

THE EVOLUTION OF CONTRACTUAL TERMS IN SOVEREIGN BONDS

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ABSTRACT

In reaction to defaults on sovereign debt contracts, issuers and creditors have strengthened the terms in sovereign debt contracts that enable creditors to enforce their debts judicially and that enable sovereigns to restructure their debts. These apparently contradictory approaches reflect attempts to solve an incomplete contracting problem in which debtors need to be forced to repay debts in good states of the world; debtors need to be granted partial relief from debt payments in bad states; debtors may attempt to exploit divisions among creditors in order to opportunistically reduce their debt burden; debtors may engage in excessively risky activities using creditors' money; and debtors and creditors may attempt to externalize costs on the taxpayers of other countries. We support this argument with a statistical study of the development of sovereign bond terms from 1960 to the present.

1. INTRODUCTION

Political risk is the risk that a government will expropriate property or violate a contract without providing adequate compensation. Foreign investors protect themselves from political risk by diversifying their investments, evaluating the risk of political turmoil in countries in which they invest, and buying political risk insurance. A small literature describes these techniques for managing political risk (e.g., Kinsella & Rubins 2005; Gordon 2008). Another literature examines the relationship between political institutions and political risk (e.g., Jensen 2008; Stasavage 2002; Quan & Resnick, 2003).

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In this article, we take a different perspective by asking how parties can address political risk contractually. Governments have an interest in minimizing political risk in order to attract investment. One widely discussed approach is the bilateral investment treaty, under which a government promises not to expropriate property and to submit to arbitration if it does. But this approach raises a puzzle: how do governments, which enjoy sovereignty and legal autonomy, commit themselves to comply with arbitration awards? If they cannot, then bilateral investment treaties cannot reduce political risk. The contractual angle raises a second question as well, which is whether the parties that enter a contract may externalize the political risk on third parties.

To address these questions, we focus on sovereign debt contracts. Sovereign debt provides a useful lens for studying political risk for several reasons (*cf.* Tomz & Wright 2009). First, sovereign debt is a less complex transaction than investment in physical assets like factories. When a government issues environmental regulations that reduce the value of factories, it is often not clear whether the regulations should be considered the manifestation of political risk or not. By contrast, a government either defaults on debt or does not; if it does, the default is the realization of political risk. Second, there is a liquid market in sovereign debt, and most sovereign debt takes the form of bonds, which are fairly simple contracts that can be easily compared to each other. This makes possible statistical research on the determinants of the contract terms of sovereign bonds. We can use data on sovereign bonds to understand how investors protect themselves from the risk of default by the government.

We evaluate the design of sovereign debt contracts by drawing informally on the literature on incomplete contracting (Tirole 1999 provides a survey). Parties may leave contracts because they are boundedly rational and face costs to consider future contingencies, among other reasons (Bolton & Faure-Grimaud 2010). An important reason for incomplete contracts for purposes of our analysis is that some contingencies are either not observable or not verifiable in court, making it difficult if not impossible to contract directly on such contingencies (Hart & Moore 1988; Hart 1995; Maskin 2001).

We use this framework in the sovereign debt context to analyze the evolution of sovereign debt contract terms from 1960 to 2011. In the sovereign context, we focus on one particular contingency: countries face a good state in which they can repay their debts and a bad state in which they cannot repay their debts. The bad state results from a shock (economic downturn, natural disaster, civil war, etc.) that makes the government unable to collect taxes sufficient to repay the debt. From the perspective of outside investors, distinguishing a good from bad state can be difficult. Sovereigns in a good state that are nonetheless interested in avoiding payment can opportunistically attempt to manufacture a crisis, for example, simply by overspending, to appear as if they are in a bad

state. It can also involve governments inciting their populations to riot against further debt payments by cutting popular public programs and transfers (such as public pensions) when in fact the sovereign has sufficient funds from other sources to repay its debt, or could raise taxes or find other sources of revenue. Even sovereigns in financial distress may arguably have some ability to liquidate assets to repay their debts subject to the constraints imposed by their populations. Greece, for example, could theoretically sell the Parthenon or some of its sovereign territory. But popular discord likely would make such actions infeasible. Describing the conditions under which it is infeasible for a country to repay its debts, thus placing the country in what we call a bad state, is difficult *ex ante* for creditors entering into a sovereign contract.

Sovereign debt contracts must balance several goals: encouraging sovereigns to repay in the good state; enabling value-increasing restructurings in bad states; preventing debtors from seeking to exploit divisions among creditors in order to opportunistically reduce their debt burden; and preventing debtors from taking risks in order to externalize the cost of default on creditors. An additional factor is that often governments not involved in the transaction are compelled by domestic interests and political circumstances to bail out countries that default. These governments have an interest in ensuring that sovereign debt contracts are well designed, so that investors will consent to restructuring rather than pressure their own governments to intervene.

As an initial matter, one can wonder why anyone pays attention to sovereigns contracts at all—it will almost always be impossible for creditors to march into a country and simply repossess the assets of the sovereign even if a contract so allows. Nonetheless, we hypothesize that sovereign debt contracts in fact impose meaningful constraints on sovereigns. Creditors in fact have had some success in pursuing contract claims in court against sovereigns and can, for example, seek to attach the assets of the sovereign that are located outside of the sovereign's territory. Reputation also plays a role in binding the sovereign. If investors look to contract as a means of reducing the political risk from investing in a sovereign then we expect to see contract terms adjusting as events affect the overall risk of default (including the ability of investors to collect from the sovereign in the case default occurs).

Assuming that contract terms matter, we hypothesize that the optimal contract will vary based on the political risk posed by a specific sovereign. The highest-rated issuers, such as the USA, Germany, France, Japan, and the Netherlands, provide a useful baseline. Their sovereign debt contracts are essentially devoid of terms throughout the time period of our study other than the interest rate, amount, and maturity. By contrast, lower-rated issuers offer numerous terms in order to strengthen their commitments to creditors while providing a means for orderly restructuring if they default.

The existing literature on sovereign debt contracts generally regards terms as boilerplate. Scholars argue that because of network effects and information costs, these boilerplate terms can be inefficiently static (*e.g.*, Ahdieh 2004; Choi & Gulati 2004; Cross 2006). There is some truth to this argument, but it is overstated. Contract terms become entrenched and do not change much over time in the absence of shocks, but they do change when shocks occur, and shocks are frequent. We show that the shock-induced changes are consistent with our hypothesis that contract terms vary in response to political risk and related factors.

2. ANALYSIS

2.1. Framework

A country seeks to borrow money from creditors. Normally, a country will have sufficient funds to repay its creditors (the “good” state). The parties anticipate the risk of a shock, which makes it politically impossible for the country to repay the debt in full although it may be possible to repay a portion of the debt (the “bad” state). However, the existence of the shock and bad state is non-verifiable information. Thus, the first-best contract—under which the country repays in full if and only if the shock does not occur and otherwise pays what it can—cannot be enforced.

Under a simple second-best contract, the debtor would have an unconditional obligation to repay. When the debt becomes due, the debtor will compare the political cost of repayment and of default, and default if the benefits are greater than the costs. If the debtor defaults, creditors may be able to retaliate by excluding the debtor from the debt market or by making it difficult for the debtor to engage in trade; or they may simply update their beliefs about the debtor’s ability to repay and charge higher interest rates on future loans (Wright 2002; Cole & Kehoe 1995; Bulow & Rogoff 1989). It is possible that creditors may be able to enforce the debt by seizing assets in foreign countries.

At least some of these actions create deadweight costs, and so the debtor and the creditors have an incentive to renegotiate the debt. If creditors in the bad state, for example, agree to take a haircut and reduce the debt burden of a distressed sovereign, the sovereign may obtain the necessary breathing room to strengthen its economy, increasing the sovereign’s ability to repay the remaining debt. Rather than take a large loss if the sovereign defaults outright, creditors may benefit from restructuring their debt in this manner and thereby bear a smaller loss. The problem for the creditors is that if they too easily renegotiate the debt, then in the future debtors will threaten to default even when they can repay so as to extract concessions. Creditors may also find themselves

competing with each other ex post for a portion of the funds that the debtor is willing to pay out; this competition will involve costly actions such as lobbying. Some creditors may hold out for better terms; this holdout problem will further increase deadweight costs. Indeed, creditors who own credit default swaps on the debt, which transfer the risk of default to third parties, may actually prefer default.

The question we ask is how the parties might design a second-best contract (one that does not make repayment contingent on a good state because of verifiability problems) to reduce the deadweight cost from ex post renegotiation. We argue that the parties will design contractual terms that have two main effects. On the one hand, they will design terms that mitigate what we will call the enforcement problem—the ability of the country to default and refuse to pay full compensation in the good state of the world. On the other hand, they will design terms that mitigate the renegotiation problem—the deadweight costs that typically accompany efforts to restructure debt in the bad state.²

We hypothesize that sovereign bond contract terms can in fact help address either (or in some cases both) the enforcement and renegotiation problems. The enforcement problem looms large in every international transaction. When a country defaults, a creditor rarely can travel a simple path to recovery, unlike the creditor of a private corporation or individual under domestic law. If the creditor sues the debtor in its own courts, the debtor can simply direct the courts to rule in its favor by invoking sovereign immunity. Debtors can invoke sovereign immunity in foreign courts as well; and even when foreign courts refuse to apply that doctrine, debtors can protect themselves by withdrawing seizable assets (excluding embassy buildings, for example) from the country in which the foreign courts are located.

The typical treatment of sovereign debt in the academic literature, therefore, is to assume that sovereigns have little or no legal recourse against sovereigns that have defaulted on debt, and that the sovereign debt market can work in the first place only because of various non-legal mechanisms—for example, the debtor fears that it will lose access to credit in the future if it defaults today because creditors will retaliate or the debtor's reputation will be damaged (*e.g.*, Tomz 2007; Reinhart & Rogoff 2009; Tomz & Wright 2009). Still, the legal mechanisms may well be effective. Some countries cannot avoid locating assets in foreign countries, including proceeds from trade and investment, and recent legal developments suggest that creditors may be able to seize them by bringing

2 Scholars have addressed this tradeoff in the context of CACs. *E.g.*, Pitchford & Wright (2011); Ghosal & Thampanishvong (2009).

actions in foreign courts, leaving the country the choice between paying its debts and isolating itself from the world economy (Gulati & Scott 2011).

But even if the legal terms of a sovereign debt contract are not enforceable by courts, they can matter. To see why, suppose that a country can possess different reputations for different aspects of its operations (cf. Koehane 1997; Brewster 2009). A country could, for example, possess both a reputation for macroeconomic stability (or instability) and a reputation for keeping its promises (or not doing so). The country issues bonds, and cannot pay them, but rather than default, it devalues its currency. The country's reputation for macroeconomic stability will suffer, but the country's reputation for promise keeping will not because it did not promise to maintain the value of its currency. Creditors may respond by refusing to lend to the country unless it issues bonds in a foreign currency. Suppose the country does so; now the country cannot avoid default by devaluing its currency, and so its reputation for macroeconomic instability will not interfere with its access to credit markets (at least, not in this way). If the country continues to enjoy a reputation for promise keeping, it will be able to borrow. If there were no separate reputations for macroeconomic stability and promise keeping, it would make little sense for countries to promise to repay in a foreign currency or indeed to devalue their currencies in the first place. They would simply default.

If there were no possibility of judicial enforcement or creditors did not view a sovereign's ability to keep contractual promises as separate from other aspects of the sovereign's reputation then one would not expect sovereign debt contract terms to matter. For example, countries have agreed to give creditors security interests in certain streams of revenue like those from a customs house. If the legal terms were not enforceable by courts or reputation, these terms would make no sense. A country could simply default on the debt and refuse to permit the creditor to seize the collateral. We take the presence and evolution of such terms as evidence that the market believes that such terms in fact are valuable because they help address the enforcement problems.

But if enforcement is a significant problem in the sovereign debt market, ironically it turns out that the opposite problem—the renegotiation problem—is significant as well. As noted, the renegotiation problem arises when a country cannot pay its debts. What this typically means is that civil unrest will occur, or widespread hardship, so the government simply refuses to pay its debts in the short term. In such a bad state of the world, creditors may improve their financial prospects by giving the sovereign debt relief. Doing so may give the sovereign the necessary breathing room to grow its economy sufficiently to pay off its now smaller debt load. Knowing this incentive on the part of creditors, sovereigns in a good state of the world may seek opportunistically to portray themselves as in a bad state to achieve a reduction in their debt load even when

not necessary for repayment—thereby transferring value from the creditors to the sovereign.

