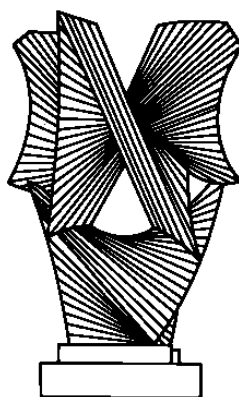


CHICAGO

JOHN M. OLIN LAW & ECONOMICS WORKING PAPER NO. 583

(2D SERIES)

PUBLIC LAW AND LEGAL THEORY WORKING PAPER NO. 370



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**THE LAW SCHOOL
THE UNIVERSITY OF CHICAGO**

November 2011

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Political Risk and Sovereign Debt Contracts

Stephen J. Choi, Mitu Gulati, and Eric A. Posner¹

November 21, 2011

Abstract. Default on sovereign debt is a form of political risk. Issuers and creditors have responded to this risk both by strengthening the terms in sovereign debt contracts that enable creditors to enforce their debts judicially and by creating terms 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; and debtors and creditors may attempt to externalize costs on the taxpayers of other countries. We support this argument with an empirical overview of the development of sovereign bond terms from 1960 to the present.

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 and Rubins 2005; Gordon 2008). Another literature examines the relationship between political institutions and political risk (e.g., Jensen 2008; Stasavage 2002; Quan and Resnick, 2003).

In this paper, 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 and 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,

¹ Faculty; NYU, Chicago and Duke, respectively. Prepared for Harvard Law School Conference on Political Risk in December, 2011. Thanks to Ellie Norton for research assistance and Mark Weidemaier for sharing data on sovereign immunity provisions with us. Posner thanks the Microsoft Fund and the Russell Baker Scholars Fund at the University of Chicago Law School for financial assistance.

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 government.

We evaluate the design of sovereign debt contracts by drawing informally on the standard model of incomplete contracting (Bolton 1990). 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 or unwilling to collect taxes sufficient to repay the debt. Because governments cannot commit themselves to comply with contracts, we assume that there is reputational cost from defaulting. Investors and countries design sovereign debt contracts so as to increase the cost for the country of defaulting in the good state and minimize the cost to creditors from default in the bad state. Sovereign debt contracts are also designed to minimize the cost from debtors seeking to exploit divisions among creditors in order to opportunistically reduce their debt burden. 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.

We then use this framework to analyze the evolution of sovereign debt contract terms from 1960 to 2011. The highest-rated issuers, such as the United States, Germany, France, Japan, and the Netherlands, provide a useful baseline. Their sovereign debt contracts are essentially devoid of terms other than the interest rate, amount, and maturity. By contrast, lower-rated issuers must offer numerous terms in order to strengthen their commitments to creditors while providing a means for orderly restructuring if they default. As we will show, these terms become more numerous and complex over time, in response to various shocks to the system, such as the major regional and global financial crises.

The existing literature on sovereign bond contracts takes the perspective that the provisions in these contracts are largely boilerplate. Scholars argue that because of network effects and information costs, these boilerplate terms can be inefficiently static (e.g., Ahdieh 2004; Choi and Gulati 2004; Cross 2006). But these terms do change over time, as we will show, and the literature lacks an account of how they evolve. The political risk perspective, if taken over a wide enough span of time, tells a story about the origins and evolution of contract terms.

I. An Empirical Portrait of Terms in Sovereign Bonds

A. The Dataset

Our dataset consists of the sovereign bonds issued between 1960 and 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 United States, 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 roughly 1,000 bonds issued by over 75 sovereign issuers.²

Each observation in our dataset 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 well. For the period 1990-2011, our dataset contains information on all of the bonds that were available from the Thomson One Banker dataset, one of the most extensive datasets of bonds. For the three decades prior, where the coverage by the Thomson One Banker database is spotty, we have attempted to supplement the dataset with the bonds we were able to obtain from archives and libraries that had collections of older bonds.³ However, we found few bonds from before 1980; the bulk of our data is from the Thomson One Banker dataset and is from the 1980-2011 period. A key aspect of this dataset is that it represents information on 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 dataset thus undersamples contracts for issuers in whose contract terms investors are uninterested. These issuers turn out to be the strongest issuers such as the United States and Germany. The dataset 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.

