

*Don't Cry for Argentina (or other Sovereign Borrowers):
Lessons from a Previous Era of Sovereign Debt Contract
Enforcement*

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1. Introduction

The 2012-14 U.S. court rulings¹ that Argentina must honor the terms of its sovereign bond contracts sent shock waves through legal and investment communities. After all, the distinctive feature of lending to sovereigns, rather than private borrowers, is the absence of a third party with the power to enforce contracts. Yet, in what the *Financial Times* dubbed the *case of the century*, a hedge fund convinced a U.S. judge to issue an injunction that effectively barred Argentina from servicing its debt and accessing the world's capital markets until Argentina honored its contracts. After the Courts of Appeals affirmed the ruling and the US Supreme Court denied certiorari, Argentina defaulted on all outstanding debt rather than pay their holdout creditors.

The International Monetary Fund (IMF)² and several prominent scholars criticized the decision, warning that by strengthening the bargaining position of holdout creditors, the orderly and timely restructuring of sovereign debt would become more difficult. One of the most vocal opponents of the decision, Nobel laureate Joseph Stiglitz, warned, in an *amicus curiae* to the Supreme Court, that the decision “will threaten to upend global sovereign-debt markets, harm developing nations, and challenge New York’s position as a global financial capital.”³ With sovereign debt accounting for nearly one-fifth of global financial assets,⁴ such a dramatic legal change demands attention.

To an academic, the outcry over the Argentina decision is surprising given the vast academic literature arguing that the ability to legally “tie one’s hands” with an enforceable

¹ See *NML Capital v. Argentina*, 699 F.3d 246 (2d Cir. 2012).

² ‘Strengthening the Contractual Framework to Address Collective Action Problems in Sovereign Debt Restructuring’ [2014] Int’l Monetary Fund (“[T]he New York Court Decisions may exacerbate collective bargaining problems and, accordingly, make the sovereign debt restructuring process more complicated.”); see also I Talley, ‘IMF Issues Warning on Argentina Debt Defeat’ [2014] Wall St. J. (sharing IMF’s concern that the Argentina case could give holdouts “outsized power over nations struggling to pay back their debts” which “could undermine sovereign debt restructurings around the globe.”).

³ Brief of J Stiglitz as Amicus Curiae in Support of Petitioner at 1, *Republic of Argentina v. NML Capital Ltd.*, No. 13-990 (U.S. Mar. 24, 2014).

⁴ M Tomz & MLJ Wright, ‘Empirical Research on Sovereign Debt and Default’ [2012] (Fed. Reserve Bank of Chi., Working Paper No. 2012-06, 2012) 4. In the mid-nineteenth century, our period of study, sovereign debt accounted for an even greater portion of the world’s assets. Of all securities listed in London in 1853, British public debt accounted for 70%, with other foreign public debt accounting for another 6%. *Id.* at 3. Although sovereign debt has more recently decreased as a percentage of worldwide financial assets, the amount of money invested in sovereign debt has increased, see *id.* at 3-4, and today more than \$100 billion dollars are lent from private bondholders and banks to foreign governments each year. M Tomz, *Reputation and International Cooperation: Sovereign Debt across Three Centuries* (2012) 4.

contract can improve the welfare of both borrowers and lenders.⁵ A contract clause which raises the cost of default is generally viewed as an effective commitment mechanism that expands the contract space and enriches both borrowers and lenders *ex ante*. Indeed, private borrowers with questionable credit are often able to borrow vast sums at reasonable rates by agreeing to contract clauses that raise the cost of default to a level sufficient to convince lenders that the borrowers will fulfill their obligations.⁶

Economists often lament the fact that while private borrowers can lower their costs of borrowing via contractual commitment mechanisms, sovereign immunity prevents sovereign borrowers from credibly submitting to third-party enforcement. In fact, one of the main puzzles of international economics is how sovereigns can issue debt at all given the absence of legal enforcement.⁷ Compared to a world in which a sovereign could not be sued, the Argentina decision may actually improve credit access to sovereign borrowers by providing sovereigns with a long sought after mechanism to credibly commit to re-paying their debts.