The challenge for the sovereign debt market is to reduce the debt level for the country only when the bad state occurs. Because the existence of the bad state will depend on a host of intangible factors—the state of the economy, the degree of trust enjoyed by the government, the efficiency of the government, local political winds, and so forth—it cannot be written into the contract. Put another way, there is no objective and verifiable metric on which a contract can determine precisely when a sovereign is in a good or bad state. Thus, creditors will often not be able to tell whether the government threatens to default because of a true threat of civil unrest or because of a desire to avoid paying its debts. Indeed, an opportunistic sovereign may seek to engineer social unrest, including public demonstrations against proposed austerity measures, in an effort to appear in a bad state of the world to engineer a reduction in the sovereign's debt load even when the sovereign is in fact capable of repaying its debts (and thus under our definition is in a good state of the world).

Issuers and creditors face two other problems. The first is that debtors may engage in activities that are privately beneficial but increase the risk of default—for example, taking on additional debt or investing in risky national projects like infrastructure development. To force countries to internalize the risk otherwise imposed on creditors, parties may agree to contractual terms that restrict the risk-taking activities of debtors. The second is that debtors may, in anticipation of default or after default, employ divide-and-conquer strategies against creditors. For example, a debtor may offer to pay some creditors in full in exchange for a commitment to buy up future debt from the debtor, while defaulting on its debts with other creditors. Contractual terms may be designed to limit this opportunistic behavior.

A final point is that third-party countries may be harmed as a result of a default. This harm can be come about in two ways. First, politically influential banks and citizens in the third-party countries may own debt, and thus pressurize their own countries to bail out the issuer. Second, the default of one country can lead to contagion, causing the defaults of other countries, and hence a regional or global macroeconomic downturn, which can hurt trading partners that do not default. For both these reasons, third-party countries may bail out debtors. But because issuers and creditors can anticipate this reaction, they have an incentive to consent to risky debt contracts. Thus, as we will see, the third-party countries will pressurize serial defaulters to agree to contractual terms that minimize the risk of a default or a disorderly default.

In a world with complete and verifiable information and no contracting costs, the first best optimal contract will take into accounting the problems of enforcement, renegotiation, creditor versus creditor conflicts, and sovereign

risk taking problems. Contracts may also reflect the influence of third-party countries seeking to minimize the risk of default. Because sovereign contracts cannot condition terms directly on good versus bad states of the world due to a lack of verifiability and because constructing second best terms is costly, we hypothesize that investors will seek to negotiate for such terms only for sovereigns posing a higher degree of political risk. The cost of drafting new terms, which includes not only the direct costs of contracting but also the uncertainty costs following the introduction of new terms, results in a large degree of stickiness in the terms that parties actually adopt, leading to the boilerplate nature of sovereign bond contracts. Accordingly, we hypothesize that countries should shift their terms only after major shocks to the expected political risk.

2.2. Clauses and the Optimal Contract

How do sovereigns address enforcement, renegotiation, creditor versus creditor, and sovereign excessive risk-taking problems? In this section, we canvass the range of possible terms contained in existing sovereign contracts that address these problems. We later use the absence, presence, and evolution of these terms in our tests of whether contract terms matter and the responsiveness of these normally boilerplate terms to shocks that affect political risk. The set of terms described below captures virtually all of the important terms in a modern sovereign debt instrument, as they would be described by any of the leading practitioner expositions (Wood 2007; Wood 2010; Buchheit 2000).

Two methods for minimizing the risk of default are already well known: reducing the maturity and lending in a foreign currency. Nations that are regarded as risky—frequently, nations that have recently emerged from defaults—will normally issue short-term, foreign-currency denominated bonds (Borenstein et al. 2005). The bonds will also carry a high interest rate. The interest premium compensates investors for the additional risk of nonpayment. Short maturities enable investors to leave the market quickly if new information reveals that they have overestimated the stability of the government or its policies. Finally, the foreign-currency denomination constrains the issuer from trying to inflate its way out of a debt crisis.

2.2.1. Enforcement Clauses

Enforcement clauses, unlike the terms just discussed, provide for legal enforcement of contracts, and thus minimize political risk indirectly, through legal enforceability. Several clauses whose widespread use began in the 1990s have the function of increasing legal enforceability. Under public international law, countries have sovereign immunity, which means that they cannot be sued in foreign courts. Debtors frequently waive sovereign immunity in bonds so that

creditors will be able to obtain foreign judgments (Weidemaier 2011). Most bonds allow creditors to sue the sovereign directly for unpaid amounts. A small subset, however, condition the right to sue on a decision by a specified fraction of bondholders. Waiver of sovereign immunity does not mean that creditors can collect on their debts; it means only that the creditors can bring a lawsuit. Public international law deprives courts of the power to order a state's assets be seized to satisfy a judgment. In response, states can waive immunity from execution and some states include such waivers in sovereign debt contracts (Weidemaier 2011).³

These clauses probably have limited utility. As a matter of public international law, states may be able to withdraw waivers of sovereign immunity unilaterally; thus, the only thing that would stop them from doing so is the concern about reputation or creditor retaliation. Even when states do not formally withdraw sovereign immunity, as a practical matter domestic courts almost never compel governments to pay money. Domestic courts might refuse to hear the case; even if they do, they cannot compel governments to respect their judgments.

To avoid this problem, creditors and debtors have turned to foreign jurisdictions. Under consent to jurisdiction clauses, sovereign debtors agree to subject themselves to the jurisdiction of a foreign legal system, which might otherwise be blocked by international law. Sovereigns prefer (ex post) to be sued in their domestic courts, which are more convenient and sympathetic. But issuers may also agree to be sued in a foreign jurisdiction with a reputation for fair courts such as New York or London. Thus, creditors can bring their actions in a foreign court, which will be independent of the government of the sovereign, and thus perhaps more willing to hear a case against it. The consent to jurisdiction clause must be connected with a waiver of sovereign immunity, for otherwise even the foreign court may refuse to hear the case under principles of public international law.⁴ However, a problem remains, which is that seizable assets of the debtor may not be located in the territory over which the foreign court has jurisdiction. If that is the case, then creditors will have no recourse.

Choice of law or governing law clauses state the foreign law that will govern in the case of dispute. The clauses usually state that New York, English, or German law will apply. In the absence of such law, both local courts and

3 One of the difficulties with suing a foreign sovereign is being able to serve papers on an appropriate representative. To ameliorate this difficulty, many sovereigns contractually agree to designate a representative in a location like New York or London who will serve as their agent for the service of process.

4 Under U.S. domestic law, a court will not recognize a withdrawal of a waiver of sovereign immunity when foreign sovereigns are sued. 28 U.S.C. §§1605(a)(1), 1610(a)(1).

(probably) foreign courts would apply the domestic law of the debtor. The problem with applying the domestic law is that, in theory, the debtor could avoid paying the debt simply by changing its law. Even if such an action would be regarded as a default, problems would arise if the debtor changes more general laws (such as laws providing access to courts) that would incidentally increase the cost of collecting on sovereign debt. By choosing foreign law, the parties to the sovereign debt contract avoid this risk. To be sure, they take the risk that the foreign country will change its law in adverse ways, but it will normally be less likely that a major developed country will tinker with its general contract law for strategic reasons than for a developing country to do so.

In addition to foreign jurisdictions, investors may seek a private forum to resolve disputes with sovereigns. Arbitration clauses provide that if a country defaults, creditors may bring the case before an international arbitration panel, which will render a judgment. Arbitration clauses do not solve the enforcement problem because arbitrators have no power to enforce their judgments. But they do ensure that a neutral tribunal will hear the case instead of a possibly biased court in the debtor's or creditor's country.

However, debt contracts are simple—it will usually be clear to any observer whether a country has defaulted on its debts or not—and so the utility of arbitration will not always be clear. Instead, arbitration imposes a step between default and enforcement, which will not benefit impatient creditors. However, it may be the case that some clauses are ambiguous, and could benefit from arbitration. Further, an authoritative pronouncement that a country has defaulted on its debt may be embarrassing, and so countries might be more willing to repay in order to avoid this reputational harm.

One other common method investors use to protect themselves is through cross-default clauses. Such clauses provide that if the sovereign defaults on some of its debt, then that action constitutes a default on other debt even though the sovereign is otherwise current on that debt. Acceleration clauses, in turn, allow the creditor to accelerate all of the future payments owed to it if one of a set of predefined “Events of Default” takes place (such as a violation of a cross-default provision or a negative pledge clause discussed below).

2.2.2. *Renegotiation Clauses*

Once a sovereign nears default, creditors as a group can potentially increase their collective welfare by giving the sovereign partial relief. Several contract terms facilitate the ability of creditors to grant the sovereign partial relief in bad times. We group these contract terms into three major types:

- (1) Non-payment modification. This provision governs the modification of non-payment terms—that is, terms other than principal, interest,

and time of payment. Typically, some fraction of bondholders between 50 and 75 percent can vote to alter the terms and bind all of the bondholders to the revised terms.

- (2) Payment modification. This clause governs the modification of payment terms. The clause tends to vary based on whether the bonds are governed by New York or English law (Buchheit & Gulati 2002). Since the early 2000s, bonds under New York law allow that the payment terms can be modified by a vote of 75 percent of the bonds.⁵ In bonds under English law, there is frequently a requirement that there be physical meeting of the holders. Typically, 50 percent is the quorum for the first meeting and 75 percent of those holders have to vote for there to be a binding modification of the payment terms.
- (3) Aggregation. The typical modification clause operates within a single bond issue. Aggregation provisions operate across all of the sovereign's bond issuances (Buchheit & Gulati 2011). The typical aggregation clause requires that a minimum percentage, typically 66.7 percent, of the bonds of a particular issuance agree to a proposed modification of payment terms. Note that this percentage threshold is lower than for the typical single issuance modification clause under New York law of 75 percent. The aggregation clause also requires agreement among the bondholders aggregated across all of the issuances of the sovereign (typically, at the 85 percent level in terms of monetary value of all issuances). If both conditions are met then the restructuring agreement becomes mandatory for all bondholders.

These three types of clauses are known as Collective Action Clauses (CACs) because they permit bondholders to modify the terms of the bond through collective action.⁶ CACs address the problem of holdout in bond renegotiations. Suppose that Belize issues a set of bonds and then a shock occurs, and it becomes clear that Belize cannot repay them in full. It may well be in the joint interests of Belize and its creditors to renegotiate the debt. However, the creditors face a holdout problem. Some creditors may refuse to consent to a jointly beneficial restructuring in the hope that other creditors will pay them extra for their consent. If these transfers cannot be arranged, then renegotiation will fail. CACs mitigate this problem by enabling a supermajority of creditors to outvote

5 As we discuss later, prior to the early 2000s, bonds governed by New York law required that a unanimity of bondholders must agree to any change in payment terms.

6 The term CAC is sometimes also used to describe all of the terms that allow for collective determinations (such as collective acceleration provisions and bondholder committee provisions) (Bradley & Gulati 2011). We use the term in its more commonly used formulation, which is with respect to the modification of contract terms.

a minority of holdouts. In effect, the parties solve the incomplete contract problem by reducing the cost of renegotiation.

The CAC mitigates the renegotiation problem as long as a successful vote under the terms of the clause is positively correlated with the bad state of the world. It may not be. The challenge in designing a CAC is ensuring that the voting threshold is neither too high nor too low, and that the scope is neither too broad nor too narrow. A sovereign debt contract may contain only a payment CAC, only a non-payment CAC, or both. An excessively broad CAC may enable the issuer to bully creditors into approving a suboptimal restructuring, but an excessively narrow CAC will prevent an optimal restructuring from taking place or at least raise transaction costs.

As for voting, voting thresholds vary significantly, from as little as 19 to 75 percent (Bradley & Gulati 2011). Some CACs require bondholders to hold a meeting; this also raises the cost of renegotiation. The theory is that bondholders can observe whether the debtor is in the good or bad state *ex post*, even though courts cannot verify its state, and have an incentive to agree to a restructuring if the country is in the bad state, for otherwise they may receive nothing. A rule requiring less than unanimity to alter key terms limits the power of dissidents to hold out for better terms, which creates deadweight renegotiation costs; but the voting rule must be strict enough so that a handful of idiosyncratic creditors do not force a renegotiation in the good state (perhaps because they are bribed by the debtor).

For this reason, a number of sovereign debt contracts with CACs also have disenfranchisement clauses. Disenfranchisement clauses provide that a country cannot vote on the basis of its holdings of its own debt. These clauses may also apply the prohibition to entities that are controlled or influenced by the debtor. In the absence of such a law, a country could buy up a portion of its debt, and then vote for a restructuring under a CAC even though it is in the good state. Similarly, some bonds provide that if a default occurs, a bondholder committee is formed, or a trustee is appointed. The committee or trustee represents the interests of creditors in negotiations over default.