² For a brief sketch of the history of the sovereign debt market, see Sturzenegger and Zettelmeyer, ch. 1 (2007).

³ 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 1960-80 period that we are aware of.

B. A Baseline: Terms in Super-Safe Sovereign Bonds

As noted in the Introduction, the safest countries, like the United States, France, and Germany issue bonds that are highly incomplete. These bonds typically include interest rate, maturity, and currency—and little else. As we will see, these contracts lack both enforcement clauses (like waivers of sovereign immunity) and restructuring clauses (like collective action clauses).

C. Creditor Protection Terms

We canvass the universe of contract terms in our dataset that may affect the cost to sovereigns of defaulting in good times and the ability of creditors to restructure debt in bad times. We group the terms along four dimensions: (1) terms that strengthen enforcement; (2) terms that structure payments; (3) terms that require disclosure and enable monitoring; (4) terms related to restructuring.

1. Terms That Strengthen Enforcement

A number of terms directly address the ability of creditors to enforce their claims on sovereign debtors. These terms not only make it more difficult for sovereigns to default in good times; they also may make it more difficult for creditors and sovereigns to restructure debt in bad times.

Waiver of Immunity from Suit. Under public international law, states cannot be sued in court. States may, however, waive sovereign immunity, and many (but not all) bond contracts contain such a waiver (Weidemaier 2011). The actual legal effect of such a waiver may be limited, however; states can withdraw the waiver at any time. 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 Immunity from Execution. Public international law also deprives courts of the power to order a state's assets be seized to satisfy a judgment. States can waive immunity from execution and some states include such waivers in sovereign debt contracts (Weidemaier 2011). These waivers, like waivers of sovereign immunity from suit, can be withdrawn.

Agent for Service of Process. One of the difficulties in 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.

Grants of Security Interests. 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; 140-42). 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.

Negative Pledge. This provision states that an issuer may not issue security interests to future creditors without securing the current debt on an equal basis. 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.

Pari Passu. 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. There is disagreement over the meaning of the *Pari Passu* clause and litigation over the topic is ongoing as of this writing.⁴ 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).⁵ 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 and Scott 2011, discuss competing views).

There are three versions of the *Pari Passu* clause in the bonds in our database. First, the *Ranking Equally* 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. Second, the *Priority of Payment* 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. Third, the *Pro Rata Payment* version of the clause explicitly provides that the bonds will both rank equally and will be payable on a pro rata basis (Financial Markets Law Committee Report 2005, provides background).

Choice of Jurisdiction. Jurisdiction refers to the location where a sovereign agrees to be sued. Sovereigns prefer 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.

Cross-Default and Acceleration. Cross-default clauses state 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 allow the creditor to accelerate all of the future payments owed to it if one of a set of pre-defined Events of Default takes place (such as a violation of a cross-default provision or a negative pledge clause).

Arbitration. States sometimes agree that if a default occurs, the dispute will fall under the jurisdiction of an international arbitration panel.

Tax Gross Up. Sovereign debtors sometimes raise revenue by taxing bond payments. Sovereign debt contracts purchased by foreigners often contain a provision that says that they

⁴ See *NML v. Argentina* (S.D.N.Y. 2011).

⁵ See Buchheit and 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.

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).

2. *Terms That Structure Payments*

Closely related to terms governing enforcement are terms that structure payments.

Sinking Funds. For roughly a century and a half (1820-1980), the most common and detailed provision in the typical sovereign bond was its Sinking Fund. This clause provided that 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. Otherwise, the issuer would have to pay the entire principal at the end of the term. In modern parlance, this was essentially an amortization provision that protected creditors against 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.