To the historian, the consternation among some in the economic and legal community seems bizarre. In essence, the Argentina decision makes it difficult or impossible for sovereigns

⁵ See, e.g., TC Schelling, 'An Essay on Bargaining' (1956) 46 Am. Econ. Rev. 281. For ramifications of this basic idea in the literature see, e.g., DC North & BR Weingast, 'Constitutions and Commitment: The Evolution of Institutional Governing Public Choice in Seventeenth-Century England' (1989) 49 J. Econ. Hist. 803 (arguing that new institutions allowed the government to credibly commit to upholding private property rights, which in turn contributed to economic growth); T Ginsburg, 'Locking in Democracy: Constitutions, Commitment, and International Law' (2006) (Ill. Law & Econ. Working Paper Series, Paper No. LE06-014) (finding that the pre-commitments provided by international law provisions may reinforce constitutions as pre-commitment devices); D Rodrik, 'Promises, Promises: Credible Policy Reform via Signaling' (1989) 99 Econ. J. 756 (exploring the importance of governments being able to credibly commit to the private sector and foreign creditors that policy reform will persist); O Williamson, 'Credible Commitments: Using Hostages to Support Exchange' (1983) 73 Am. Econ. Rev. 519 (concluding, among other things, that "the use of hostages to support exchange is widespread and economically important," giving specific examples including, franchising relationships, whereby franchisers can better deter franchisee cheating by forcing franchisee investment that would result in greater loss upon termination than gain is available by cheating—thereby credibly committing to the franchiser-franchisee relationship).

⁶ Hypothecating collateral and personal recourse are two common examples. For a discussion on the impact of collateral clauses in regards to private borrowers, see A Burke & A Hanley, 'How to Banks Pick Safer Ventures? Theory and Evidence of the Importance of Collateral, Interest Margins and Credit Rationing' (2002) (concluding that borrowers who offer no collateral are penalized with higher interest margins - of those posting no collateral, 34% are in the highest interest band - compared to borrowers who offer collateral - of those posting collateral, only 11% are in the highest interest band); A Melnik & S Plaut, 'Loan Commitment Contracts, Terms of Lending, and Credit Allocation' (1986) 41 J. Fin. 425 (finding that "[t]he inclusion of a collateral clause entitles the borrower to an extra \$4.5 million" in regards to the total size of the loan).

⁷ See J Bulow & K Rogoff, 'Sovereign Debt: Is to Forgive to Forget?' (1989) 79 Am. Econ. Rev. 43 ("A central issue in analyzing [debt issued by less-developed countries] is whether, and by what mechanism, these contracts can be enforced."); U Panizza et al., 'The Economics and Law of Sovereign Debt and Default' (2009) 47 J. Econ. Literature 651 ("[T]here is still no fully satisfactory answer to how sovereign debt can exist in the first place.").

who include *pari passu* clauses in their debt contracts to issue new debt while in default on existing debt. But the practice of denying sovereign borrowers in default access to international capital markets was the common punishment between 1870 and 1914,⁸ and that era is often cited as the golden age of international capital mobility.⁹

Sovereign borrowers enjoyed absolute immunity before 1914,¹⁰ but informal institutions allowed sovereigns to use contract clauses to subject themselves to punishments remarkably similar to those imposed by the modern Argentine injunction. We argue that the rules of the London Stock Exchange allowed sovereigns to write bond contracts with clauses that raised the cost of default that were therefore viewed as a credible signal of intent to repay. As a result, sovereign borrowers of less than pristine reputation were able to enjoy the benefits of cheap access to world capital markets.

The pre-1914 era provides us with clues into how the sovereign debt market could evolve in the wake of the Argentina ruling. In contrast to the dire warnings of Professor Stiglitz, the historical market worked well. By pledging and undertaking actions that made default costly, historical sovereign borrowers used contract terms to signal their credibility and gain access to international markets at reasonable rates. The result was a more complete contract space that allowed sovereigns to partake in many of the benefits that collateral and court enforcement provide to private borrowers of less than sterling reputation. There is every reason to think that

⁸ See M Flandreau, ‘Collective Action Clauses before they had Airplanes: Bondholder Committees and the London Stock Exchange in the 19th Century (1827-1868)’ (2013) (Graduate Inst. of Int’l and Dev. Studies, Working Paper No. 01-2013).