CACs resemble bankruptcy systems in domestic law, but they have disadvantages: namely, they do not bind creditors across bond issues (and other types of debt such as syndicated bank loans). To understand this problem, imagine that Mexico issues bonds worth \$10 billion in 2005, and then issues \$10 billion worth of additional bonds in 2010. A few years later, it becomes clear that Mexico cannot pay the entire \$20 billion debt. Each group of creditors might believe that it will be paid in full if the other group of creditors submits to a restructuring, and so both groups of creditors end up voting against restructuring under its CAC. As the number of groups of creditors increase, this problem could become insurmountable.

Countries have tried to address this problem with aggregation clauses, which permit restructuring when each class of bondholders gives some level of approval and both classes of bondholders give some (usually lower) level of approval. Some versions of the *pari passu* clause, which arguably require that every creditor be treated the same, also addresses this problem. We will discuss these clauses in the next section.

As noted above, some bonds give individual bondholders the right to accelerate upon an event of default. Some bonds provide that acceleration will occur only after a vote among bondholders—usually in the neighborhood of 10–25 percent (Bradley & Gulati 2011). A reverse acceleration clause provides that an earlier acceleration is rendered void if (usually) a majority of bondholders subsequently vote against it.

2.2.3. *Clauses That Restrict Competition Among Creditors*

Debtors can cause trouble by giving preferences to creditors. Ex ante, they can give preference to creditors by granting priority to their claims. Ex post, they can give preference to creditors by make differential payments. The power of debtors to give preferences is not inefficient in itself, but may lead creditors to engage in costly behavior in order to obtain those preferences—for example, by bribing officials, investing in expensive local contacts, or making campaign contributions. Thus, just as in domestic bankruptcy law, clauses have emerged that restrict forms of preference.

The most striking example is the negative pledge clause, which states that an issuer may not issue security interests to future creditors without securing the current debt on an equal basis. As a result, security interests are rare in sovereign bonds. By contrast, security interests are ubiquitous in domestic debt markets. In domestic law, security interests protect creditors by giving them the right to seize identified assets in case of default. This permits the creditor to avoid sharing with other creditors in bankruptcy and reduces the amount of judicial process needed to collect on a loan. Some sovereigns limit the application of the Negative Pledge protection to their foreign creditors, thereby retaining the right to grant security interests to local investors.

In absence of an applicable negative pledge clause, a state, like a private individual, can grant security interests. For example, a country might offer U.S. Treasury bonds as collateral for its sovereign debt. In the past, countries would offer security interests in identified streams of payment, like revenues from customs houses (Borchard 1951, 140–142). Security interests are subject to restrictions under public international law. Creditors and foreign courts have no power to enter foreign territory to seize collateral without the permission of the sovereign.

Domestic security interests have three effects. First, secured creditors can collect while avoiding some judicial process; this saves costs. Second, secured credit may reduce agency costs; for example, priority may give the secured creditor incentives to monitor the debtor, which benefits the unsecured creditors and justifies the priority that the secured creditor enjoys. Third, priority may also enable secured creditors to obtain advantages from non-adjusting creditors (such as tort creditors), in this way creating an inefficient transfer when the debtor becomes insolvent.⁷

The first two efficiency explanations for security interests do not apply to sovereign debt. In sovereign debt contracts, security interests emerged early in the 20th century, when countries would (for example) give creditors security interests in particular assets, like the proceeds from customs houses. But the security interests did not make debts any more collectible; it was still necessary for secured creditors to obtain permission from the debtor in order to recover assets. If debtors were willing to pay their debts, the security interest gave one no advantage, as all creditors would be paid off. If debtors were unwilling to pay their debts, the security interest gave one no advantage, because the secured creditor had no more access to the debtor's property than unsecured creditors did.

It is also doubtful that the agency theory applies to sovereign debt. When a bank has made massive loans to a firm, it may well monitor the firm in order to protect the value of its collateral; and this may help other creditors.⁸ But bondholders could hardly engage in the monitoring of a nation state, and they are too dispersed to have any incentive to do so.

The most plausible explanation for the existence of security interests in sovereign debt contracts is the third: the inefficient transfer theory. The non-adjusting creditor is not a tort creditor, however; it is the prior creditor. After a nation has borrowed money from unsecured creditors, it will be tempted to offer security to the next round of creditors in order to minimize the interest rate for the second group. Anticipating this move, the first group of creditors will charge a high rate of interest in order to protect themselves from the reduction in the pool of assets from which they may collect. Thus, the main problem for the debtor will be to commit itself not to issue security interests to future creditors. The debtor faces a time-inconsistency problem. To address this problem, debtors have agreed to insert negative pledge clauses in sovereign debt contracts. Negative pledge clauses provide that if a debtor grants a security interest to future creditors, then the earlier creditors have an equal right to

7 For a brief description of the debate, with citations, see Listokin (2008).

8 It also may not: instead, the bank might be content with protecting its collateral.

the collateral. Thus, if all existing bonds have negative pledge clauses, then a security interest in a new issue of bonds would be essentially meaningless.⁹

An explanation for negative pledge clauses follows straightforwardly from the theory that creditors are concerned about time-inconsistency problems. Negative pledge clauses are devices for overcoming this problem. In the absence of a negative pledge clause, the government at time 1 will have to pay high interest rates to unsecured creditors because those creditors fear that the government will issue secured debt at time 2. The negative pledge clause assures creditors that the government will not issue secured debt at time 2 or if it does, that the secured debt will not take priority over the unsecured debt.

One problem with the negative pledge clause (and thus a possible advantage of security interests) is that it may interfere with restructurings. Suppose that creditors will lend to defaulted debtors only if they receive priority over the existing debt. A security interest would serve this function. Thus, negative pledge clauses have costs as well as benefits. In certain cases, sovereigns are able to negotiate carve-outs where they are allowed to grant security interests to certain types of new creditors (often, those lending in domestic currency) or for defined projects. In addition, the problem of obtaining financing in times of distress has partially been overcome through institutional means. When the International Monetary Fund (IMF) lends money to distressed nations in order to permit them to restructure their loans, it is understood that the IMF will take priority.

The security interest is a form of *ex ante* preference and negative pledge clauses bar such grants. Debtors may be tempted to try alternate routes to grant security interests that they hope will not fall afoul of the negative pledge clause. For example, the debtor might pass a law that says that it will favor a particular set of creditors with the first share of payments from a particular set of tax receipts. Other techniques have been tried as well—for example, banks lending to certain sovereigns have asked that the sovereign keep deposits in their banks that, in case of a default, would be subject to set-offs (effectively, granting the bank a priority) (Buchheit & Pam 2004).

A solution to the problem is the *pari passu* clause. This provision bars the sovereign from passing legislation to lower the legal rank of a creditor vis-à-vis some future creditor it is seeking to borrow from. That means that the issuer is constrained from acting in a manner that, while perhaps not violating the negative pledge clause in terms of granting a formal security interests, does alter the legal rank of the debt. There is disagreement over the meaning of the *pari passu* clause and litigation over the topic is ongoing as of this writing.¹⁰

9 Except with respect to subsequent unsecured bonds, if any.

One view holds that the clause applies only to a narrow set of situations where creditors have been historically subordinated—such as when pre-existing local laws permitted an unsecured creditor to obtain priority over other unsecured creditors unilaterally (particularly when domestic creditors were favored over foreign creditors).¹¹ A competing view holds that the *pari passu* clause more broadly prohibits any legislative grant of earmarks to future creditors (Olivares-Caminal 2011; Cohen 2011; and Gulati & Scott 2011, discuss competing views).

There are three versions of the *pari passu* clause in the bonds in our database. One version provides that the bonds will rank equally with all other unsecured debt of the sovereign. This version protects creditors from involuntary subordination by laws that the sovereign might pass. A second version provides that the bonds rank equally in priority of payment. As noted, there is litigation ongoing over whether the addition of these words is the equivalent of a contractual promise that the sovereign, in the event that it is not able to fully comply with its debt obligations, will pay all of its creditors with *pari passu* clauses on a pro rata basis. A third version provides that the bonds will both rank equally and will be payable on a pro rata basis (FMLC, 2005, provides background).

Pari passu clauses, like negative pledge clauses, can interfere with restructurings. Suppose that the debtor offers a restructuring plan in which creditors may exchange their bonds for a new issue of bonds with somewhat worse terms. Some creditors—for example, those with the version of the clause that specifies that the bonds will all be paid on a pro rata basis—may refuse to undergo the exchange and then sue, arguing that the partial payout of the consenting creditors without any payout to the non-consenting creditors violates the *pari passu* clause. In such a case, particularly where the *pari passu* clause explicitly states that the creditors who are *pari passu* have to be paid on a “pro rata” basis, debtors will be able to restructure only by securing the consent of all creditors (or paying all of them the same amount), which may be impossible. Thus, it is important that *pari passu* clauses with explicit pro rata payment provisions, as well as negative pledge clauses, be accompanied by collective action clauses, under which restructurings are more easily negotiated.

10 See *NML v. Argentina* (S.D.N.Y. 2011).

11 See Buchheit & Pam (2004, 903–906; 914–917). The Philippines, for example, gave first-in-time priority to unsecured creditors who notarized their debt in a public instrument.

2.2.4. *Clauses That Restrict Risk-Taking Behavior*

Debtor countries can engage in opportunism by refusing to pay their debts in the good state, as we have noted. But there is a different risk: that the debtor countries will engage in actions that increase the risk of the bad state. For example, debtors can take on more debt and invest it in risky projects with the expectation that they will receive the benefits if the good state occurs and will share the losses with foreign creditors if the bad state occurs.

Like in domestic debt contracts, acceleration clauses address this difficulty by giving creditors the right to repayment upon an event of default, such as the failure to pay another creditor. Acceleration provisions allow creditors to accelerate the debtor's future obligations to them, making them all due immediately, should one of the Events of Default take place. These Events of Default can include the issuer declaring a moratorium on debt payments, the issuer being ejected (or resigning) from membership of the IMF, or a default on some other debt obligation that remains uncured for more than 30 days (a "cross default"). One way to think of the acceleration provision is that it provides creditors with a means of deterring the debtor from misbehaving, with the threat that they will exit the bad situation on an accelerated basis. Although they do not protect creditors from all forms of opportunism (such as a country's decision to borrow excessively), they do help creditors by exposing the country to retaliation before the bad outcome has fully manifested itself.

Acceleration provisions vary a great deal. Some allow individual creditors to accelerate their obligations should an Event of Default occur. Most bonds today, however, provide that a vote of 25 percent of the bonds is required before acceleration can take place. And even then, a vote of 50 percent of the bonds can reverse the acceleration. In other words, the creditor group retains the option to accelerate in bad states of the world, such as when a debtor misses a payment deadline or violates some other promise. However, if the majority of creditors decide that this is a temporary situation that the debtor needs to be given some leeway with, they can decide to refrain from accelerating.

A number of sovereign debt contracts require that the country be a member of the IMF; if it is expelled by the IMF or chooses to leave, it defaults. The IMF imposes certain rules on its member, generally requiring them not to take on too much debt, and otherwise to engage in responsible fiscal and monetary policy. Thus, creditors might be reassured by IMF membership, and be willing to charge lower interest rates than they otherwise would.

The problem with the IMF clause is that if the country is expelled from the IMF, and thus defaults on its loans, it may have difficulty paying off the

creditors. Probably for this reason, the IMF almost never expels its members, and instead simply does not enforce its rules. Thus, the utility of the IMF clause is probably minimal.

Closely related to the IMF clauses are sovereign bond covenants that require that the sovereign list the bonds on exchanges. Sovereign bonds have been listed on exchanges for almost two centuries. These exchanges impose rules on the sovereigns. For example, during the late 19th and early 20th centuries, the London Exchange did not allow sovereigns in default to list unless they cured their defaults (Wright 2012). The exchanges also impose disclosure requirements on the sovereigns. The London and New York exchanges are regarded as strictest. The Luxembourg exchange is somewhat more lax in its requirements. Issuers can also list bonds on local exchanges.

