread** between the interest rate of the bond and the rate on a U.S. Treasury bond with the same maturity. **Ratings** are taken from S&P with the pluses and minuses being combined with the lettered ratings. **Bank** is the number of banks participating in the offer. **Shelf** is equal to 1 if the offer is shelf registered and zero otherwise. **Vote** is the minimum percentage of votes by dollar amount needed to change the payment terms of the bond. **Amount** is the log of the size of the issue. **Euro** and **Pound** are dummy variables if the issue is stated in either currency. t-Statistics are reported in parentheses. Standard errors are clustered at the country level. *** indicates significance at the 1% level, ** indicates significance at the 5% level and * indicates significance at the 10% level.

	Panel 1: NY Law Bonds			**Panel 2: English Law Bonds**		
Independent Variables	Total	Investment Grade	Non-Investment Grade	Total	Investment Grade	Non-Investment Grade
Ratings:						
AAA	.			-1.90***		
				(-4.69)		
AA	-1.87***			-2.07**		
	(-5.86)			(-2.46)		
A	-0.49			-0.66		
	-1.62)			(-1.71)		
BB	1.30***			1.12*		
	(5.33)			(2.76)		
B	2.02***			3.64**		
	(7.92)			(7.44)		
Bank	-0.04	-0.14***	0.01	-0.02	0.01	-0.25
	(-2.01)	(-2.48)	(0.23)	(-0.66)	(-0.39)	(-1.70)
Shelf	-0.06	0.01	-0.22			
	(-0.28)	(0.02)	(0.72)			
Amount				-0.29**	-0.06	0.49
				(-2.10)	(-0.54)	(1.08)
Vote	1.52	1.77	-3.16	0.67*	0.27	7.00***
	(1.22)	(0.90)	(-0.63)	(1.98)	(-0.32)	(4.56)
Euro				-0.67	0.42	-1.34
				(-2.59)	(1.62)	(-2.74)
Pound				-0.46	1.08	.
				(-1.52)	(3.71)	
Constant	-0.83	1.14	4.77	4.72**	-1.11	0.84
	(-.72)	(0.94)	(1.36)	(5.88)	(-2.15)	(0.32)
Adjusted R^2	0.54	0.58	0.24	0.75	0.42	99.00
Observatons	154	57	97	80	65	15

We now turn to other aspects of modification clauses that as yet have not been explored in the literature. Because of the slight (near zero) variation in these contract provisions prior to 2003, we concentrate on the Post-2002 period.[18]

B. Mandatory Meetings

Prior studies involving comparisons of the spreads on English-law and New York-law bonds ignored an important feature of English-law bonds – namely mandatory meetings. This feature requires that a vote to change the payment terms of an outstanding issue has to take place at an actual, physical meeting of the bondholders. Such a requirement might hinder reorganization efforts by sovereigns for two reasons. First, it would be costly in terms of time and out-of-pocket expenses for bondholders to gather in a particular location to hold such a vote, particularly if the bondholders were scattered throughout the world. Second, that fact that bondholders were required to meet face-to-face might actually exacerbate the holdout problem since such a gathering would make coordination among bondholders easier. Bondholders might collectively agree to hold out rather than accept a reduction in their principle or interest. Thus, we hypothesize that a meeting requirement would increase the spread on sovereign debt issues.

The requirement of a meeting is primarily found in English-law CACs. Moreover almost all English-law CACs prior to 2003 included mandatory meetings. Consequently we examine only English-law bonds from 2003 to 2011. Table 8 reports the results of including mandatory meetings (***Meet***) in this subset of the data. Similar to the results in the previous two tables, the effect of meetings is only significant for the non-investment

[18] Unreported, for the tests discussed in the remainder of the paper, is the impact of controlling for a time trend in the 2002-2011 period. The introduction of a time trend does not change our basic results.

grade sample. The coefficient is 0.85 with a t-statistic of 2.18. This result indicates that the requirement of a mandatory meeting increases the spread for non-investment grade bonds, which is consistent with our general hypothesis that increasing the costs of changing the terms of a sovereign bond increases the spread demanded by investors and that this effect is relevant primarily for bonds that have a higher probability of default. Note that the coefficient on *Vote* is positive and significant with a t-statistic of 6.70.

C. Disenfranchisement

The final variation in the modification CACs that we examine is the use of disenfranchisement provisions. In the wake of the move to collective action provisions in the post-2002 era, we presume that creditors would be concerned about protecting against opportunistic behavior by issuers. An issue with any collective action provision is vulnerable to vote manipulation. That is, the issuer might be tempted to park its bonds with sympathetic entities who would then vote in a manner contrary to the interests of the other creditors. For example, Ecuador threatened as much in its restructuring in 2009 (Drake, 2012). Given this concern, one would expect creditors to demand, and issuers to provide, provisions that protect against vote manipulation.