⁹ MD Bordo, et al., ‘Was There Really an Earlier Period of International Financial Integration Comparable to Today?’ (1998) (Nat’l Bureau of Econ. Research, Working Paper 6738) (“The 50 years before World War I saw massive flows of capital from the core countries of western Europe to the overseas regions of recent settlement (mainly the rapidly-developing Americas and Australasia). At its peak, the outflow from Britain reached 9 percent of GNP and was almost as high in France, Germany, and the Netherlands.”); see also *id.* (“In the years leading up to the Great War, it is said, international financial markets were even more integrated than today”).

¹⁰ See WMC Weidemaier, ‘Contracting for State Intervention: The Origins of Sovereign Debt Arbitration’ (2010) 73 *Law & Contemp. Probs.* 335, Part II.A, 337-40 (“Accounts of sovereign lending emphasize that lenders had not effective legal recourse against defaulting sovereign borrowers before the latter half of the twentieth century”); Absolute sovereign immunity was largely in place in both England and the United States. See *id.* at 337 (noting that, in addition, “sovereign immunity doctrine in both countries permitted the state to withdraw its consent to be sued” even if the country purported to waive its sovereign immunity); FZ Ahmed et al., ‘Lawsuits and Empire: On the Enforcement of Sovereign Debt in Latin America’ (2010) 73 *Law & Contemp. Probs.* 39, 42 (stating that the erosion of sovereign immunity in the United States did not start until 1976); but see Weidemaier, *supra* note 11, 337 (“In some jurisdictions, the principle of absolute immunity had begun to break down as early as the mid-nineteenth century”). Even if absolute sovereign immunity were avoided, foreign investors faced enforcement difficulties from inhospitable local courts, sovereign assets immune from execution and the unenforceability of arbitration clauses. *Id.* 337-338 (“For all these reasons, formal legal enforcement was virtually unavailable to sovereign lenders . . .”).

by including *pari passu* clauses in their bond contracts modern sovereign borrowers can likewise raise the cost of default and thereby signal their commitment to re-pay and, as a result, borrow at lower rates.

2. Contractual Clauses as Commitment Mechanisms

Throughout history borrowers have attempted to lower their borrowing costs by taking actions that signal their intention to repay. Private borrowers have long benefited from the ability to commit to punishments via third-party enforcement. Typically, the private borrower writes a contract outlining sanctions should the loan not be repaid. If the sanctions are sufficiently onerous, lenders view the borrower's willingness to incur high costs in default as a credible signal that the loan will be repaid.¹¹

Sovereign immunity precludes governments from submitting to traditional third-party enforcement. How can sovereign borrowers raise their cost of default when their assets are immune from seizure? The traditional method was to relinquish possession of collateral or send hostages to signal willingness to pay.¹² For example, in exchange for loans Richard III famously pawned the crown jewels, and Henry VII sent royal hostages to Paris.¹³ In fact, hostages had since long been a common method of signaling commitment. In 1152, John Marshal, a nobleman, convinced King Stephen that he would abide by the truce between them by sending his own son to the King.¹⁴ Thus, the exchange of hostages to credibly raise the cost of default was common with sovereign loans in the Middle Ages and were not limited to war or royal borrowing.¹⁵ By the 18th century the slaughter of hostages was thankfully viewed as an

¹¹ Even Shakespeare was familiar with the importance of the concept, having Antonio commit to a horrible punishment, a pound of his flesh, in order to convince Shylock to lend him money. W Shakespeare, *The Merchant of Venice* act 1, sc. 3.

¹² Williamson, supra note 5; RJ Mann, 'Verification Institutions in Financing Transactions' (1999) 87 *Geo.L.J.* 2225.

¹³ SB Chimes, *Henry VII* (The English Monarchs Series, 1999) 202.

¹⁴ AJ Kosto, *Hostages in the Middle Ages* (2012) 1. When Marshal broke the truce and the King threatened to execute Marshal's son, Marshal allegedly called the King's bluff, saying "I still have the hammers and anvils with which to forge better sons." *Id.* Note that John Marshal was not a sovereign in the classical sense.