Another term that seems to have been designed to address risk-taking behavior is the sinking fund. The sinking fund was a device invented in the 1700s to smooth out the debtor's repayment schedule. In a traditional loan, the debtor makes interest payments until the end of the term, at which time the principal was due. Creditors found that debtors would make the interest payments but then were unable or unwilling to pay the principal. Debtors would sometimes default; more often, they would try to refinance the debt but then run into trouble because creditors refuse to lend. Under the sinking fund approach, the issuer would pay a pro-rated portion of the principal along with each interest payment, so that the principal would be paid off at the end of the term. In modern parlance, this was an amortization provision that protected creditors from the possibility that, at the end of the bond's life the debtor would not have the funds available to repay the principal amount, and not be able to raise them from creditors.

In its earliest incarnation, the debtor would make the principal payment to an agent who would hold onto it and then use the accumulated principal payments to pay off the principal at the end of the term. But where the debtor controlled the agent, it could (and would) dip into the sinking fund for immediate expenses; and where the debtor did not control the agent, the agent could (and sometimes would) misuse the funds. Thus, creditors and debtors agreed that the periodic payment of principal would be used to buy back a portion of the bonds, selected by lottery.

The sinking fund helps limit the incentive to default. Suppose that debtors face a risk of a shock during the term of the loan. The shock could be political or financial. If the shock occurs, a debtor cannot raise a large amount of money (through taxes or borrowing) but can raise a small amount of money in the short term. If the sovereign bond stipulates a stream of constant small payments, the sovereign will not default; if instead there is a balloon payment at the end, it will.

The problem with the sinking fund is that in some contexts debtors may do better from a stream of very low payments followed by a balloon payment, than from a stream of moderate payments. Consider, for example, a debtor that discovers oil on its territory that can be extracted only after five years of development. A five-year loan consisting of small payments until the balloon payment at the end would best match its financial needs.

However, this scenario may well be rare, and when it occurs, states can avoid the sinking fund by paying higher interest rates. So it is not surprising that the sinking fund was a popular creditor protection term for much of the history of sovereign debt. The sinking fund then largely vanished in the 1990s. The most likely reason is that the sinking fund, which was a clumsy institution at best, became unnecessary as debtors increasingly relied on a robust bond market and hedging strategies, which allowed them to smooth out their payments over time.

Another form of opportunistic behavior is the pursuit of inflationary policies. If a country borrows in its own currency, and then devalues that currency, then the burden of repayment and the value of the debt are reduced. Adopting inflationary policies may be costly or politically unpopular, but a country faced with an intolerable debt burden may believe that the benefits of inflation are greater than their costs. To protect themselves, creditors generally insist that countries issue debt in a foreign currency, usually that of the USA or another stable country. Without control over the currency in which it must repay its debts, the debtor cannot use currency manipulation to reduce its debts. By the same token, it also cannot use devaluation in order to unilaterally effect a *de facto* restructuring when the bad state occurs. An alternative strategy that protects against inflation that shows up in only a handful of the bonds in our data is the inflation-indexed bond. This type of bond pays a rate equivalent to inflation plus some additional interest.

Countries may also be tempted to use their tax powers to impose levies on payments due to foreign holders. One of the oldest provisions in sovereign bonds, therefore, is a specification that the payments due to foreign bondholders will be free of taxes (or, if taxes are imposed, additional payments will be made to make the bondholders whole). Sovereign debt contracts purchased by foreigners often contain a provision that says that they will be reimbursed for any tax that the sovereign imposes on bonds payable to foreign investors (domestic bondholders are generally at the mercy of their government).

A final example is the GDP clause, which has been used by just a handful of countries. The most famous example of their use occurred in 2005, when Argentina defaulted and then exchanged bonds with a GDP indexation feature

for the old bonds (Griffith–Jones & Sharma 2006).¹² Under the GDP clause, a country pays back at a higher rate of interest if GDP has risen beyond a threshold at the time of repayment, and otherwise pays back at a lower rate of interest. This bond is an interesting attempt to identify the good and bad states by contract, and should be successful as long as a high GDP growth rate is positively correlated with the good state, which seems plausible. In addition, the clause blunts the incentives of debtors to engage in high-risk strategies by forcing them to share some of the upside with creditors. So, it is surprising that these clauses are not used more often (Borensztein & Mauro 2002). One concern is that many countries (Greece is a notorious example) can manipulate official statistics. Still, it would seem that it would be politically costly for a country to artificially reduce its GDP numbers, and so it may be deterred from doing so in order to reduce debt payments.

3. TESTING THE EVOLUTION OF CONTRACT TERMS

Our data set covers all of the major contract terms in sovereign bonds over the period January 1, 1960–May 1, 2011. We chose that period of time because it covers the era of the modern sovereign bond market, from its inception in the post-World War II period to its current condition in the midst of the Eurozone sovereign debt crisis. The sovereign bond market had thrived in the early 1900s and particularly in the 1920s. However, the market essentially came to a halt in the wake of the string of sovereign defaults during the Great Depression and the impact of World War II. In the immediate aftermath of World War II, the only countries that were able to issue bonds were the strongest issuers—countries like the USA, Sweden, and Norway. By the mid-1960s, however, a handful of Latin American and Asian issuers began entering the market. That is when we begin our examination of bond contract terms. For the overall period 1960–2011, we have 1385 bonds issued by 119 sovereign issuers.¹³

Each observation in our data set consists of a particular sovereign bond issued by a country at a particular time, and includes all of the terms of that bond, including not only the interest rate and maturity, but also other terms as

12 This term provided that for any year between 2006 and 2035, bondholders would have the right to exercise a warrant attached to the bond if Argentina's GDP exceeded a baseline amount and had grown over the prior year by at least 3 percent. Subject to a payment cap, the bondholder would receive an amount equal to 5 percent of the difference between the actual growth and the base rate for a given year, multiplied by the value of the bond.

13 A handful of issuers during the 1960–1980 period were not separate countries but instead municipalities (such as Amsterdam). For a brief sketch of the history of the sovereign debt market, see Sturzenegger & Zettelmeyer (2007, ch. 1).

well. For the period 1990–2011, our data set contains information on all of the bonds that were available from the Thomson One Banker data set, one of the most extensive data sets of bonds. For the three decades prior, where the coverage by the Thomson One Banker database is spotty, we have attempted to supplement the data set with the bonds we were able to obtain from archives and libraries that collected older bonds.¹⁴ However, we found few bonds from before 1980; the bulk of our data is from the Thomson One Banker data set and is from the 1980–2011 period. A key aspect of this data set is that it represents information about the contracts that international investors are willing to pay for. Thomson One Banker earns fees as a function of the contracts that its customers download. Therefore, a contract is more likely to show up in the database if customers ask for it. The data set thus undersamples contracts for issuers in whose contract terms investors are uninterested. These issuers turn out to be the strongest issuers such as the USA and Germany. The data set also undersamples locally issued bonds. Presumably, the local population either has easy access to the information or the contract terms are largely irrelevant when one is contracting with one's own sovereign. Because our interest is in the types of contract terms for which foreign investors negotiate in order to mitigate political risk, this second feature of the data does not pose a problem for our empirical analysis.

In constructing the database, we downloaded every prospectus, prospectus supplement or offering circular that was available on Thomson One Banker as of July 2011. From those documents, we hand coded the contract terms. The documents are not the contracts themselves but the sales documents that provide investors with descriptions of the key terms of the contracts. For the most part, the full contracts were unavailable. From our contacts at law firms, however, we were able to find a subset of thirty contracts, which we checked against our coding from the sales documents. Our coding of the two sets of documents on four of the most discussed contract provisions (negative pledge, *pari passu*, acceleration, modification) was exactly the same.

We use the data set to test whether investors care about contract terms. If contract terms do not affect the default risk facing investors in sovereign bonds we would expect that contracts for all sovereigns would be identical (and indeed omit any attention to political risk). An important observation that addresses the hypothesis that investors care about contract terms is that the safest countries, like the USA and Germany, issue bonds that are highly incomplete. These bonds typically include interest rate, maturity, and currency—and little else.

14 The archives whose resources we tapped were the Library of Congress, Guildhall, the Rothschild Archives, the UBS library, the Harvard Business School library, and the Dealogic database. These are all of the sources for bonds from the 1960–1980 period that we are aware of.

These contracts lack both enforcement clauses (like waivers of sovereign immunity) and restructuring clauses (like collective action clauses) that we will see are prevalent in the sovereign bond contracts of countries that pose a higher degree of default risk.

We next examine whether contract terms change and under what circumstances. We hypothesize that the optimal contract will take into account the specific default risk of the issuing sovereign. However, contract terms are incomplete both because it is costly for parties to take into account every contingency and because some contingencies (such as whether the sovereign is in a good or bad state of the world) are not observable or verifiable in court. The contract terms we observe, therefore, will represent the market's guess at a second best solution to the problems of enforcement, renegotiation, creditor versus creditor conflicts, and sovereign risk taking. Because contracting is costly and the resulting terms often uncertain in how they will apply, contract terms are also largely boilerplate. We hypothesize that contract terms for specific sovereigns will change when the benefit from introducing a new term outweighs the cost of overcoming the inertia in favor of boilerplate terms. The benefit from a new term is particularly salient for sovereigns and creditors after a financial shock affecting multiple countries. This benefit can also become more salient for individual sovereigns after the particular sovereign defaults (or comes near to default). The relative benefit of new terms can also change due to changes in the marketplace, such as the rise of the public bond markets for sovereign debt after the 1980s, and legal environment, such as changes in the ability creditors to enforce their contract terms. Both market and legal shocks can change the expected political risk creditors face and thereby the incentive of creditors and sovereigns to implement new contract terms.

Other than the payment terms (interest rate, maturity, amounts), we find that the contract terms (the boilerplate portion of the contract) change relatively rarely (cf. Choi & Gulati 2004; Gulati & Scott 2011). But they do change. Change takes place at intervals—generally in clusters after large financial shocks, or for individual states after they default.

We identify several negative shocks to the political risk of default for subsets of sovereign issuers. These include the Latin America debt crisis of the 1980s, the Global Debt Crisis from 1995 to 2002, and defaults of specific countries that affect investor expectations of default for the same countries. We also identify one positive shock to the expected political risk facing creditors that occurred for fiscally marginal countries that joined the Eurozone in 1999–2001, referred to as the Eurozone periphery countries.

For each of these shocks, we construct simple before and after comparisons of the incidence of terms we identified above that relate to enforcement, renegotiation, creditor versus creditor, and sovereign risk taking. We construct before

and after tables for the countries that are directly affected by the shock as well as for all other sovereign issuers. We exclude those issuers that were rated AAA by S&P or the equivalent highest rating by one of the other two major rating agencies (Fitch and Moodys) throughout the period covered by our data set.¹⁵ We term these the “super-safe” issuers. Super-safe issuers included the USA, UK, Germany, France, Luxembourg, Switzerland, and the Netherlands. The contracts of such issuers were typically highly incomplete and lacked almost all of the terms we study in this article.¹⁶ We examine all other sovereign issuers as a control for other exogenous factors that may affect the incidence of contract terms.

Before and after comparisons provide a first-cut method of assessing whether the incidence of terms shifted after a shock affecting expectations of political risk. Limitations exist on what we can learn from this methodology. It is possible that a shift occurs for a specific contract term but at a different time period from the shock in question. Because we simply pool all contract terms in the before and after periods for each shock, we may not accurately detect when the contract term in fact shifted. It is also possible that confounding factors may causally explain the shifts we observe in contract terms that occur around the time of our identified shocks. For example, if following a large movement in the US dollar to pound exchange rate, borrowers switched to issuing in London, and adopt the boilerplate prevalent in English law governed bonds, this confounding event may explain the shift we observe in bonds. To address this limitation, we also examine the change in contract terms for each issuance compared with the immediate prior issuance by a particular sovereign. Using a multivariate model, we assess whether the sovereign is more likely to change terms for the first issuance after a shock.

3.1. Latin American Debt Crisis (1982–1989)

The Latin American debt crisis of the 1980s was the starting point for the creation of the modern sovereign bond market. We treat the crisis as an exogenous shock and use this shock to assess whether normally boilerplate contract terms change and, if change occurs, the direction in which the terms

15 All of the rating agencies do not have ratings for the different sovereigns that cover the entire period of our data set. Hence, there are periods for which only one rating agency might provide a rating and there are others for which there is no rating. The issuers we designate as “super safe” are the ones for whom the rating stayed at the AAA level or its equivalent for the period of January 1, 1960 to May 1, 2011.

16 Even though these issuers tend to issue a large amount of sovereign debt, their contracts do not tend to be available on the commercial databases such as Thomson One Banker. One can, however, typically obtain model contracts from these issuers (which contain almost no contract terms other than the basic Payment terms) from their Treasury Department websites.

change. Lending to Latin American nations was a thriving business in the 1970s thanks to the petrodollars flowing to Western banks. That lending, however, largely took the form of syndicated loans rather than bonds. A small number of bonds were issued by Latin American sovereigns during the 1960s and 1970s. We use these bonds to compare pre- and post-crisis bond contract terms.