Consistent with the foregoing, many issuers began including disenfranchisement provisions after 2002. (See Figures 5 and 6.) These provisions typically specify that issuers are barred from voting bonds that it "owned or controlled". However, not all issuers made this shift. Some provided no anti-manipulation protections to their creditors, even after the shift to collective action,

Table 8
English-Law Bonds
2003-2011

OLS results. Dependent variable is the **spread** between the interest rate of the bond and the rate on a U.S. Treasury bond with the same maturity. **Ratings** are taken from S&P with the pluses and minuses being combined with the lettered ratings. **Bank** is the number of banks participating in the offer. **Shelf** is equal to 1 if the offer is shelf registered and zero otherwise. **Vote** is the minimum percentage of votes by dollar amount needed to change the payment terms of the bond. **Meet** equals 1 if a formal meeting is required to vote and zero otherwise. **Amount** is the log of the size of the issue. **Euro** and **Pound** are dummy variables if the issue is stated in either currency. t-Statistics are reported in parentheses. Standard errors are clustered at the country level. *** indicates significance at the 1% level, ** indicates significance at the 5% level and * indicates significance at the 10% level.

Independent Variables	Total	Investment Grade	Non-Investment Grade
Ratings:			
AAA	-1.44*** (-3.27)		
AA	-1.33*** (-3.06)		
A	-1.04** (-2.15)		
BB	1.1** (2.23)		
B	3.34*** (6.76)		
Bank	-0.01 (-0.96)	-0.02 (-1.42)	-0.02 (-0.38)
Amount	-0.01 (0.13)	0.12 (1.07)	0.18 (0.37)
Vote	0.96 (1.43)	-0.30 (-.46)	3.71** (2.25)
Euro	-0.56* (-1.89)	0.08 (0.39)	-0.40 (-0.46)
Pound	1.00 ('2.05**)	1.13*** (2.87)	.
Constant	1.98*** (2.77)	0.53 (0.81)	2.01 (0.75)
Adjusted R^2	0.63	0.02	0.10
Observatons	148	116	31

Creditors, we hypothesize, would charge less to issuers willing to constrain themselves against the temptation to manipulate the vote. Further, this effect should be higher for weaker issuers since they, by definition, face a higher risk of financial distress.

The data reported in Table 9 are consistent with this hypothesis. The coefficient on disenfranchisement (***Disenfran***) is negative and statistically significant for the non-investment grade New York-law bonds. For the English-law regression the sign of the variable is negative, but not statistically significant. However, contrary to our hypothesis we find that for the high-rated issuers, disenfranchisement is significantly positively related to ***Spread***. While our working hypothesis is that contract terms have differential effects on high and low quality sovereigns, we are at a loss to explain the highly significant positive relation between disenfranchisement and spreads for the high quality countries. Perhaps the inclusion of a disenfranchisement clause causes investors to be leery of a country's high rating.

Table 9
(2003-2011)

OLS results. Dependent variable is the **spread** between the interest rate of the bond and the rate on a U.S. Treasury bond with the same maturity. **Ratings** are taken from S&P with the pluses and minuses being combined with the lettered ratings. **Bank** is the number of banks participating in the offer. **Shelf** is equal to 1 if the offer is shelf registered and zero otherwise. **Vote** is the minimum percentage of votes by dollar amount needed to change the payment terms of the bond. **Disenfran** equals 1 if the bond contains a disenfranchisement clause and zero otherwise. **Amount** is the log of the size of the issue. **Euro** and **Pound** are dummy variables if the issue is stated in either currency. t-Statistics are reported in parentheses. Standard errors are clustered at the country level. *** indicates significance at the 1% level, ** indicates significance at the 5% level and * indicates significance at the 10% level.

	Panel 1: NY Law Bonds			**Panel 2: English Law Bonds**		
Independent Variables	Total	Investment Grade	Non-Investment Grade	Total	Investment Grade	Non-Investment Grade
AAA	.			-1.46***		
				(-4.52)		
AA	-1.88***			-0.69		
	(-5.47)			(-1.53)		
A	-0.36			-2.04***		
	(-0.68)			(-3.52)		
BB	1.36***			-0.93*		
	(4.753)			(-1.72)		
B	1.93***			3.75***		
	(6.26)			(4.53)		
Bank	-0.03	-0.19***	0.05	-0.04	-0.06	0.37
	(-0.96)	(-4.94)	(1.74)	(-1.00)	(-1.39)	(0.94)
Shelf	0.52	0.89	0.66**			
	(2.10)	(1.38)	(2.41)			
Amount				0.17	0.38**	0.54
				(1.21)	(2.37)	(1.06)
Vote	NA	NA	NA	-1.82*	-2.01**	8.29***
				(1.83)	(-2.11)	(6.452)
Disenfran	-0.34	0.84	-0.76**	1.50***	1.25***	-0.52
	(-1.11)	(1.94)*	(-2.09)	(3.28)	(3.60)	(-0.79)
Euro				0.20	-0.02	0.08
				(0.77)	(-0.05)	(0.14)
Pound				0.16	-0.59	.
				(0.35)	(-1.69)	
Constant	2.05***	1.10	3.50**	1.55**	-0.61	-4.12
	(5.33)	(1.41)	(13.11)	(2.06)	(-0.81)	(-1.57)
Adjusted R^2	0.44	0.52	0.09	0.61	18.00	0.81
Observatons	157	52	100	78	62	14