¹⁵ For example, the town of Manresa in Catalonia promised to send a group of prominent citizens to nearby Santepedor as collateral for a loan in the 14th Century. This and many other examples can be found in Kosto, supra note 16 ("The hostage as guarantee is a very widespread, if not universal, practice in human history.").

unacceptable means of guaranteeing a loan, but sovereign borrowers still required some mechanism to raise the cost of default and signal their intention to repay.¹⁶

Signaling can be achieved with any enforceable clause that increases the cost of default. For example, U.S. municipal borrowers who enjoy only limited sovereign immunity often include specific revenue pledges that expose the borrower to significant litigation costs in the event of default. These clauses make the borrower worse off in default, but municipalities nonetheless include them because the increased cost is viewed as a credible signal that default is less likely. The current default of some Puerto Rico offerings illustrates this point. Prior to 2014, Puerto Rico and its instrumentalities issued a number of bonds under Puerto Rican law with differing levels of contractual protections¹⁷ which ranged from the most secure Constitutional first priority lien on revenues of the commonwealth for the general obligation bonds to the hypothecations of specific revenue for the debt of most instrumentalities to the least secure infrastructure financing authority which borrowed with no more than a promise of future budget appropriations. As late as 2014, an obviously distressed Puerto Rico was able to borrow by offering constitutionally protected general obligation bonds under New York law. The inclusion of a New York law clause lowered the borrowing costs relative to otherwise identical general obligation bonds issued under Puerto Rican law because bondholders hoped the litigation costs of defaulting on New York Law bonds would be prohibitive enough that Puerto Rico would choose to restructure other debt instead.¹⁸ In fact, Puerto Rico did subsequently “make about \$330 million in payments on its constitutionally guaranteed general obligation bonds after diverting money from debt with weaker legal protections” after the governor said “the island will avoid a surge of litigation that would have followed a missed payment on general obligation debt.”¹⁹

2.1 The Pari Passu Clause as a Commitment Mechanism

¹⁶ Early international law has recognized that the property of citizens of a borrowing sovereign is liable for the debts of that sovereign. For an example short of human hostage taking, see E Borchard & JS Hotchkiss, *State Insolvency and Foreign Bondholders: General Principles* (1951), XXV, 81.

¹⁷ Details of Puerto Rico debt outstanding can be found in the “Debt of the Commonwealth” section (p. 25-27) of the Preliminary offering statement of the most recent Puerto Rico debt offering – COMMONWEALTH OF PUERTO RICO General Obligation Bonds of 2014, Series A.

¹⁸ See F Salmon, ‘Why Puerto Rico’s bonds are moving to New York’ [2014] Reuters.

¹⁹ ‘Puerto Rico to Skip Some Payments, Likely Prompting Turmoil’ [2016] Wall St. J.

Pari Passu clauses can be found in nearly all modern sovereign bond contracts despite the fact that the actual meaning of the clause is unsettled and controversial.²⁰ While the modern purpose of the clause is unclear, it has recently contributed to the decay of the absolute immunity from suit and immunity from having assets seized²¹ traditionally enjoyed by sovereigns.²² Beginning with *Elliott Assocs. v. Republic of Peru* (S.D.N.Y.1997),²³ and culminating, recently, with the path-breaking decision *NML v. Argentina* (S.D.N.Y. 2012), the legal rationale for the cases lies in the interpretation of *pari passu*. These two cases have interpreted the clause as requiring holdout and restructured creditors to be paid concurrently and at equal proportions. Consequently, if “100% of what is currently due to the exchange bondholders is paid, then 100% of what is currently due to plaintiffs must also be paid.” (Judge Griesa in *NML v. Argentina*).²⁴

²⁰ Literally translating to “in equal step,” and borrowed from bankruptcy, *pari passu* clauses purport to provide that debt associated with the contract will be, and will remain, of equal rank with the borrower’s other debt in an attempt to prevent borrowers from later creating preferred debt. One basic example of the clause states that the debt being issued “ranks, and will rank *pari passu* with all other unsubordinated indebtedness of the borrower.” Sometimes the phrase “and will be paid as such” is added, which purports to prevent discretionary payments among creditors. Alternatively, the clause may render the debt “*pari passu* in right of repayment and in all other respects,” the significance of which is unknown and unclear. On the historical origins of the clause and its past judicial interpretation, see B Chabot & M Gulati, ‘Santa Anna and his Black Eagle: The Origins of *Pari Passu*?’ (2014) CMLJ, and more recently A Gelpern, ‘Courts and sovereigns in the *pari passu* goldmines’ (2016) CMLJ.