The crisis hit in 1982, when Mexico announced its default, and lasted until 1989, when the Brady Plan was implemented. The “Brady bonds” issued under the Brady Plan formed the basis of the modern sovereign debt market, which is dominated by lending in the form of bonds rather than syndicated loans. The crisis of the 1980s brought the international sovereign bond market to a standstill, with few sovereign bonds other than those for the super-safe issuers being issued during this period. The market then picked up in the early 1990s after implementation of the Brady plan (Kaminsky 2008, provides background).

Table 1 shows the evolution of enforcement terms for the eight sovereigns which went through the Brady restructurings and which issued bonds both in the decade prior to the Mexican default announcement in 1982 and in the decade after the rejuvenation of the sovereign bond market in the early 1990s (as noted, except for the strongest issuers, almost no sovereign bonds were issued during the remainder of the 1980s). The eight countries are Mexico, Brazil, Colombia, Costa Rica, Argentina, Panama, Venezuela, and the Philippines (referred to as the Brady Eight). The table also shows the evolution of contract terms for the general market (excluding super-safe issuers defined as those issuers that had a AAA rating or equivalent throughout the period of our study).

We can get an initial sense of the impact of the Latin American crisis on contract terms from the average number of terms in sovereign bonds before and after the crisis. For the bonds in the 1960s and 1970s (excluding the super-safe issuers¹⁷), the average number of clauses in a sovereign bond was in the range of six to eight. Subsequent to the crisis, starting in the early 1990s, that number roughly doubled, to over fifteen.¹⁸

On the enforcement side, six new terms show up for many sovereigns and one is modified. The new enforcement terms that appear in many sovereign bond contracts in the post-crisis period are: waivers of sovereign immunity, consent to enforcement, consent to jurisdiction, governing law, agent for service of process, and the cross default provision. Five of these terms make it

17 In our calculations for the General Market column, we exclude the bonds for issuers with an AAA rating, countries like the USA, Germany, and Denmark.

18 For one of these countries, Costa Rica, we do not have the actual pre-crisis bonds from the 1970s. However, we spoke to lawyers who were familiar with those restructurings about the terms in those bonds.

Table 1. Enforcement provisions (pre- and post-Latin American debt crisis era)

Contractual terms	The Eight Brady Restructurers		General market practice	
	1960–1981 (<i>n</i> = 39) (%)	1982–2000 (<i>n</i> = 103) (%)	1960–1981 (<i>n</i> = 146) (%)	1982–2000 (<i>n</i> = 422) (%)
Waiver of immunity from suit	13	98***	36	84***
Waiver of immunity from execution	13	93***	5	62***†††
Agent for service of process	13	93***	36	69***†
Governing law	44	100***	48	97***
Consent to jurisdiction	13	99***	36	93***
Cross default	5	85***	3	55***†††
<i>Pari passu</i> clauses with the word “payment”	0	74***	0	21***†††

Note: 75 sovereigns issue debt in the “general market.”

*** $p \leq 0.001$ ** $p \leq 0.01$ * $p \leq 0.05$, two-tailed tests for bonds issued during 1960–1981 and 1982–2000.

††† $p \leq 0.001$ †† $p \leq 0.01$ † $p \leq 0.05$, two-tailed tests for the Eight Brady Restructurers and general market practice.

easier for creditors to sue the sovereign debtor who has defaulted on its obligations. The fifth, the cross default, protects creditors by giving them a stick with which to threaten debtors who miss a payment. We computed the difference in the incidence for each term between the Eight Brady Restructurers and the General Marketplace. This difference shifted toward a relatively greater incidence of enforcement terms for the Eight Brady Restructurers compared with the General Marketplace in the post-crisis period.

The pre-existing enforcement term that apparently became stronger is the *pari passu* clause. This clause, in its traditional version promised that the bonds would rank *pari passu* with other unsecured debts of the sovereign in terms of priority. In the post 1990 period, that language was enhanced in the case of many sovereigns to say that the bonds would rank *pari passu* in terms of “priority of payment.” That “payment” language later was used by creditors to argue for equal treatment in payment rights from the sovereign in a number of cases.¹⁹ For the Eight Brady Restructurers, the incidence of *pari passu* clauses with the “payment” language went from 0 percent prior to the Latin America shock up to 74 percent. Importantly, for the general marketplace sovereign

19 Note, as we discuss above, the precise meaning of what the *pari passu* clause even with respect to payment terms is debatable.

issuers, the incidence of *pari passu* clauses with the “payment” language increased to only 21 percent.

To test the causal relationship between the Latin Crisis and the shift in enforcement-related terms, we estimated a series of ordered logit and logit models on bond issuance level data. For each bond issuance, we compute whether there was a change for each contract term compared with the immediate prior bond issuance for the sovereign issuer. If there is a change, for certain terms we also code for the direction of the change. For example, if the prior bond issuance does not contain a waiver of sovereign immunity and the bond issuance in question contains a waiver of sovereign immunity, we code this as a 1. Conversely, if the prior bond issuance contains a waiver of sovereign immunity but the bond issuance in question does not contain such a waiver, we code this as a -1. If there is no change, we code this as a 0. Our Waiver of Immunity from Suit dependent variable thus can take on -1, 0, or 1 as its value. We code Waiver of Immunity from Execution, Agent for Service of Process, and Cross Default similarly and use these also as dependent variables in our models. As discussed above, the *pari passu* clause can take on various forms. We code *pari passu* as equal to -1 if there is a shift in the language of the *pari passu* clause making it more difficult (in terms of making a legal argument in court) for bondholders to attach disproportionate payments to other creditors and 1 if there is a shift that makes it easier to use the clause in such a manner (and 0 if there is no change).²⁰ For other terms we are unable to code a particular direction and only code for a shift in the term. We code any shift in the governing law as a 1 and 0 otherwise and define this as the Governing Law dependent variable. We code any shift in the consent to jurisdiction as a 1 and 0 otherwise and define this as the Consent to Jurisdiction dependent variable.

We estimate ordered logit (Waiver of Immunity from Suit, Waiver of Immunity from Execution, Agent for Service of Process, Cross Default, and *pari passu*) and logit (Governing Law) models on bond issuance level data excluding issuances by the super-safe issuers. We do not include Consent to Jurisdiction as a dependent variable because all countries changed their Consent to Jurisdiction term in their first issuance after the start of the Latin Crisis. We include as an independent variable whether the first bond issuance after January 1, 1982 contains a contract term that is different from the immediately prior bond issuance (First Latin Crisis). We add indicator variables for whether there is an increase (S&P Increase) or decrease (S&P Decrease) in the country’s S&P rating from the prior bond issuance. We assume that the S&P bases its

20 For example, adding the phrase “pro rata basis” to the *pari passu* clause arguably makes it easier for bondholders to argue that the *pari passu* clause blocks non-pro rata payments by the sovereign issuer.

country-risk rating based on macroeconomic and political factors and not on the specific contract terms in a sovereign bond issuances and thus is exogenous to our dependent variables. To test whether the Brady Eight countries responded differently to the Latin Crisis compared with other countries, we added an indicator variable for a Brady Eight sovereign issuer (Brady Eight) and an interaction term between Brady Eight and First Latin Crisis. Lastly, as a control variable we include the log of the size of the offering in US dollars. We cluster errors by country. Table 2 reports the results.

The models of Table 2 confirm that a significant shift occurred in the enforcement-related contract terms following the start of the Latin Crisis in 1982. There is an increase in the incidence of Waiver of Immunity from Suit, Agent for Service of Process, and Cross Default clauses for all sovereigns in the first issuance after the start of the Latin Crisis. There is also a significant increase in the protection provided through the language in the *pari passu* clause for bondholders from non-pro rata payments. Lastly, there is a significant increase in the incidence of changes in the Governing Law clause.

The results from Table 2 indicate that sovereigns are generally more likely to make contract changes after the start of the Latin Crisis that add clauses that waive immunity from execution, provide for an agent for service of process, and cross default. However, in contrast with the summary statistics of Table 1, we do not find a significant difference in the incidence of contract term change for the Brady Eight versus all other sovereigns upon the Latin Crisis. In all the models, the coefficient on Brady Eight \times First Latin Crisis is not significantly different from zero.

The most obvious explanation for the evolution of these terms is that creditors were harmed by the sovereign debt defaults, and sought increased protection. Creditors sought protections not only from the Brady Eight sovereigns but all other sovereigns. One puzzle is why this protection was added in the 1980s (and became widespread in the 1990s). Countries had defaulted on their debt many times prior to the 1980s (Reinhart & Rogoff 2009), and so creditors should have demanded these provisions at an earlier time. But what was new beginning in the 1970s was the greater acceptance of the idea that sovereigns can be sued in foreign courts for defaults related to commercial activities. Laws enacted in the USA and the UK in the 1970s permitted foreign sovereigns to be sued when they engage in commercial activities (Weidemaier 2011). This change in the legal environment directly affected the risk facing investors from sovereign default. With the ability to sue, investors armed with the proper contract terms could potentially obtain a greater return on their investment even in the case of default. A related possibility is that the major developed countries (together, the “Official Sector,” which often acted through the IMF) sought to replace an earlier ad hoc regime, under which the Official Sector

Table 2. Ordered logit and logit models of changes in enforcement provisions

Independent variables	Model 1 Ordered logit model: waiver of immunity from suit	Model 2 Ordered logit model: waiver of immunity from execution	Model 3 Ordered logit model: agent for process of service	Model 4 Logit model: governing law	Model 5 Ordered logit model: cross default	Model 6 Ordered logit model: <i>pari passu</i>
First Latin crisis	4.350** (5.84)	1.973* (2.17)	4.305** (5.67)	3.265** (3.13)	3.773** (5.70)	1.718* (2.05)
S&P increase	1.370** (3.11)	0.821** (3.18)	0.0530 (0.09)	0.226 (1.00)	0.545 (0.76)	-0.253 (-0.83)
S&P decrease	-0.740 (-1.25)	-0.0634 (-0.15)	-0.326 (-0.54)	0.281 (1.15)	-0.0927 (-0.12)	-0.160 (-0.47)
Brady eight	0.0949 (0.71)	0.162* (2.56)	0.480+ (1.88)	-0.783 (-1.55)	0.515+ (1.74)	0.0144 (0.11)
Brady eight × First Latin crisis	-0.384 (-0.27)	0.331 (0.26)	0.460 (0.37)	-0.944 (-0.55)	0.633 (0.51)	1.097 (0.91)
ln(offering amount)	-0.295** (-4.16)	-0.158** (-4.23)	-0.107 (-1.05)	0.120* (2.35)	-0.0584 (-0.30)	0.0567 (1.14)
N	1076	1076	974	1098	1014	1172
pseudo R ²	0.156	0.030	0.160	0.038	0.089	0.016

z statistics in parentheses; + $p > 0.10$, * $p > 0.05$, ** $p < 0.01$. We omit reporting the constant terms from the ordered logit and logit models.

Table 3. Restructuring and refinancing provisions (pre- and post-Latin American debt crisis era)

Contractual terms	The Eight Brady Restructurers		General market practice	
	1960–1981 (<i>n</i> = 39) (%)	1982–2000 (<i>n</i> = 103) (%)	1960–1981 (<i>n</i> = 146) (%)	1982–2000 (<i>n</i> = 422) (%)
Modification clauses for payment terms	3	15*	3	46***†††
Modification clauses for non-payment terms	8	77***	11	67***
Narrow version of negative pledge	3	72***	1	18***†††
Sinking fund/amortization	82	1***	67	1***

Note: 75 sovereigns issue debt in the “general market.”

*** $p \leq 0.001$ ** $p \leq 0.01$ * $p \leq 0.05$, two-tailed tests for bonds issued during 1960–1981 and 1982–2000.

††† $p \leq 0.001$ †† $p \leq 0.01$ † $p \leq 0.05$, two-tailed tests for the Eight Brady Restructurers and the “general market.”

would pressure governments to pay their debts on behalf of foreign creditors, with a more regularized judicial regime, which would be less political controversial.

This latter idea is supported by the evolution of restructuring terms during the 1980s crisis, which is shown in Table 3. We see for the Eight Brady Restructurers (and also for other sovereign issuers) both the emergence of modification terms (which allow for contract terms to be modified with less than unanimous consent of the bondholders) and the narrowing of the negative pledge clauses (which shift from a broad restriction on all grants of security interests to a restriction on grants to foreign investors). In other words, creditors begin to grant sovereigns greater leeway to restructure in the event of a crisis. We also see the elimination of sinking fund clauses.