We next examine two other manifestations of the shift toward collective action that have received little attention in prior research on CACs: the uses of Acceleration clauses and Collective Representation provisions.

D. Acceleration/Reverse Acceleration

The ability to accelerate its obligations upon the occurrence of an "Event of Default" is a significant weapon in a holdout creditor's hands. Acceleration clauses permit a bondholder to demand the receipt of all future interest payments as well as the payment of principal. Absent the power to accelerate, litigation becomes a decidedly less attractive proposition. Pre-2003, the vast majority of issuances in under both English law and New York law granted the right of acceleration to the individual bondholder. Post-2002, many of these issuers moved to requiring a 25% vote for an acceleration to occur (a small subset moved to 10%). The shift was nowhere near as uniform as the move in the New York-law bonds away from unanimity. But, as Figures 7 and 8 show, well over 50% of the issuers in both jurisdictions move from individual rights to acceleration to collective ones. In addition, most of these issuers also put in place Reverse Acceleration provisions to protect against the possibility that a holdout might gain a 25% stake. In that case, a 50% vote of the creditors (in principal amount) would have the power to reverse or negate the initial vote to accelerate.[19]

Consistent with our hypotheses we conjecture that the use of collective acceleration provisions should have a spread reducing effect, and that this effect should

[19] A handful of issuers have used higher vote thresholds for Reverse Acceleration, such as 66.67% and 75%.

manifest itself more in the subset of offerings by weaker issuers. Table 10 reports our results.

Again, our focus is the post-2002 data. For New York, consistent with the patterns seen earlier, we find that impact of acceleration is different for the subsets of high- and low-rated issuers. For the latter, the impact is as predicted. That is, the presence of acceleration provisions correlates with a significant reduction in spreads. By contrast, the coefficients are in the reverse direction for the high-rated issuers. Although both relations are statistically significant, the negative relation for the low-rated bonds is more so. Note that we do not use a separate dummy for Reverse Acceleration due to the high correlation between the adoption of Acceleration and Reverse Acceleration provisions.

For the English-law data we see a similar pattern. With the subset of weaker issuers, there is a significant spread reducing effect for the use of Acceleration provisions. For the subset of stronger issuers, the coefficient is not statistically significant.

Table 10
(2003-2011)

OLS results. Dependent variable is the **spread** between the interest rate of the bond and the rate on a U.S. Treasury bond with the same maturity. **Ratings** are taken from S&P with the pluses and minuses being combined with the lettered ratings. **Bank** is the number of banks participating in the offer. **Shelf** is equal to 1 if the offer is shelf registered and zero otherwise. **Vote** is the minimum percentage of votes by dollar amount needed to change the payment terms of the bond. **ACC** equals 1 if the bond contains an acceleration clause and zero otherwise. **Amount** is the log of the size of the issue. **Euro** and **Pound** are dummy variables if the issue is stated in either currency. t-Statistics are reported in parentheses. Standard errors are clustered at the country level. *** indicates significance at the 1% level, ** indicates significance at the 5% level and * indicates significance at the 10% level.

	Panel 1: NY Law Bonds			**Panel 2: English Law Bonds**		
Independent Variables	Total	Investment Grade	Non-Investment Grade	Total	Investment Grade	Non-Investment Grade
Ratings:						
AAA	.			-1.57***		
				(-3.50)		
AA	-1.23***			-1.11*		
	(-3.48)			(-1.70)		
A	-0.18			-1.42**		
	(-0.44)			(-2.57)		
BB	1.44***			0.14		
	(4.90)			(0.25)		
B	2.27***			3.25***		
	(6.38)			(3.29)		
Bank	-0.05	-.19***	-0.01	-0.04	-0.04	0.20
	(-1.16)	(-3.87)	(-0.22)	(-0.77)	(-0.47)	(1.10)
Shelf	0.24	1.02**	0.02			
	(1.19)	(2.69)	(0.8.)			
Amount				0.21	0.03	0.41
				(1.04)	(0.09)	(1.11)
Vote	NA	NA	NA	-0.60	-2.96	7.69***
				(0.45)	(-1.06)	(8.34)
ACC	-.05	0.50*	-1.78**	-0.16	1.92	-0.75**
	(-.13)	(1.93)	(-2.60)	(-0.26)	(1.18)	(-2.84)
Euro				-0.03	0.33	0.10
				(-0.07)	(0.67)	(0.25)
Pound				-0.26	-0.25	.
				(-0.49)	(-0.53)	
Constant	2.00***	1.45***	5.32**	0.96	1.22	-2.16
	(-0.35)	(3.76)	(6.96)	(0.87)	(0.54)	(-1.09)
Adjusted R^2	0.43	0.24	0.11	0.49	0.07	0.83
Observatons	172	52	113	80	68	14