GDP-Indexation. A rarely found provision in sovereign bonds is GDP indexation, where the obligations of the sovereign are tied to its GDP. 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 and Sharma 2006). 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.

3. *Terms That Require Disclosure and Enable Monitoring*

For dispersed public bondholders, determining when a sovereign is near or at default as well as when a sovereign issues new debt to other creditors (and on what terms) can require costly research. The Exchange Listing and IMF Membership terms reduce these costs for creditors.

Exchange Listing. Sovereign bonds have been listed on exchanges for almost two centuries. These exchanges imposed 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 2011). 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.

IMF Membership. Some sovereign bonds provide that the issuer must maintain membership in the IMF for the term of the loan. If the issuer leaves the IMF or is expelled, it is constitutes an Event of Default.

4. Terms Related to Restructuring

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.

Non-Payment Modification. This provision governs the modification of non-payment terms—that is, terms other than principal, interest, and time of payment (in other words, most of the terms described above). Typically, some fraction of bondholders between 50 percent and 75 percent can vote to alter the terms and bind all of the bondholders to the revised terms.

Payment Modification. This clause governs the modification of payment terms. The clause tends to come in two types (Buchheit and Gulati 2002). In bonds under New York law, the standard provision is that the payment terms can be modified by a vote of 75 percent of the bonds. 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.

Aggregation. The typical modification clause operates within a single bond issue. Aggregation provisions operate across all of the sovereign's bonds (Buchheit and Gulati 2011). So, even if the holders of one or two bonds resist, the fact that there is overall agreement among all the bondholders (typically, at the 85 percent level), the restructuring agreement becomes mandatory for all.

These three clauses are known as Collective Action Clauses (CAC) because they permit bondholders to modify the terms of the bond through collective action.⁶

Collective Acceleration and Reverse Acceleration. 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 to 25 percent (Bradley and Gulati 2011). A reverse acceleration clause provides that an earlier acceleration is rendered void if (usually) a majority of bondholders subsequently vote against it.

Disenfranchisement. This clause provides that the issuer may not vote bonds that it holds or controls.

Bondholder Committees and Trustee Provisions. 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.

The set of terms described above 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 2006).

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 and Gulati 2011). We use the term in its more commonly used formulation, which is with respect to the modification of contract terms.

II. Analysis

A. Framework

A country seeks to borrow money from creditors. 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. However, the existence of the shock is nonverifiable 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 and Kehoe 1995; Bulow and 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. 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 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.⁷

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

⁷ Scholars have addressed this tradeoff in the context of one set of contract terms, the aforementioned CACs. E.g., Pitchford and Wright (2011); Ghosal and Thampanishvong (2009).

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; Rogoff and Reinhart 2009; Wright and Tomz 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 actions in foreign courts, leaving the country the choice between paying its debts and isolating itself from the world economy (Gulati and 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.

Either this story or judicial enforcement is necessary to make sense of the evolution of sovereign debt contracts. Over the years, various terms have been added in order to increase their enforceability. 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.

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. 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. 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.

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 pressure 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 bailout 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 pressure serial defaulters to agree to contractual terms that minimize the risk of a default or a disorderly default.

B. Clauses

1. Enforcement Clauses

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.

Several clauses whose widespread use began in the 1990s have the function of further 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. However, waiver of sovereign immunity does not mean that creditors can collect on their debts; it means only that the creditors can bring a lawsuit. Thus, debtors also began waiving immunity from execution, so that creditors could not only sue on their debts but collect on them as well.

These clauses probably had 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 a consent to jurisdiction clause, sovereign debtors agree to subject themselves to the jurisdiction of a foreign legal system, which might otherwise be blocked by international law. 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. 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 (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.

Finally, arbitration clauses provide that if a country defaults, creditors may bring the case before arbitrators, who 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 will impose 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.

2. Renegotiation Clauses

The major type of renegotiation clause is the collective action clause or CAC. Many versions of this clause exist. A typical collective action clause provides that the payment or non-payment terms of a bond may be renegotiated and changed as long as a defined supermajority of the bonds in principal amount approve by vote. 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 a minority of holdouts. In effect, the parties solve the incomplete contracts problem by reducing the cost of renegotiation.