The increasing popularity of CACs and the narrowing of the negative pledge clause may at first seem to be in tension with our explanation of the expanded use of creditor protection terms: if creditors feared that debtors will default, and so demand enforcement terms, then why do they make it easier for debtors to restructure? The most plausible answer is that creditors sought to implement the optimal incomplete contract—one in which debtors are forced to pay in the good state but permitted to restructure in the bad state. The key event was the development of the bond market during the 1970s and 1980s. Under the old system of syndicated loans, only a few players—a handful of banks and governments—were involved in restructuring. With the bond market, thousands of creditors would need to consent unanimously to a restructuring under traditional law—an impossibility. CACs make restructuring much easier while

maintaining the control of (most) bondholders over the process, so that countries cannot easily use the restructuring clauses to evade their debt obligations in the good state.

The narrowing of the negative pledge clause is helpful for sovereigns facing liquidity problems. It allows them to access emergency financing by granting security interests. Foreign bondholders, however, can protect themselves by restricting the secured borrowing to investors who are local. Being “local” is generally defined as investors who are willing to lend in the local currency and in instruments not traded on an exchange. These restrictions ensure, to an extent, that the sovereign is able to access this secured financing only if a large internal lender, who presumably can better monitor the sovereign, is willing to take the risk of lending in the local currency and in a relatively non-liquid instrument. Meanwhile, the sinking fund clause could be abandoned because the greater volume in the bond market made it easier for creditors to refinance as their loans became due.

Table 3 also reports large shifts in the restructuring and refinancing provisions for the general market practice group of sovereigns (that excludes both the Eight Brady Restructurers as well as the super-safe sovereigns). In particular, we note that the shift in the modification clause for non-payment terms is roughly the same magnitude for the general market practice as for the Eight Brady Restructurers. The shift in the modification clause for payment terms toward CACs is in fact greater for the general market practice sovereigns. We cannot as easily explain why the shift in the use of CACs for payment terms was greater in the general market than among the Brady restructurers. Indeed, why would the general market shift at all? One plausible answer is that creditors and non-Brady governments learned from the Brady experience that CACs would be sensible even for countries that had not yet defaulted (or had not defaulted recently). We leave exploration of this possibility for future work. The relative reluctance to use payment-CACs for the Brady governments is harder to explain; it may have reflected the worry that recent defaulters could not be fully trusted to engage in appropriate restructurings. Lastly, the shift in the negative pledge clause to a more narrow scope is more prevalent for the Eight Brady Restructurers compared with the general marketplace. This is consistent with a narrow negative pledge clause being more useful for sovereigns facing liquidity problems.

To test the causal relationship between the Latin Crisis and the shift in restructuring and refinancing-related terms, we estimated a series of ordered logit models on bond issuance level data excluding the super-safe issuers. Following the same methodology as for the dependent variables in Table 2, we created dependent variables for changes in the modification clauses for payment terms (1 = a change that makes it easier for bondholders to modify

Table 4. Ordered logit models of changes in restructuring and refinancing provisions

Independent variables	Model 1 Modification clauses for payment terms	Model 2 Modification clauses for non-payment terms	Model 3 Negative pledge	Model 4 Sinking fund clause
First Latin crisis	0.699 (1.51)	1.442** (2.70)	-0.0532 (-0.01)	-1.866 (-0.93)
S&P increase	0.403 ⁺ (1.70)	0.751* (2.24)	0.0884 (0.13)	-1.345** (-3.16)
S&P decrease	0.00900 (0.04)	-0.617* (-2.09)	-0.309 (-0.53)	0.949 (1.44)
Brady eight	-0.0202 (-0.24)	-0.0957 (-1.56)	0.0256 (0.31)	-0.676* (-2.24)
Brady eight × First Latin crisis	1.001 (0.70)	-0.859 (-1.51)	2.481 (0.37)	-1.228 (-0.59)
ln(offering amount)	0.0356 (1.00)	-0.0545 (-0.95)	-0.00659 (-0.07)	-0.138 ⁺ (-1.68)
N	1205	1098	861	604
pseudo R ²	0.006	0.015	0.009	0.095

z statistics in parentheses; ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$. We omit reporting the constant terms from the ordered logit models.

payment terms, -1 = a change that makes it harder for modification, 0 = no change), the modification clauses for non-payment terms (1 = a change that makes it easier to modify non-payment terms, -1 = a change that makes it harder for modification, 0 = no change), the negative pledge clause (1 = the addition of a negative pledge clause, -1 = the removal of a negative pledge clause, 0 = no change), and the sinking fund clause (1 = the addition of a sinking fund clause, -1 = the removal of a sinking fund clause, 0 = no change). We estimated ordered logit models on bond issuance level data using the same independent variables as in Table 2. We cluster errors by country. We report the results in Table 4.

Table 4 indicates that there is only limited support for the hypothesis that the Latin Crisis caused countries to change their restructuring and refinancing provisions. The coefficient on First Latin Crisis is not significant in Model 1 (Modification Clauses for Payment Terms). The coefficients on First Latin Crisis are also not significantly different from zero in Model 3 (Negative Pledge) and Model 4 (Sinking Fund). In contrast, the coefficient on First Latin Crisis is positive and significant at the 1 percent level in Model 2 (Modification Clauses for Non-Payment Terms). These results support the view that Latin Crisis had a causal effect on non-payment modification terms but not on payment modification terms as well as the negative pledge or sinking

fund clauses. The coefficients on Brady Eight and Brady Eight \times First Latin Crisis are not significant in the models of Table 4, indicating that the Brady Eight countries were not more likely compared with all other countries to increase the ability of bondholders to modify non-payment terms collectively following the Latin Crisis.

3.2. Global Debt Crisis (1995–2001)

A global debt crisis began (again) in Mexico in 1995. Investors and governments realized that the restructuring provisions in the Mexican bonds were inadequate. Although a CAC clause had been introduced for non-payment provisions, none had been introduced for payment provisions. The USA ended up bailing out Mexico, in part because it feared contagion. Additional bailouts occurred as the debt crisis spread, culminating in the bailout of Argentina in 2001. Argentina had received significant amounts of emergency funding from the IMF, but was not able to recover. Then, once it defaulted, it was not able to restructure its debt quickly. The result was that the Official Sector began the reform of the standard sovereign contract provisions so that a number of individual rights were converted to collective ones (hence the term “Collective Action Clauses”). The point, for the richer nations, was to get out of the business of providing bailouts (Eichengreen 2003; Roubini & Setser 2004).

Spurred by pressure from the Official Sector, sovereigns began to reform their contracts to include CACs for payment related terms, starting in April 2003. We conjecture that those sovereigns that posed the highest risk of requiring a bailout faced the most pressure to reform their contracts to allow for a greater ability for bondholders to act collectively to modify their payment (and other terms). We review news stories from the NEXIS database published in 2002 that discuss sovereigns and bailouts and record those sovereigns that are mentioned as posing a bailout risk or that defaulted on their debt in the 1990s or early 2000s.²¹ This search identified the following countries: Argentina, Brazil, Malaysia, Mexico, Russia, South Korea, Thailand, Turkey, and Uruguay. We refer to these countries as the “High Bailout Risk” countries.

In Table 5, we provide the changes in terms for High Bailout Risk sovereigns and for the general market (excluding the super-safe issuers), starting after 2002. Table 5 shows that the shift in payment modification terms is the most significant change (from 47 to 88 percent). The other shifts are less dramatic, but still large ones. Most are in the direction of making restructurings easier—that is, representing a shift from individualized rights to collective ones.

21 We searched the following databases on NEXIS: *New York Times*, *Los Angeles Times*, *Major Newspapers*, *Dow Jones Business News*, *Dow Jones News Service*, and *Wall Street Journal*.

Table 5. The post-2002 shift to CACs

Contractual terms	Bailout likely nations		General market practice	
	1992–2002 (<i>n</i> = 123) (%)	2003–2011 (<i>n</i> = 85) (%)	1992–2002 (<i>n</i> = 376) (%)	2003–2011 (<i>n</i> = 454) (%)
Payment modification with less than 100%	15	100***	47	88***†††
Non-payment modification vote above 67%	26	71***	30	47***
Mandatory meetings for votes to alter terms	14	9	47	24***†††
Collective acceleration and/or reverse acceleration	56	71*	17	59***†††
Bondholder collective/trustee	5	14*	5	34***†††
Disenfranchisement provisions	0	78***	3	40***†

Note: 97 sovereigns issued debt in the “general market.”

*** $p \leq 0.001$ ** $p \leq 0.01$ * $p \leq 0.05$, two-tailed tests for bonds issued during 1992–2002 and 2003–2011.

††† $p \leq 0.001$ †† $p \leq 0.01$ † $p \leq 0.05$, two-tailed tests for the top 10 issuers and the “general market.”

There are two exceptions. The first is the increase in disenfranchisement provisions (bottom row). These provisions generally bar the issuer from voting bonds that it owns or controls. Obviously, the issuer could implement a restructuring more easily if it could manipulate the vote, but by the same token such a restructuring would be less likely to advance the creditors’ collective interests than one in which the issuer did not take part as a voter.

The second is the increase in the voting thresholds for non-payment terms (second row). The typical vote required to alter non-payment terms, pre-2002, ranged from between 50 and 67 percent. After 2003, a large number of issuers shifted to a higher vote requirement (typically 75 percent) to alter non-payment terms. The reason for the increase in the non-payment vote is probably related to the threshold for payment terms, which was lowered in many cases to 75 percent. Creditors feared a situation where the debtor was not able to persuade 75 percent of the voters to agree to an exchange offer, but was tempted to try a coercive exchange to reach the 75 percent vote. This could be done using the lower vote threshold on the non-payment terms. In a technique called the Exit Exchange, bondholders would be told that even if the 75 percent threshold for altering payment terms was not met, key non-payment terms would be impaired as long as more than 50 percent agreed (Buchheit & Gulati 2000). The 50 percent who did agree would be given new bonds with a full set of contract protections. But the remainder, who did not agree, would have the old bonds

whose key non-payment terms (such as negative pledge clauses) had been deleted. Fearing this situation, even bondholders who did not like the deal might be induced to enter the exchange offer. Raising the vote threshold for the key non-payment terms protected bondholders from this strategy.²²

To test the causal relationship between the Global Debt crisis and the shift toward collective action clauses to adjust payment terms, we estimated a series of ordered logit models. Following the same methodology as for the dependent variables in Table 2, we created dependent variables for changes to several clauses related to adjustments to payment terms including: modification clauses for payment terms (1 = a change that makes it easier for bondholders to modify payment terms, -1 = a change that makes it harder for modification, 0 = no change) and modification clauses for non-payment terms (1 = a change that makes it easier to modify non-payment terms, -1 = a change that makes it harder for modification, 0 = no change). We also use dependent variables set equal to 1 if one of the following clauses is added and equal to -1 if the clause is removed from the prior bond issuance: mandatory meetings for votes to alter terms, collective acceleration, bondholder collective/trustee, and disenfranchisement provisions. Because we have data on the reverse acceleration clause only on one first issuance for High Risk Bailout sovereigns after Mexico's shift to CAC (which did not change the clause), we do not estimate a model for the reverse acceleration clause.

We estimate ordered logit models on bond issuance level data excluding issuances by super-safe issuers and include a number of independent variables. We focus on the first bond issuance a country makes on or after Mexico's initial shift to CACs on February 26, 2003 and define an indicator variable equal to 1 for such an issuance and 0 otherwise (First Post-Mexico). We add indicator variables for whether there is an increase (S&P Increase) or decrease (S&P Decrease) in the country's S&P rating from the prior bond issuance. To test whether the top ten issuer sovereigns, posing the highest risk of requiring a bailout, responded differently to the Global Crisis compared with other countries, we added an indicator variable for a high bailout risk sovereigns (High Bailout Risk) and an interaction term between High Bailout Risk and First Post-Mexico. As a control variable we include the log of the size of the offering in US dollars. We cluster errors by country. Table 6 reports the results.

In Table 6, Model 1 (Modification Clauses for Payment Terms) indicates that High Bailout Risk sovereigns were more likely to shift to terms that increase the ability of bondholders to modify payment and non-payment terms immediately

22 The Exit Exchange or Exit Consent strategy is a familiar one in sovereign restructurings. To date, Ecuador, Uruguay, and the Dominican Republic have used it.