E. Collective Representation Clauses

A Collective Representation Clause ("CRC") consolidates authority for key decisions in the hands of either a committee or a bondholder representative, such as a trustee. Standard practice in sovereigns bonds, in the post-World War II era, has been to use Fiscal Agents. These institutions, as a formal matter, are agents for the issuer. They perform administrative functions related to the bond, such as ensuring that payments are made at the appropriate places and in the appropriate currencies. Decisions as to important matters, such as whether to demand acceleration or to initiate a lawsuit against the debtor, tended to be allocated to the individual bondholder. Among the range of proposed changes to standard contracting practices that were made in the aftermath of the Mexican crisis in 1995 and the subsequent Asian crisis, was that sovereign bonds shift to a model that used collective representatives – agents who had responsibilities towards the bondholders as a group and were delegated the authority to act in the best interests of the collective (a mandate that would most likely entail acting in a manner adverse to any creditor who was seeking a holdout premium).

Two types of CRCs began to emerge in the post-2002 period; a Trustee provision and a Bondholder Committee provision. The former is a permanent representative for the bondholders who is present through the life of the bond; effectively the Trustee substitutes for the Fiscal Agent. The latter typically gets appointed only the event of a crisis situation. As shown in Figures 9 and 10, unlike the shift away from unanimity and the move toward acceleration provisions, only a small number of issuers implemented CRCs. Because of the small numbers, we cannot test the effects of the two types of CRCs individually. We report, therefore, the results for a consolidated CRC variable.

Our hypothesis is that the move towards collective action (here, a CRC) will have a spread reducing effect for the subset of bonds issued by weaker issuers. We report the results in Table 11.

For New York-law bonds for the 2003-2011 period, reported in Panel 1, the coefficient for the non-investment grade sample is negative but insignificant ($t = -1.22$). As Figure 9 shows, however, the adoption rate of CRCs in bonds written under New York law was quite small.

For the English-law subset for the 2003-2011 period, reported in Panel 2, where there was a higher rate of adoption of CRCs (particularly, of the bondholder committee provisions), the results are stronger. There is a significant spread reducing effect for the weak issuers (the non-investment grade subset) and a positive, albeit insignificant, effect for the stronger, investment grade, issuers.

Table 11
(2003-2011)

OLS results. Dependent variable is the **spread** between the interest rate of the bond and the rate on a U.S. Treasury bond with the same maturity. **Ratings** are taken from S&P with the pluses and minuses being combined with the lettered ratings. **Bank** is the number of banks participating in the offer. **Shelf** is equal to 1 if the offer is shelf registered and zero otherwise. **Vote** is the minimum percentage of votes by dollar amount needed to change the payment terms of the bond. **Trust/Comm** equals 1 if the bond has a trustee or a supervising committee and zero otherwise. **Amount** is the log of the size of the issue. **Euro** and **Pound** are dummy variables if the issue is stated in either currency. t-Statistics are reported in parentheses. Standard errors are clustered at the country level. *** indicates significance at the 1% level, ** indicates significance at the 5% level and * indicates significance at the 10% level.

	Panel 1: NY Law Bonds			**Panel 2: English Law Bonds**		
Independent Variables	Total	Investment Grade	Non-Investment Grade	Total	Investment Grade	Non-Investment Grade
Ratings:						
AAA	.			-2.09***		
				(-3.74)		
AA	-1.43***			-1.53*		
	(-3.62)			(-2.01)		
A	-0.06			2.76***		
	-0.10)			(-3.37)		
BB	1.28***			-1.69*		
	(4.62)			(-1.83)		
B	2.20***			2.76**		
	(6.39)			(2.49)		
Bank	-0.05	-0.20***	0.60	-0.08	-0.05	0.30
	(-0.99)	(-3.96)	(1.67)	(-1.37)	(-0.97)	(1.29)
Shelf	0.23	0.74	0.16			
	(0.78)	(1.22)	(0.54)			
Amount				0.05	0.4*	0.54
				(0.23)	(1.95)	(1.141)
Vote	NA	NA	NA	-2.56	-2.17	9.23***
				(-1.53)	(-1.24)	(9.51)
Trust / Com	-0.53	0.23	-0.47	1.91**	0.99	-1.30**
	(-1.01)	(0.45)	(-1.22)	(2.18)	(1.30)	(-2.67)
Euro				0.55	0.22	0.03
				(1.20)	(0.46)	(0.12)
Pound				0.52	-0.11	.
				(0.74)	(-0.28)	
Constant	2.12	2.12	3.37***	0.52	-0.85	-3.48
	(5.10)	(3.71)	(10.88)	(1.82)*	(-0.79)	(-1.33)
Adjusted R^2	0.36	0.32	0.02	0.52	0.06	0.89
Observatons	162	55	105	82	63	14