The CAC clause 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 clause 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 percent to 75 percent (Bradley and 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.

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.

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 essentially bans security interests. 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.

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.⁸

The first two efficiency explanations for security interests do not apply to sovereign debt. In sovereign debt contracts, security interests emerged early in the twentieth 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.⁹ But bondholders could hardly engage in the monitoring of a nation state, and they are too dispersed to have any incentive to do so.

⁸ For a brief description of the debate, with citations, see Listokin (2008).

⁹ It also may not: instead, the bank might be content with protecting its collateral.

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 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.¹⁰

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 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 and Pam 2004).

A solution to the problem is the *Pari Passu* clause. The standard *Pari Passu* clause states that the bonds in which they appear will rank equally with all other bonds that have been, or will be, issued. 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

¹⁰ Except with respect to subsequent unsecured bonds, if any.

the legal rank of the debt. As discussed above, differing interpretations exist on the scope of what actions a sovereign may take that changes the “legal rank” of the debt.¹¹

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 nonconsenting 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.

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. On their face, 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% of the bonds is required before acceleration can take place. And even then, a vote of 50% 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 decides that this is a

¹¹ A subset of *pari passu* clauses do explicitly allow the debtor to pass laws that alter the ranking of future debt issuances. In these cases, the debtor has effectively bargained for greater flexibility.

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.

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 or simply put off default until another day. Under the sinking fund approach, debtors would pay off some of the principal every time they made an interest payment.

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 an increasingly 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 United States 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 for creditors to ask for inflation-indexed bonds. 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).

A final example is the GDP clause, which has been used by just a handful of countries, including Argentina after its default in 2001. 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 and 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.

III. The Evolution of Contract Terms

Our dataset covers all of the major contract terms in sovereign bonds for close to 1,000 bonds over the period 1960–2011. 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 and Gulati 2004; Gulati and Scott 2011). But they do change. Change takes place at intervals—generally in clusters after financial shocks, or for individual states after they default. 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.

To identify the periods of contract change, we constructed time-series graphs of each of the above-mentioned contract variables to see where there were discontinuities in terms of usage. For individual nations going through defaults, we examined the contracts before and after the defaults for deviations from the standard set of contract terms used in the market.

A. Latin American Debt Crisis (1982–89)

The Latin American debt crisis of the 1980s was the starting point for the creation of the modern sovereign bond market. 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 that were issued by Latin American sovereigns during the 1960s and 70s allow us 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 IA 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. The table also shows the evolution of contract terms for the general market (excluding super-safe issuers).

Table IA: Enforcement Provisions (Bonds pre and post Latin American crisis era)

	The Eight Brady Restructurers		General Market Practice	
	1960-1981 (N=103)	1982-2000 (N=101)	1960-1981 (N=141)	1982-2000 (N=370)
Waiver of Immunity from Suit	13%	↑ 93%	40%	↑ 85%
Waiver of Immunity from Execution	13%	↑ 93%	5%	↑ 62%
Agent for Service of	13%	↑ 93%	40%	↑ 71%

Process				
Governing Law	44%	↑ 100%	50%	↑ 96%
Consent to Jurisdiction	13%	↑ 99%	39%	↑ 93%
Cross-Default Clauses	5%	↑ 85%	4%	↑ 63%
Pari Passu Clauses with the word "Payment"	0%	↑ 74%	0%	↑ 24%

Note: 75 sovereigns issue debt in the "general market."

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 issuers¹²), 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.¹³

On the enforcement side, six new terms show up and one is modified. The new enforcement terms are: waivers of sovereign immunity, consent to enforcement, consent to jurisdiction, designation of foreign law, agent for service of process and the cross default provision. Five of these terms make it 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.