Table 6. Ordered logit models of CAC-related term shifts post-Mexico 2003

Independent variables	Model 1 Modification clauses for payment terms	Model 2 Modification clauses for non-payment terms	Model 3 Mandatory meetings for votes to alter terms	Model 4 Collective acceleration	Model 5 Bondholder collective/trustee	Model 6 Disenfranchisement provisions
First post-Mexico	1.810** (5.37)	-0.895* (-2.23)	-0.404 (-0.96)	2.257** (4.94)	2.771** (5.11)	2.805** (4.49)
S&P increase	0.391 ⁺ (1.87)	0.814* (2.46)	0.0239 (0.09)	0.708 (1.62)	1.093 ⁺ (1.87)	1.345** (3.43)
S&P decrease	-0.0846 (-0.34)	-0.512 ⁺ (-1.71)	-0.0872 (-0.28)	0.0458 (0.09)	-0.102 (-0.11)	-0.641 (-0.65)
High bailout risk	-0.123 ⁺ (-1.71)	0.0408 (0.61)	-0.0446 (-0.80)	0.0921 (0.53)	-0.188 (-0.60)	-0.425 (-1.48)
High bailout risk × First post-Mexico	2.228* (1.97)	-0.157 (-0.21)	1.448 (1.59)	-0.499 (-0.33)	-2.504** (-3.46)	0.520 (0.38)
ln(offering amount)	0.0255 (0.67)	-0.0627 (-1.09)	-0.0176 (-0.32)	0.198** (2.70)	-0.0112 (-0.07)	0.149 (1.59)
N	1205	1098	1159	768	675	652
pseudo R ²	0.037	0.017	0.002	0.061	0.079	0.143

z statistics in parentheses; ⁺ $d < 0.10$, * $d < 0.05$, ** $d < 0.01$. We omit reporting the constant terms from the ordered logit models.

following Mexico's adoption of the CAC clause. The interaction term on High Bailout Risk \times First Post-Mexico is positive and significant at the 1 percent level in Model 1. In contrast, Model 2 (Modification Clauses for Non-Payment Terms) indicates that there was a shift on the part of all sovereigns toward making it more difficult for bondholders to collectively modify non-payment terms after Mexico's initial shift to a CAC. The coefficient on First Post-Mexico is negative and significant at the 5 percent level. In comparison, the coefficient on High Bailout Risk \times First Post-Mexico is not significant, indicating that the shift in modification clauses for non-payment terms was not any greater for the High Bailout Risk issuers.

The coefficient on High Bailout Risk in Model 3 is not significantly different from zero, indicating that Mexico's shift to CACs did not trigger a shift (at least not immediately) in the mandatory meeting clause. In Models 4–6 (Collective Acceleration, Bondholder Collective/Trustee, and Disenfranchisement), Table 6 reports that the coefficient on First Post-Mexico is positive and significant at the 1 percent levels. Sovereigns generally adopted collective acceleration, bondholder collective/trustee, and disenfranchisement provisions in their first bond issuance after Mexico's shift to CACs in 2003. This shift, however, is not confined to High Bailout Risk sovereigns. In Models 4 and 6, the interaction terms for High Bailout Risk \times First Post-Mexico are not significant. High Bailout Risk countries are not different from other countries in their propensity to adopt collective acceleration and disenfranchisement clauses in their first issuance after Mexico's CAC shift. The interaction term for High Bailout Risk \times First Post-Mexico is negative and significant at the 1 percent level in Model 5. While other countries are more likely to adopt Bondholder Collective/Trustee clauses after Mexico's shift to CACs, the High Bailout Risk countries are not more likely to adopt such clauses.

In sum, as with the Latin America crisis of the 1980s, the Global Debt crisis from 1995 to 2001 resulted in a dramatic change to previously boilerplate sovereign bond contracts. These changes, dealing primarily with the ability of creditors to agree collectively to the restructuring of payment terms, made it easier for sovereigns in financial distress to negotiate debt relief with their private sector creditors. Instead of using identification of good or bad states of the world to determine when sovereigns qualified for debt relief, the contracts relied on the collective judgment of the creditors themselves at the time.

3.3. Entry to the Eurozone (1999–2001)

The two episodes discussed above involved contractual responses to increases in political risk that resulted from default that affected multiple countries in a short time span. But global changes that reduce political risk can also occur.

One might predict that in those circumstances, the contractual terms we have examined would be removed or modified to reduce the threat of enforcement and to place less emphasis on possible future restructuring or refinancing. To test this possibility, we focus on the creation of the Eurozone, which people assumed would reduce political risk in periphery countries like Greece by forcing them to comply with certain macroeconomic standards (or entitling them to bailouts from the wealthy countries, although this possibility was formally ruled out by European law) (Smets & Gulati 2012).

To examine the impact of the creation of the Eurozone on contract provisions, we examine the pre- and post-Eurozone contracts for the subset of the weakest members of the Eurozone. We take the list of these nations from newspaper reports about the current financial crisis. The list of “peripheries” includes Greece, Italy, Belgium, Ireland, Spain, and Portugal.²³

The Eurozone is a monetary union. Entry into this union required members to satisfy various criteria relating to deficit levels, financial stability, and related macroeconomic indicators, and to agree to delegation of authority over monetary policy to a central European Authority that would issue and manage a single currency, the euro. Entry into the monetary union was viewed by the markets as a positive step for these nations, enhancing their ability to borrow on the international markets. And borrow they did, in enormous amounts. Less well known is the transformation of contract terms as a result of this new halo of respectability that was being applied to previously weak nations after they joined the Eurozone. Table 7 provides the details.

Table 7 shows that the market treated Eurozone membership as a substitute for creditor protection terms. The peripheral countries were increasingly permitted to use local jurisdictions for lawsuits, not to commit to IMF membership, and not to include cross-default clauses—all features of super-safe issuers like the USA and Germany. There were no similar developments in the general market. If anything, the trend in the general market went in the opposite direction.²⁴

To test the causal relationship between the entry to the Eurozone and changes in enforcement-related clauses, we estimated a series of ordered logit models. Following the same methodology as for the dependent variables in Table 2,

23 There are other members of the Eurozone whose entry to the monetary union came at a later date. These nations also happen not to be as financially strong as the initial entrants to the monetary union. (e.g., Estonia, Slovakia, Slovenia). The combination of these factors has meant that these nations do not have a meaningful history of issuances from before and after their entry into the Eurozone. Hence, we do not use them in our analysis.

24 Our tables report data from the Thomson One Banker database. In a related paper, we examined data from the Dealogic database as well. Dealogic is the other major provider of data on bond contracts. The results were largely the same. See Smets & Gulati (2012).

Table 7. Eurozone formation: enforcement clauses

Contractual terms	Euro periphery		General market practice (excluding the super-safe issuers)*	
	1990–1999 (n = 91) (%)	2000–2011 (n = 137) (%)	1990–1999 (n = 258) (%)	2000–2011 (n = 587) (%)
Local jurisdiction for lawsuits	0	8**	5	5
No commitment to retain IMF membership and eligibility	90	99**	74	62***†††
Lacking cross default clauses	20	51***	39	34

Note: 100 sovereigns are in the “general market.”

*** $p \leq 0.001$ ** $p \leq 0.01$ * $p \leq 0.05$, two-tailed tests for bonds issued during 1990–2002 and 2003–2011.

††† $p \leq 0.001$ †† $p \leq 0.01$ † $p \leq 0.05$, two-tailed tests for the Euro periphery and the “general market.”

we created dependent variables for enforcement-related clauses set equal to 1 if one of the following clauses is added, equal to -1 if the clause is removed from the prior bond issuance, and equal to 0 if there is no change. The dependent variables are: Local Jurisdiction for Lawsuits, IMF Membership and Eligibility, and Cross Default.

We estimate ordered logit models on bond issuance level data excluding issuances by super-safe issuers and include a number of independent variables. We focus on the first bond issuance a country makes on or after January 1, 2000 and define an indicator variable equal to 1 for such an issuance and 0 otherwise (First Eurozone). We add indicator variables for whether there is an increase (S&P Increase) or decrease (S&P Decrease) in the country’s S&P rating from the prior bond issuance. To test whether the Eurozone Periphery countries responded differently as a result to their entry to the Eurozone compared with other countries, we added an indicator variable for periphery Eurozone sovereign issuers (Eurozone Periphery) and an interaction term between Eurozone Periphery and First Eurozone. As a control variable we include the log of the size of the offering in US dollars. We cluster errors by country. Table 8 reports the results.

Model 1 (Local Jurisdiction for Lawsuits) and Model 2 (IMF Membership and Eligibility) of Table 8 largely confirm the shifts in the enforcement-related clauses for Euro Periphery countries relative to other countries as indicated in the summary statistics of Table 7. The coefficient on Euro Periphery \times First Eurozone is positive and significant at the 5 percent level in Model 1, indicating that Euro Periphery countries are more likely to shift to local jurisdiction for lawsuits compared with other countries in their first issuance following

Table 8. Ordered logit models of enforcement clause changes post-Eurozone entry

Independent variables	Model 1 Local jurisdiction for lawsuits	Model 2 IMF membership and eligibility	Model 3 Cross default
First Eurozone	0.00725 (0.09)	1.884* (2.44)	0.0603 (0.08)
S&P increase	0.0974 (0.12)	-0.755 (-1.27)	1.531** (4.56)
S&P decrease	-0.311 (-0.36)	0.492 (0.91)	1.222** (4.45)
Euro periphery	0.0956 (0.38)	0.609* (2.23)	0.978 (1.37)
Euro periphery × First Eurozone	3.916* (2.49)	-1.817* (-2.15)	1.963 (1.00)
ln(offering amount)	-0.147 (-1.04)	-0.0472 (-0.57)	-0.0314 (-0.39)
N	992	850	1094
pseudo R^2	0.028	0.028	0.093

z statistics in parentheses; $^+p < 0.10$, $^*p < 0.05$, $^{**}p < 0.01$. We omit reporting the constant terms from the ordered logit models.

January 1, 2000 (marking the entry to into the Eurozone). Similarly, the coefficient on Euro Periphery × First Eurozone is negative and significant at the 5 percent level in Model 2, indicating that Euro Periphery countries are less likely, as compared with other countries, to adopt IMF membership clauses in their first issuance following January 1, 2000. In contrast, as reported in Model 3 of Table 8, we find no support for a relationship between the incidence of the cross default clause and Euro Periphery countries and entry into the Eurozone.

Table 9 shows that the periphery nations as a group also moved in the direction of easy-to-restructure provisions, in terms of two key terms, the Negative Pledge and the Governing Law provisions. If we were to limit our comparison to data until the end of 2002, we would see the shift in the Eurozone data and also see that nothing changed in the rest of the market. Because Table 9 reports the data for the full decade (2000–2011), we see a shift toward easier-to-restructure terms for the remainder of the market as well. That shift, as we discussed in the prior section, was the post–2002 shift in the wake of the Argentine crisis and occurred in terms of the modification and collective acceleration provisions.

We might have predicted that the Eurozone periphery countries would stop issuing bonds with restructuring clauses/CACs related to payment and non-payment terms, but the data do not support this prediction. Instead, these clauses remained roughly as common as they were before entry to the

Table 9. Eurozone formation: restructuring clauses

Contractual terms	Euro periphery		General market practice (excluding the super-safe issuers)	
	1990–1999 (<i>n</i> = 91) (%)	2000–2011 (<i>n</i> = 137) (%)	1990–1999 (<i>n</i> = 258) (%)	2000–2011 (<i>n</i> = 587) (%)
Payment modification vote below 100%	51	55	38	79***††
Non-payment modification vote above 67%	41	38	39	90***†††
Collective acceleration provision and/or reverse acceleration	1	32***	30	58***†††
Lack of a restriction on financing using collateral (negative pledge)	14	39***	33	19***†††
Local governing law	4	45***	0	1

Note: 100 sovereigns are in the “general market.”

*** $p \leq 0.001$ ** $p \leq 0.01$ * $p \leq 0.05$, two-tailed tests for 1990–2002 and 2003–2011.

††† $p \leq 0.001$ †† $p \leq 0.01$ † $p \leq 0.05$, two-tailed tests for the Euro periphery and the “general market.”

Eurozone. Thus, even though creditors lowered interest rates to Eurozone periphery countries, perhaps they still believed that the risk of default was high enough to justify inclusion of these terms (unlike the case with the super-safe issuers). This picture looks somewhat different if examined in contrast to the rest of the market. The use of CACs for the Eurozone remains roughly the same or slightly less. The use of those same types of provisions increases dramatically for the rest of the market over the same time period. That suggests that the market had a higher level of trust in the Eurozone nations. Further, the greater frequency of clauses stipulating local law and the reduced use of negative pledge clauses (again, in contrast to the movement in the rest of the market) suggests a greater level of trust in the Eurozone nations than before.