VII. Restructured Issues

Our analysis up to this point has been based on an unbalanced panel of issuances by a number of countries over two decades. We have focused on the different market reactions to issuances across time and across countries, which is to say across the spectrum of countries in varying financial condition. An alternate approach would be to conduct a time-series analysis that examines whether the impact of using CACs changes when a country shifts from being a high-risk issuer to a low-risk issuer or vice versa. As a practical matter, as discussed previously, this is difficult because the ratings of countries – our measure of risk – rarely change. Further, even if such a shift occurs, we could conduct our analysis only if the country issues bonds after the shift in risk level.

An exception to the foregoing is the small set of cases where a country goes through a default followed by a restructuring. Not only does the nation's risk level change significantly (after all, it has just defaulted), but it will generally issue new bonds to exchange for their old ones. Important for our purposes, the contract terms of the new bonds are especially likely to reflect the nation's downgraded status because these are terms that would have been negotiated with a set of creditors who have, most likely, just been asked to take a significant reduction in principal or interest rate or an extension of the maturity date and, in most cases, all three.

Focusing on the subset of nations that did restructurings in the post-2002 period, we seek to determine whether these countries, in the wake of their defaults/restructurings, altered their contract terms.[20] Finding that these countries shifted away from a 75% vote

[20] Because the set of nations that have done sovereign restructurings is small and data relatively easily available, we have attempted to utlize all of the information available until the date of this writing (March 19, 2012). However, of the two most recent sovereign restructurings, both of which were in March 2012,

to alter payment terms toward a unanimity provision would call into question our basic thesis and prior results. By contrast, finding that these sovereigns moved toward weaker individual rights and stronger collective rights would be consistent with the dynamic observed in our empirical results.

Broadly speaking, we have examined three types of CACs – modification CACs, acceleration provisions and trustee/committee clauses. Consequently we seek to determine what type of CACs, if any at all, the issuers in our subsample of restructured bonds, adopted.

The sample of issuers in our dataset that have restructured in the post-2002 period is small – comprising only a dozen issuances. One of the restructurers, Dominica, issued its post-restructuring bonds under the law of Trinidad and Tobago, which makes a comparison of the post-restructuring terms to a market standard difficult (there is, as best we know, no market standard for Trinidadian sovereign bonds). Of the remaining eleven restructurers, nine were issued under New York law and two under English law.

The issuers are Uruguay, Argentina, Dominican Republic, Belize, Grenada, Congo, Ivory Coast, Seychelles, Iraq, the Province of Buenos Aires and recently, Greece. Our examination of the restructured bonds of these eleven defaulted countries can be summarized as follows.

A. Modification CACs

In terms of the basic ***Vote*** variable, the restructured issuances in our sample follow the dominant post-2002 practice of utilizing a 75% vote requirements. The one

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we have been able to obtain data on only one, Greece. The other was for St. Kitts and Nevis. In both these restructurings, modification CACs were utlized to implement the restructurings.

exception is Greece, the most recent (and biggest) restructurer. In its new bonds, it utilizes a 66.67% vote requirement.

The key difference we find in the subset of restructured bonds is that the bonds contain aggregation provisions, which as described above is an aggressive form of CACs that almost no other issuers use. Five of the eleven issuers--Argentina, Dominican Republic, Uruguay, the Province of Buenos Aires and, recently, Greece, include aggregation provisions. Again, at the aggregated level, the new Greek bonds require a lower overall vote than any of the other restructurers (75% instead of the typical 85%). Outside of these five issuers in their post-restructuring incarnations, *no* other issuers use these types of provisions.

We interpret the use of aggregation provisions as an indication that high-risk nations perceive a greater need for CACs than their less risky counterparts. Aggregation provisions, after all, are a type of Super CACs. The standard aggregation provision requires that the provisions of a CAC on one bond apply to all of a sovereign's outstanding issues. The aggregation provisions typically require a 66.67% vote for any individual bond (as compared to the usual 75%), so long as an overall vote of 85% is achieved across the various bonds. Consistent with the foregoing, the proposals for new CACs for Eurozone issuers include aggregation provisions.