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.¹⁴

The most obvious explanation for the evolution of these terms is that creditors were harmed by the sovereign debt defaults, and sought increased protection. But the 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 and Rogoff 2009), and so creditors should have demanded these provisions at an earlier time. But what was new beginning 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 United States and the United Kingdom in the 1970s permitted foreign sovereigns to be sued when they engage in commercial activities (Weidemaier 2011). 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 would pressure governments to pay their debts on

¹² In our calculations for the General Market column, we exclude the bonds for issuers with an AAA rating, countries like the United States, Germany and Denmark.

¹³ 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.

¹⁴ Note though, as we discuss above, the precise meaning of what the *Pari Passu* clause even with respect to payment terms is debatable.

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 IB. We see 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.

Table IB: Restructuring and Refinancing Provisions

	The Eight Brady Restructurers		General Market Practice	
	1960-1981 (N=103)	1982-2000 (N=101)	1960-1981 (N=143)	1982-2000 (N=370)
Modification Clauses for Non-Payment Terms	8%	↑ 77%	11%	↑ 70%
Modification Clauses for Payment Terms	3%	↑ 15%	3%	↑ 48%
Narrow Negative Pledge Clause	3%	↑ 72%	1%	↑ 20%
Sinking Funds/Amortization	90%	↓ 0%	80%	↓ 2%

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

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. 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.

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? The most 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). The 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.

B. Global Debt Crisis (1995 to 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 United States 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 and Setser 2004).

Spurred by pressure from the Official Sector, sovereigns began to reform their contracts to include CACs, starting in April 2003. The primary reforms took place in the market for New York law governed bonds where unanimity had been the requirement for altering payment terms. In bonds governed by English law—typically done by higher rated issuers than those that used New York law—modification of payment terms by less than unanimity had begun to be the practice in the 1990s. However, supplemental reforms in terms of moving from individual acceleration rights to collective ones (typically, a shift to a 25% vote requirement for acceleration) and a move towards the use of trustees and Bondholder Representative committees also began. And these two latter shifts occurred in both the New York-law and English-law markets.

In Table II, we provide the changes in terms for Argentina bonds and for the general market (excluding the super safe issuers), divided between New York law and English law bonds, starting after 2002.

Table II: The Post-2002 Shift to CACs

	Argentine bonds		N.Y.-law bonds		English-law bonds	
	1992-2002 (N=23)	2003-2011 (N=2)	1992-2002 (N=250)	2003-2011 (N=214)	1992-2002 (N=172)	2003-2011 (N=161)
Payment Modification With Less Than 100%	0%	↑ 100%	4%	↑ 98%	100%	100%
Non-Payment Modification Vote above 67%	0%	↑ 100%	1%	↑ 90%	0%	↑ 55%
Mandatory Meetings for Votes to Alter Terms	0%	0%	3%	2%	98%	↓ 48%
Collective Acceleration and/or Reverse Acceleration	0%	↑ 100%	43%	↑ 71%	13%	↑ 66%
Bondholder Collective/Trustee	0%	↑ 100%	3%	↑ 14%	6%	↑ 57%
Disenfranchisement Provisions	0%	↑ 100%	1%	↑ 64%	6%	↑ 36%

Note: 56 sovereigns issue debt under New York law; 61 sovereigns issue debt under English law.

We see in Table II that the shift in payment modification terms for New York law bonds is the most significant change (from 4 percent to 98 percent). The other shifts are less dramatic, but still large ones. And almost all of them are in the direction of making restructurings easier – that is, representing a shift from individualized rights to collective ones.

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), typically from between 50 and 67 percent to 75 percent. 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 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 so long as more than 50 percent agreed (Buchheit and 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.¹⁵

¹⁵ 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.

C. 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. But that is not what has happened. 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).

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.¹⁶

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 III provides the details.

Table III: Eurozone Debt Crisis: Enforcement Clauses

	Euro Periphery		General Market Practice (excluding the super-safe issuers)	
	1990-99 (N=166)	2000-11 (N=205)	1990-99 (N=236)	2000-11 (N=532)
Local Jurisdiction for Lawsuits	20%	↑ 49%	6%	5%
No Commitment to Retain IMF Membership and Eligibility	84%	↑ 100%	70%	↓ 61%
Lacking Cross Default Clauses	84%	↑ 98%	72%	↓ 59%

Note: 97 sovereigns are in the “general market.”