To test the causal relationship between the entry to the Eurozone and changes in restructuring-related clauses, we estimated a series of ordered logit models. Following the same methodology as for the dependent variables in Table 2, we created dependent variables for changes to several clauses related to adjustments to payment terms including: modification clauses for payment terms (1 = a change that makes it easier for bondholders to modify payment terms, −1 = a change that makes it harder for modification, 0 = no change) and modification clauses for non-payment terms (1 = a change that makes it easier to modify non-payment terms, −1 = a change that makes it harder for modification, 0 = no change). We also created dependent variables for enforcement-related clauses set equal to 1 if one of the following clauses is added, equal

to -1 if the clause is removed from the prior bond issuance, and equal to 0 if there is no change. The dependent variables are: collective acceleration, negative pledge, and local governing law. Because of the high correlation between acceleration and reverse acceleration data, we do not estimate a model for the reverse acceleration clause.

We estimated ordered logit models on bond issuance level data excluding issuances by super-safe issuers and using the same independent variables as in Table 8. We cluster errors by country. We report the results in Table 10.

The models of Table 10 generally support the view that the Eurozone Periphery countries took advantage of their entry into the Eurozone to shift toward contract terms more suited for countries that pose a lower political risk for bondholders. In Model 1 (Modification Clauses for Payment Terms) and Model 2 (Modification Clauses for Non-Payment Terms), the coefficients on Euro Periphery \times First Eurozone are negative and significant at the 1 and 10 percent levels, respectively, indicating that Euro Periphery countries moved away from collective action clauses for both payment and non-payment terms compared with other countries after entry into the Eurozone. In Model 4 (Negative Pledge), the coefficient on Euro Periphery \times First Eurozone is negative and significant at the 10 percent level, indicating that Euro Periphery countries moved away from negative pledge clauses relative to other countries after entry into the Eurozone. In Model 6 (Local Governing Law), the coefficient on Euro Periphery \times First Eurozone is positive and significant at the 5 percent level, indicating that Euro Periphery countries shifted toward the use of local governing law provisions compared to other countries after entry into the Eurozone. In contrast, we find no evidence of any differential rate of change in the collective acceleration term after entry into the Eurozone for Euro Periphery compared with other countries in Model 3.

In sum, our evidence suggests that investors in Eurozone Periphery countries, believing that the political risk was reduced, responded through the adoption of enforcement-related terms that reduced the threat of enforcement against the sovereigns. This reduction is particularly stark in comparison with the general market practice that moved in the opposite direction, increasing the threat of enforcement against sovereigns. Our evidence also suggests that investors did not remove collective action clauses for the Eurozone Periphery countries after they joined the Eurozone. Nonetheless, investors did not demand an increase in the incidence of such terms for the Eurozone Periphery countries despite an increase in the incidence among the general marketplace issuers, consistent with the hypothesis that investors following a positive shock do take into account the political risk of the particular sovereign issuer when choosing specific contract terms.

Table 10. Ordered logit models of restructuring clause changes post-Eurozone entry

Independent variables	Model 1 Modification clauses for payment terms	Model 2 Modification clauses for non-payment terms	Model 3 Collective acceleration	Model 4 Negative pledge	Model 5 Local governing law
First Eurozone	0.371 (0.86)	0.216 (0.59)	0.874 (1.44)	-0.0484 (-0.04)	0.931 (1.44)
S&P increase	0.542** (2.59)	0.769* (2.28)	0.810 ⁺ (1.91)	0.285 (0.42)	-0.0746 (-0.09)
S&P decrease	0.0207 (0.08)	-0.612* (-2.08)	0.308 (0.60)	-0.287 (-0.48)	0.411 (0.73)
Euro periphery	-0.0626 (-0.91)	0.166* (2.35)	-0.536** (-3.37)	-0.0325 (-0.16)	0.0357 (0.22)
Euro periphery × First Eurozone	-4.498** (-3.59)	-1.504 ⁺ (-1.83)	-1.047 (-1.48)	-2.819 ⁺ (-1.78)	3.147* (2.48)
ln(offering amount)	0.0483 (1.38)	-0.0636 (-1.10)	0.209** (2.83)	0.00265 (0.03)	0.120 (0.63)
N	1205	1098	768	861	1098
pseudo R ²	0.017	0.013	0.030	0.011	0.040

z statistics in parentheses; ⁺ $p > 0.10$, * $p < 0.05$, ** $p < 0.01$. We omit reporting the constant terms from the ordered logit models.

3.4. Individual Political Crises (Within Countries)

Thus far, we have examined shifts in political risk that had widespread impact. In this final section, we examine the impact of individual country defaults on their bonds. For the period since the resurgence of the bond market in the early 1990s, there have been at least 14 defaults followed by restructurings, starting with Pakistan in 1999 and ending with Greece in 2011, whose restructuring is as yet incomplete. The bonds issued in the restructurings provide us with the types of terms creditors demanded subsequent to a default—presumably, an event demonstrating that the sovereign debtor had a higher level of political risk than previously thought.

We report on all of the restructurings of sovereign bonds contained in our data set, where we had information on the bond issuances before and after default; the post-default bond is the restructured instrument. The bonds of nations that go through restructurings use some different contract terms from those of the bonds of nations that do not restructure. Table 11 provides the information on all of the contract terms for these sovereigns that (a) changed after their default and (b) were different from the general market practice. Terms like the waiver of sovereign immunity did not change, so we do not report them.

The two columns to the far right provide a rough comparison between the changes to the restructured bonds and what was occurring in the rest of the market. We say “rough comparison” because the time splits we use for the restructured bonds (the year of each restructuring) and the general market are not the same. The reason we do the split for the general market at 2003 though is that that was the most recent point in time when there was a significant shift in the same categories of provisions that changed in the restructured bonds. As we did before, the estimation of market practice for the final two columns excludes the super-safe issuers.

All of the restructurers have provisions that make later restructurings easier. We discussed earlier the changes that took place in the market as a whole, with the shift toward CACs. We see here that restructurers dominate this trend. Their use of CACs is both more extensive than that in the general market and also they use stronger CACs. We see this vividly in the use of trustee provisions, aggregation clauses, and the removal of the individual right to sue.

Table 11 shows some of the restructurers innovating in a different direction by using GDP-index clauses. As discussed above, these clauses likely reflect an effort to give the creditor a high return in the good state while minimizing the risk of default because of high interest payments in the bad states.²⁵ These types

25 A related clause that we do not report in the table because it is a temporary clause (in that it will not be reused in future bonds because it applies only to restructured bonds). This is the clause often

Table 11. Sovereigns that defaulted on bonds and restructured them in the post 1990 era (post Brady era)

Contractual terms	The restructuring sovereigns		General market practice (excluding the super-safe issuers)	
	Pre-default bonds (<i>n</i> = 12) (%)	Post-default bonds (<i>n</i> = 13) (%)	1990–2002 (<i>n</i> = 449) (%)	2003–2011 (<i>n</i> = 476) (%)
Use of trustee provisions	0	85***	3	5
Disenfranchisement	0	85***	3	44***
Trustee certification for disenfranchisement	0	60***	0	0
25% acceleration plus 50% reverse acceleration	0	70***	14	58***
Individual right to sue	0	25	0	0
Aggregation	0	35*	0	0
GDP indexation	0	25	0	0

Notes: 92 sovereigns are in the “general market.” The dates of restructuring of the defaulted debt vary for the different nations represented in the first two columns. They are Pakistan (1999), Ukraine (1999), Ecuador (2000), Argentina (2005; 2010), Buenos Aires (2005; 2010), Dominican Republic (2005), Belize (2005), Iraq (2005), Grenada (2005), Seychelles (2009), Ivory Coast (2009), Congo (2010), and Greece (2012; expected). Because of the difference in time splits between columns two and three on the one hand and columns four and five on the other, we do not report the *t*-statistics for the comparisons of their differences.

****p* ≤ 0.001 ***p* ≤ 0.01 **p* ≤ 0.05.

of clauses have thus far been resisted by the wider market. However, they have proved useful for at least one sovereign debtor in achieving a restructuring.²⁶

Note also the greater use of aggressive disenfranchisement provisions, which not only forbid the issuer from voting bonds that it owns or controls, but also give the Trustee the power to demand certification by the debtor of the bona fides of the voters; of amortization provisions; and of reverse acceleration provisions. All of these provisions reflect the higher political risk of the debtor relative to the market. The disenfranchisement provision reduces the debtor’s control over restructurings; the amortization provision minimizes the risk of

referred to as the Most Favored Nation or MFN clause. This clause assures the bondholders who agreed to a restructuring that if it turns out that a better deal is offered at a later stage to those holders who refused the first offer, they are also entitled to the same terms. Effectively then, the sovereign is binding itself to not offer holdouts better terms than if offered the other creditors.

26 As of this writing, in January 2012, Greece is reportedly negotiating a GDP indexation clause with its creditors in the context of its upcoming restructuring (Stevina 2011).

default caused by the inability to refinance the principal amount when the debt becomes due; and the reverse acceleration gives creditors greater control over the timing of the debtor's default.

This pattern is consistent with our general story. When countries default, the market realizes that they will likely default again, and so creditors and countries are willing to incur the cost of enforcement and restructuring clauses for the next round of bonds. The event of a default is enough of a shock for the specific country that defaults to spur investors to overcome the inertia of boilerplate terms to select new terms better suited to the updated expectations of political risk from the defaulting sovereign.

4. CONCLUSION: IMPLICATIONS FOR THE MANAGEMENT OF POLITICAL RISK

Our story can be easily summarized. Investors regard some countries as essentially riskless and consent to highly incomplete contracts that specify the interest rate and maturity but do not incorporate other contractual terms that limit the power of those countries to manage their stock of debt. But most countries are considered risky. Their riskiness is reflected in bond ratings, higher interest rates, lower maturities, lesser ability to borrow, and—as we have seen—additional contractual terms that attempt to increase the probability of payment, manage restructuring, and prevent various forms of opportunistic behavior like that of playing creditors off each other.

Unlike interest rates, the package of contractual terms does not correspond directly to bond ratings and other straightforward indicators of riskiness. Sovereign bond terms generally are boilerplate until a crisis leads contracting parties to view the benefits from introducing new terms as exceeding the cost of changing a boilerplate term. Our data demonstrates that contractual terms were introduced in a lumpy fashion, over time, in response to various crises (or, in the case of the Eurozone, what was perceived as macroeconomic progress). Some of these crises were regional or global; others were simply the default of a particular country.

We assess the shift in contract terms across four separate types of shocks and find consistent results. Moreover, the degree of shift in terms is generally (although not always) greater for countries most directly affected by the shock compared with the general market for sovereign bonds. In absence of a confounding event that tracks primarily those countries with higher default risk across all four shocks we identify, we think that the political risk story is the likely explanatory factor behind the shift in contract terms we observe.

The relationship between our higher political risk countries and the control group of all other sovereign issuers (excluding super-safe issuers) is complex. It may be that higher political risk countries tend to be the first sovereigns to adopt new terms. The higher political risk makes it worthwhile for such countries to experiment with new terms. With learning, the usage of such new terms may become cheaper over time, leading all other sovereigns eventually to adopt these terms. Our methodology does not allow us to distinguish the pattern through which new terms diffuse across countries. We save this analysis for a later article.

We hypothesize that there are certain fixed costs in negotiating new bond terms and so it is generally not worthwhile to negotiate new bond terms unless a shock occurs. The involvement of the Official Sector at the time of the shock, both to orchestrate a bailout and to design the post-default bonds, is crucial. Creditors and issuers hope for an Official Sector bailout if the bad state occurs ex post; the Official Sector would prefer to commit itself not to issue a bailout. Thus, as part of the price of agreeing to a bailout, the Official Sector insists on playing a role in the development of new contract terms that will make a future bailout less likely to be necessary. This is probably why contract terms generally evolve in response to defaults rather than to more modest changes in risk perception.

From the standpoint of political risk management, the evolution of sovereign debt contract terms shows the way that issuers and bondholders can use contractual terms to address the problem of political risk. But market actors face significant challenges because the optimal terms are not obvious. Stricter terms may increase the probability of enforcement, but also interfere with restructuring, and externalize costs on third parties. Thus, the urgent task, which will require more rigorous empirical work, is to show which terms are optimal and which are not. As we are currently in the midst of one of the great sovereign debt crises of history, one that will likely give birth to a new generation of contract terms, this task cannot be completed too soon.

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