B. Disenfranchisement

For issuers using a CAC, disenfranchisement provisions protect investors against the temptation of the issuer to act opportunistically by strategically placing bonds in the hands of sympathetic parties. Over 50% of issuers in the post 2002 period shifted to using

disenfranchisement provisions. In our sample of restructured bonds though, ten out of the eleven issuers included disenfranchisement provisions. More important, seven of these eleven issuers utilized enhanced disenfranchisement provisions that are not seen elsewhere in the market. The standard provisions prohibit the issuer from voting bonds that it owns or controls. The problem with the standard provision though is that it has no mechanism by which the creditors can find out which bonds are problematic. The enhanced disenfranchisement provisions that seven of the eleven of the issuers in our post-default sample use creates a monitoring mechanism, in that the issuer is required to report to the trustee, prior to any vote, the fraction of bonds that are to be stricken from the voter rolls. No other issuers in our sample use these types of provisions. As for Greece, its recent bonds have the most detailed and involved disenfranchisement provisions of any sovereign that we have seen (the clause having grown from the typical one sentence to over a page).

The implications are consistent with the discussion above regarding aggregation provisions. Post-restructuring issuers are at a high risk of default. Both the issuer and its creditors face the real possibility that the CACs will have to be utilized. For that reason, they have a greater incentive than other issuers to make sure that they have CACs that are effective, which explains the large fraction of enhanced disenfranchisement provisions in this subset.

C. Acceleration/Reverse Acceleration

The eleven issuers in our sample follow the dominant industry norm in terms of having acceleration/reverse acceleration clauses. As discussed earlier, the post-2002 era

saw a significant number of nations (roughly 60%) move away from individual acceleration rights towards a collective right (25% for acceleration; 50% for reversal). In our sample of restructured issuances, 100% have moved to using the 25/50 collective right for acceleration and reverse acceleration. Overall, the pattern is as we saw with the earlier variables. The post-restructuring issuers are more aggressive adopters of CACs than the other issuers in the market.

Note also that two of these eleven restructurers go beyond the emerging market standard of a 50% reverse acceleration vote and utilize instead a 75% reversal vote requirement (for payment accelerations only; for non-payment matters, the reversal vote is still 50%). Once again we see that these post-restructuring deals not only adopt the emerging market standards for CACs more aggressively than their less risky counterparts, but they are ahead of the curve in terms of designing innovations that might make CACs more effective.

D. Trustee Provisions

In our broader sample of sovereign bonds under New York and English law, trustee provisions are the least frequently used CACs. Fewer than 10% of the issuances under either English law or New York law use these provisions. In the subset of restructured bonds, however, 100% of the issuers use trustee provisions. Further, as we saw earlier, in our discussion of disenfranchisement, the obligations of the trustees in a number of these post-restructuring bonds are enhanced.

Overall, the patterns are consistent. We find strong evidence that restructured bonds contain more, not less, aggressive CACs, which is consistent with our overall

thesis that weaker issuers and their creditors benefit from the inclusion of CACs and inconsistent with the "conventional wisdom."

E. Removal of the Individual Right to Sue

The final and perhaps the most significant change in these restructured bonds is a form of CAC that has received almost no attention in the literature. Almost every sovereign bond allows an individual the right to sue. If the issuer fails to pay a creditor her coupon payments, she is allowed to sue at least for the amount that has not been paid. One might ask why this individual right matters, given that the issuer can typically obtain a change of the payment terms with a 75% vote. The right matters because it is the rare sovereign issuer that foresees a financial crisis and does an anticipatory restructuring, without ever defaulting (Uruguay's 2003 restructuring being one of these rarities). For the most part, governments delay admitting that they might have to restructure until the last possible moment, and then default. Only then do they begin talking about a restructuring. At that point, having defaulted, they are vulnerable to lawsuits by bondholders, unless this right has been taken away by features in the debt contract. This right of an individual to sue is mandated by statute for U.S. corporate bonds, and is considered by many as sacrosanct. In five of our eleven post-restructuring bonds, however -- Grenada, Belize, Congo, Ivory Coast and Greece – there is a prohibition of the individual right to sue (unless the trustee fails in its obligation to pursue the interests of the creditors; in which case the right reverts to the individual). This innovation is found in no other sovereign bonds.

A couple of caveats are in order. First, our sample of post-restructuring bonds is small. Second, the universe of sovereign restructuring lawyers is small. A small group of the same lawyers likely designed all eleven of these restructurings. The fact that these deals use more aggressive CACs than the norm may reflect the idiosyncratic preferences of these lawyers. That said, it strikes us as implausible that creditors, in the wake of having been asked to take a haircut, would not be paying careful attention to the terms of their new contracts.