¹⁶ There are other members of the Eurozone who are not financially strong (e.g., Estonia, Slovakia, Slovenia). However, we do not address these nations because they did not have a meaningful history of issuances from before and after their entry into the Eurozone.

Table III 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 United States and Germany. There were no similar developments in the general market. If anything, the trend in the general market went in the opposite direction.

Table IV 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 IV 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.

Table IV: Eurozone Debt Crisis: Restructuring Clauses

	Eurozone Periphery		Rest of World (excluding super-safe issuers)	
	1990-99 (N=166)	2000-11 (N=205)	1990-99 (N=236)	2000-11 (N=532)
Payment Modification Vote Less than 100%	53%	46%	39%	↑ 90%
Non-Payment Modification Vote Above 67%	41%	38%	39%	↑ 78%
Collective Acceleration Provision and/or Reverse Acceleration	4%	↑ 24%	32%	↑ 58%
Lack of a Restriction on Financing Using Collateral	23%	↑ 39%	31%	↓ 16%
Local Governing Law	21%	↑ 49%	1%	2%

Note: 97 sovereigns are in the “general market.”

We might have predicted that the Eurozone periphery countries would stop issuing bonds with restructuring clauses/CACs, but the data do not support this prediction. Instead, these clauses remained roughly as common as they were before entry to the 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 Eurozone periphery nations moved in the opposite direction from the rest of the market in terms of the use of CACs. 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.

D. 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 V 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 bottom two rows in Table V reports the contrast between the market provisions (excluding the super safe issuers) and the provisions in the bonds of nations that went through restructurings.

Table V: Provisions Used by the Post-Restructuring Issuers in the Post-Brady Bond Era

Country	Trustee	Disenfranchisement (Trustee Certification - TC)	25% Acceleration/50% Reversal	Aggregation	Individual Right to Sue	GDP-Indexation	Amortization or MDM ¹⁷
Pakistan (1999)	No	No	No	No	Yes	No	Yes
Ukraine (1999)	No	No	No	No	Yes	No	Yes
Ecuador (200)	Yes	Yes – plus TC	Yes	No	No	No	Yes
Uruguay (2003)	Yes	Yes – plus TC	Yes	Yes	No	No	No
Argentina (2005; 2010)	Yes	Yes – plus TC	Yes	Yes	No	Yes	Yes
Buenos Aires (2005; 2010)	Yes	Yes – plus TC	Yes	Yes	No	Yes	Yes
Grenada (2005)	Yes	Yes – plus TC	Yes	No	Yes	No	Yes
Belize(2005)	Yes	Yes – plus TC	Yes	No	Yes	No	Yes
Dominican	Yes	Yes – plus TC	Yes	Yes	No	No	Yes

¹⁷ MDM refers Mandatory Debt Management programs, which require sovereigns to retire portions of the principal amount as the bond ages. Under an MDM, the sovereign often has either the option of repurchasing some portion of the bonds on the open market and retiring them or utilizing redemption provisions that specify a price.

Republic							
Iraq (2005)	Yes	Yes – plus TC	Yes	No	No	No	No
Seychelles (2009)	Yes	No	Yes	No	No	No	Yes
Congo (2009)	Yes	Yes	Yes -- 75% Reverse	No	Yes	No	Yes
Ivory Coast (2010)	Yes	Yes	Yes -- 75% Reverse	No	Yes	No	Yes
Greece (2011)	Yes	Yes – plus TC	Yes	Yes	No	No	Not Clear Yet
Market Practice	7%	27% Disenfranchisement; 0% TC	44% use the 25/50	0%	0%	0%	< 3%
Post- Restructuring Bonds	85%	>85% use Disenfranchisement; >70% use TC	85% use the 25% acceleration	35%	25%	15%	90%

Note: the last two rows provide the percentage of issues using the term in question, for the market as a whole (penultimate row) and for the countries that have restructured their debt (last row).