F. The Trends in Corporate versus Sovereign Restructurings

It is interesting to pause and note the diametrically opposite trend in the reorganizations under Chapter 11 of the U.S. Bankruptcy Code and sovereign restructurings. There is a growing body of literature that suggests that over the past decade Chapter 11 reorganizations have evolved from a pro-debtor process to a pro-creditor process.[21] During the past decade, creditors with senior, secured claims have come to dominate the Chapter 11 process. Courts are less inclined to permit managers to control the firm through the reorganization process by granting access to debtor-in-possession financing. In this modern era, more than 70% of CEOs are replaced within two years of the bankruptcy filing which is a sharp increase over historical averages. This same literature documents a dramatic increase in asset sales and liquidations throughout the reorganization process.

In contrast, the results reported in this study suggest that sovereign reorganizations have become more pro-debtor. A possible rationale for this trend is the

[21] *See* Kenneth Ayotte and Edward Morrision, *Creditor Control and Conflict in Chapter 11*, 2009 for a review of this literature.

recognition that short of armed conflict or asset seizures, creditors cannot compel debtors to honor their debt obligations. Thus, the only means of inducing sovereigns to meet their financial commitments is to facilitate restructuring by reducing the major obstacle to an orderly process, which we contend is the potential holdup problem.

VIII. Caveats

Before concluding, a few caveats regarding our results bear noting.

First, our assumption and the assumption in much of the literature has been that the introduction of CAC would translate into a reduced likelihood of bailouts. After all, that is how CACs have been sold to the public – as a means to ensure private sector involvement in bailouts (often referred to as "PSI"). Under this rationale, other things equal, the presence of CACs should lead to an increase in the cost of capital for weaker issuers. However, the experience with Greece, and particularly its EUR 130 bn bailout package in March 2012 suggest a different dynamic and an alternate explanation for why CACs might reduce borrowing costs instead of increasing them. Greece was told by the Official Sector (the richer Eurozone nations and the IMF) that it would only receive its bailout if it obtained a significant haircut from private creditors (Ekathimereni, 2012). Greece, therefore, had to retrofit modification CACs into its local-law bonds (more on that later) so that it could engineer its restructuring.[22] Under this dynamic, CACs, and the attendant PSI, actually raise the likelihood of a bailout because they make it more likely that the richer nations will be able to sell the need for the bailout to their taxpayers. A

[22] Although we do not have concrete information on the recent restructuring by St. Kitts and Nevis, press reports suggest that it was probably required to obtain a substantial amount of PSI (which it did, utilizing the CACs in its bonds) before it could avail itself of an IMF program (Cotterill, 2012),

cynic might conclude from this that the objective of the Eurozone CAC initiative might be to grant more rather fewer bailouts in the future.

Second, previous CAC studies, in addition to focusing on data from a different period of time (pre-2002), focused exclusively on the portion of the vote continuum between unanimity and something below that. In contrast, our study examines a lower portion of the voting continuum as well. In particular, for the English-law bonds, the range that we examine is the one between 75% and 18.75% (with the complications of mandatory meetings at the lower end of the spectrum).

Third, while we believe that we have advanced the scholarship in this area by examining and parsing variations in contract language, we have not examined all of the variations found in sovereign debt contracts. While many of these contract provisions are assumed to be boilerplate, some variations still exist. Unreported here, we tested our results in regressions that included controls for the presence or absence of the basic negative pledge clause, which is perhaps the most important covenant in these contracts other than the CACs themselves.[23] However, the variations are not sufficient to cause variations in issue rates. We also examined other key terms such as the waiver of sovereign immunity, and while there is a small amount of variation here as well, the variation had no statistically significant effect on spreads.

Fourth, it has been suggested to us that the markets may have "learned" from the experience of Argentina's 2001 default. Those bonds lacked CACs. As of this writing, ten years later, holdout litigation over those bonds continues. The learning as a result of the Argentine experience might explain the difference in pricing results between our

[23] Negative pledge clauses prevent the issuer from issuing debt that is senior to the claims of existing creditors.

study and prior studies. Along these lines, the past ten years have also seen the first five instances in which CACs have been utilized successfully, in all five cases (Uruguay, Seychelles, Belize, Greece and St. Kitts & Nevis).

Fifth, more important than our pricing results, demonstrating the dramatic increase in the usage of these provisions, particularly modification CACs, over the past decade may be our most important contribution to the sovereign debt literature. Table 12 illustrates this trend over the past decade – a trend that appears to be continuing as the reforms contemplated for the Eurozone countries push further in the direction of collective action provisions.