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.

Several countries issue bonds with 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.

Note also the greater use of aggressive Disenfranchisement provisions, which not only forbid the issuer from voting bonds that also gives 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 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.

IV. 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 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 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.

References

- Ahdieh, Robert. 2004. Between Mandate and Market: Contract Transition in the Shadow of the International Order. *53 Emory Law Journal* 691–762.
- Bolton, Patrick. 1990. Renegotiation and the Dynamics of Contract Design. *34 European Economics Review* 303–10.
- Borchard, Edwin. 1951. *State Insolvency and Foreign Bondholders*. New Haven, CT: Yale University Press.
- Borensztein, Eduardo and Paolo Mauro. 2002. Reviving the Case for GDP-Indexed Bonds. Washington DC: IMF Policy Discussion Paper, available at http://www.iadb.org/res/centralbanks/publications/cbm34_165.pdf.
- Borensztein, Eduardo, Marcos Chamon, Olivier Jeanne, Paolo Mauro, and Jeromin Zettelmeye et al. 2005. Sovereign Debt Structure for Crisis Prevention. Washington DC: IMF Occasional Paper 237.
- Bradley, Michael and Mitu Gulati. 2011. Collective Action Clauses for the Eurozone: An Empirical Analysis, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1948534.
- Brewster, Rachel. 2009. Unpacking the State’s Reputation. *50 Harvard International Law Journal* 231–250.
- Buchheit, Lee C. 2000. *How to Negotiate Eurocurrency Loan Agreements*. London: Euromoney Publications (2d ed.).
- Buchheit, Lee C. and Mitu Gulati. 2000. Exit Consents in Sovereign Bond Exchanges. *48 UCLA Law Review* 59–89.
- Buchheit, Lee C. and Mitu Gulati. 2011. Drafting a Model Collective Action Clause for the Eurozone Sovereign Debt. *6 Capital Markets Law Journal* 317–25.
- Buchheit, Lee C. and Mitu Gulati. 2002. Sovereign Bonds and the Collective Will. *51 Emory Law Journal* 1317–64.
- Buchheit, Lee C. and Jeremiah Pam. 2004. The Pari Passu Clause in Sovereign Debt Instruments. *53 Emory Law Journal* 869–922.
- Bulow, Jeremy and Kenneth Rogoff. 1989. A Constant Recontracting Model of Sovereign Debt. *97 Journal of Political Economy* 155–78.
- Cohen, Robert A. 2011 (forthcoming). Sometimes a Cigar is Just a Cigar: The Simple Story of *Pari Passu* — *Hofstra Law Review* —.
- Cole, Harold L., and Timothy J. Kehoe. 1995. The Role of Institutions in Reputation Models of Sovereign Debt. *35 Journal of Monetary Economics* 45–64.
- Cross, Karen Halverson. 2006. Arbitration as a Means of Resolving Sovereign Debt Disputes. *17 American Review of International Arbitration* 335–89.