Table 12

The Shift Toward Collective Action Clauses

	New York-Law Bonds		English- Law Bonds	
	1992 - 2002	2003 - 2011	1992 - 2002	2003 - 2001
Unanimity Requirement to Alter Payment Terms	95%	1%	1%	0%
Disenfranchisement Provisions	1%	64%	0%	35%
Collective Acceleration Provisions	44%	*72%*	13%	65%
Trustee/Bondholder Committee Provisions	3%	14%	4%	47%

IX. Conclusion

Building on work of Jensen and Meckling (1976) and Smith and Warner (1979), the standard story told in the literature on corporate bond covenants is one of a tradeoff between the stringency of contract provisions and the riskiness of issuers. Lenders worry that managers (in our case, government officials), will squander their funds on wasteful projects. Contract provisions can help constrain the proclivities of managers to misbehave by restricting the types of projects they can invest in or the amount of debt they can issue. Constraining managers is costly though, because constrained managers have less leeway to maximize the value of their firms. Investors, therefore, are constantly faced with a tradeoff between allowing managers leeway, and potentially obtaining positive returns, and constraining them, and increasing the likelihood of losses. For the most part, that tradeoff translates into investors permitting the managers of safer firms greater leeway (imposing fewer contractual restrictions) and imposing greater restrictions on the managers of risky firms (demanding more contract restrictions) (Bradley & Roberts, 2004; Mansi, Qi & Wald, 2011).

Outside the context of CACs, this same pattern shows up in the sovereign context. Issuers like the United States and Germany can borrow freely, in their own currencies, under their own laws, with creditors imposing few contractual restrictions. Issuers like Gabon or Ghana, by contrast, have to agree to pages and pages of contract restrictions and can receive funds from foreign investors only if they borrow in foreign currencies and agree to be governed by foreign laws and courts.

Historically, the theory advanced by the advocates of CACs has been, on its face, at odds with the foregoing (Taylor, 2007). Applying the logic from the corporate context,

critics of CACs argue that making it easier for governments to restructure their debt would create a moral hazard by giving them incentives to behave irresponsibly once the debt had been issued. As we have seen, however, CACs are value-enhancing for weaker issuers, implying that the cost savings in terms of making restructurings easier are greater than the cost enhancement as a result of an increased incentive for governments to engage in risky behavior.

Our results are indicative of the foregoing; that creditors are willing to give higher-risk issuers more flexible terms so that the risk posed by holdout creditors can be ameliorated. But this does not mean that creditors are unconcerned about governments acting opportunistically. Here, it is instructive to reiterate our results concerning disenfranchisement. Creditors may be willing to allow for the alteration of payment terms with a 75% vote of the bonds, in principal amount. In that scenario, control still lies with the creditors. After all, 75% of the debt has to agree to reduce its obligations; something that no creditor is going to do eagerly. Creditors are not so sanguine, however, about permitting the issuer to manipulate the vote by placing bonds with its affiliates and sympathizers. And we document, along with the move toward CACs, the fact that markets have begun to utilize disenfranchisement provisions more and value them more when it comes to riskier issuers.

The question implicit in the title of our article is whether the inclusion of CACs would increase the cost of capital for Eurozone sovereign issuers. The answer to that question depends on the baseline one is making the comparison to. In the empirical analysis we conducted, the comparison was between bonds with higher vote requirements (sometimes, 100 percent) and a somewhat lower vote requirement (for example, 75 or

66.67 percent). And all of the bonds were governed by foreign laws (that is, the sovereign debtor had no ability to change, ex post, the terms of its contracts). In that context, at what might call the *low flexibility* end of the spectrum, we found little indication that increased flexibility (represented by the use of CACs) would increase the cost of capital for sovereign debtors; and particularly not for below-investment grade issuers. As we have tried to make clear, however, our results do not imply that increases in flexibility or ease of restructuring *always* results in a lowering of spreads.

Recent events in Greece are illustrative of the point. The vast majority of Greece's sovereign bonds (over 90%), as of the onset of its debt crisis in early 2010, were governed by local law (Buchheit & Gulati, 2010B). That gave Greece tremendous flexibility in terms of being able to restructure these bonds; a flexibility that Greece utilized in early March 2012 to obtain roughly a haircut of over 50 percent of face value from the holders of its local-law bonds. Preliminary research comparing the spreads on Greek local-law bonds and Greek English-law bonds suggests that the markets demanded a premium in exchange for granting Greece this high degree of flexibility (Choi, Gulati & Posner, 2011). In other words, at the *high flexibility* end of the spectrum, creditors were willing to charge less in exchange for the sovereign taking a reduction in flexibility. Greece's recent actions in retrofitting Aggregation clauses into its local-law bonds that made its restructuring among the easiest (and most brutal) sovereign restructurings of private sector debt that has ever been done perhaps confirm that creditors were right to demand a premium for lending in local law bonds (Gulati & Zettelmeyer, 2012). Less starkly, our results on disenfranchisement are also consistent with this notion. Sovereigns would be able to restructure more easily if they could vote bonds that they owned or

controlled. But apparently creditors fear the possibility of overreaching and opportunism on the part of sovereign debtors and, therefore, value the disenfranchisement of bonds that sovereigns own or control. The point is that the answer to the question of whether CACs reduce or increase a Eurozone (or any) sovereign's cost of capital will depend on which point on the vote/flexibility continuum one is.

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