- Choi, Stephen J. and Mitu Gulati. 2004. Innovation in Boilerplate Contracts. *53 Emory Law Journal* 929–96.
- Eichengreen, Barry. 2003. Restructuring Sovereign Debt. *17 Journal of Economic Perspectives* 75–98.
- Financial Markets Law Committee Report – Pari Passu. 2005. Issue 79. available at http://www.fmlc.org/papers/fmlc79mar_2005.pdf.
- Ghosal, Sayantan and Thampanishvong, Kannika. 2009. Does Strengthening Collective Action Clauses (CACs) Help? Warwick Economics Research Paper Series # 895, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=993477.
- Gulati, Mitu and Robert E. Scott. 2011. The Three and a Half Minute Transaction: Boilerplate and the Limits of Contract, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1937900.
- Gordon, Kathryn. 2008. Investment Guarantees and Political Risk Insurance: Institutions, Incentives and Development, OECD Investment Policy Perspectives Manuscript, available at <http://www.oecd.org/dataoecd/31/25/44230805.pdf>.
- Griffith-Jones, Stefany and Krishan Sharma. 2006. GDP-Indexed Bonds: An Idea Whose Time Has Come, United Nations-DESA Working Paper No. 21, available at http://www.un.org/esa/desa/papers/2006/wp21_2006.pdf.
- Jensen, Nathan M. 2008. Political Regimes and Political Risk: Democratic Institutions and Expropriation Risk for Multinational Investors. *70 Journal of Politics* 1040–52.
- Kaminsky, Graciela. 2008. Crises and Sudden Stops: Evidence from International Bond and Syndicated Loan Markets. Tokyo, IMES/Bank of Japan Discussion Paper 2008-E-10, available at <http://www.imes.boj.or.jp/research/papers/english/08-E-10.pdf>.
- Kinsella, Stephan N. and Noah D. Rubins. 2005. *International Investment, Political Risk and Dispute Resolution*. Oxford: Oxford University Press.
- Keohane, Robert O. 1997. International Law and Relations: Two Optics, *38 Harvard International Law Journal* 487–503.
- Li, Quan and Adam Resnick. 2003. Reversal of Fortunes: Democratic Institutions and Foreign Direct Investment Inflows to Developing Countries. *57 International Organization* 175–211.
- Listokin, Yair. 2008. Is Secured Debt Used to Redistribute Value from Tort Claimants in Bankruptcy? An Empirical Analysis. *57 Duke Law Journal* 1037–80.
- Olivares-Caminal, Rodrigo. 2011 (forthcoming). The Pari Passu Interpretation in the Elliott Case: A Brilliant Strategy but an Awful Outcome. *__ Hofstra Law Review __* .
- Pitchford, Rohan and Mark L. J. Wright 2011. Holdouts in Sovereign Debt Restructuring: A Theory of Negotiation in a Weak Contractual Environment, available at http://www.restud.com/wp-content/uploads/2011/10/ms13125manuscript_16-08-2011.pdf.
- Reinhart, Carmen and Kenneth Rogoff. 2009. *This Time is Different: Eight Centuries of Financial Folly*. Princeton, NJ: Princeton University Press.

- Roubini, Nouriel and Brad Setser. 2004. *Bailouts or Bail ins: Responding to Financial Crises in Emerging Economies*. Washington DC: Peterson Institute for International Economics.
- Sturzenegger, Frederico and Jeromin Zettelmeyer. 2007. *Debt Defaults and Lessons from a Decade of Crises*. Cambridge, MA: MIT Press.
- Stasavage, David. 2002. Private Investment and Political Institutions. 14 *Economics and Politics* 41–63.
- Tomz, Michael. 2007. *Reputation and International Cooperation: Sovereign Debt Across Three Centuries*. Princeton, NJ: Princeton University Press.
- Tomz, Michael and Mark L.J. Wright. 2009. Sovereign Theft: Theory and Evidence About Sovereign Default and Expropriation. Stanford Political Science Working Paper, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1392540.
- Weidemaier, Mark W. 2011. Changing Law to Change Contracts: The Joint Evolution of Sovereign Immunity and Sovereign Bonds. Unpublished manuscript.
- Wood, Philip. 2007. *The Law and Practice of International Finance, Volume 2: International Loans, Bonds, Guarantees and Legal Opinions*. London, Sweet and Maxwell.
- Wood, Philip. 2010. Sovereign Syndicated Bank Credits in the 1970s. 73 *Law and Contemporary Problems* 7–28.
- Wright, Mark L.J. 2011 (forthcoming). Sovereign Debt Restructuring: Problems and Prospects. ___ *Harvard Business Law Review* ___.
- Wright, Mark L.J. 2002. Reputations and Sovereign Debt. Stanford University Economics Working Paper, available at http://elsa.berkeley.edu/users/obstfeld/e281_sp03/wright.pdf.

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