²¹ Sovereigns traditionally enjoy two types of immunity that can be waived: jurisdictional and execution immunity. The first type—immunity from suit—prevents a lawsuit from being brought against a sovereign. However, even if such a lawsuit is brought and won, litigants would be unable to enforce judgments due to the immunity from execution. See M Dixon, *Textbook on International Law* (7th ed., 2013) 201.

²² A clause waiving jurisdictional or execution immunity purports to directly make available some legal enforcement by third parties. Some sovereign bonds include one or both of these waivers, which may render a wider range of sovereign assets vulnerable should a creditor sue to collect on a debt. Similarly, sovereign bond issuances can stop short of simply waiving immunity by including provisions that identify which assets can be seized and where the sovereign has agreed to be sued. If legal enforcement rights are unimportant to investors, one would not expect sovereigns to agree to such immunity-limiting clauses. WMC Weidemaier & M Gulati, ‘Sovereign Debt and the “Contracts Matter” Hypothesis’ (2014) 4, 6. Additionally, international law may allow sovereigns to unilaterally withdraw such waivers, largely rendering such clauses meaningless SJ Choi et al., ‘The Evolution of Contractual Terms in Sovereign Bonds’ (2012) J. Legal Analysis 9.

²³ In fact, the erosion may have begun even earlier, with the 1976 Foreign Sovereign Immunity Act and the 1992 U.S Supreme Court case *Republic of Argentina v. Weltover*, which held that sovereign bonds issued in the United States constituted a commercial activity to which sovereign immunity did not apply. See *Republic of Arg. v. Weltover, Inc.* [1992] 504 U.S. 607, 618–20. Although international law scholars tend to believe that the erosion of absolute immunity as a default rule took place gradually over the last century, the practice of the borrowing sovereigns—i.e., the contracts for sovereign bonds, and how they changed over time—indicate that the FSIA and the UK equivalent, the 1978 State Immunities Act, flipped the switch on sovereign immunity. Before these statutes, sovereign immunity was a mandatory rule, and following the statutes, sovereign immunity is now a default rule. See generally WMC Weidemaier & M Gulati, *supra* note 7 (finding that sovereign bond contracts pre-1970’s did not contain sovereign immunity waivers and that, following the statutes, sovereign bond contracts largely granted enforcement rights).

²⁴ As discussed earlier, the Second Circuit interpretation of the clause and its award of injunction as a remedy remain controversial and it is uncertain whether other jurisdictions will adopt it. See TN Petch, ‘NML v Argentina in an English legal setting’ (2014) CMLJ (arguing that the Second Circuit interpretation violates the “business commonsense” test applied by English courts); L Burn, ‘Pari passu clauses: English law after NML v Argentina’

It is still an open question of whether successful litigation decreased the costs of borrowing for sovereigns. It does seem, at least anecdotally, that some of the market has²⁵ or will²⁶ react to the Argentina decision by modifying or clarifying the intended meaning of *pari passu* clauses found in sovereign debt contracts.

The recent *pari passu* injunction provides sovereign borrowers with the long sought after costly punishment they require in order to signal their intention to repay. As long as U.S. courts are willing to issue similar injunctions, sovereign borrowers who choose to issue debt in New York with a *pari passu* clause send a powerful signal that they intend to fulfill their contractual obligations.

Lenders should reward issuers who include *pari passu* clauses with lower interest rates. The recent behavior of sovereign borrowers suggests that the tradeoffs between cost of borrowing and *pari passu* protections are already well understood. In the wake of the NML ruling the cost of defaulting on debt with a *pari passu* clause is apparent, yet no sovereign borrower has removed the *pari passu* clause from their New York offerings.²⁷ Presumably, these borrowers realize that while the inclusion of the clause raises the cost of default, any attempt to

(2014) CMLJ (predicting English courts will not endorse the Second Circuit interpretation); TA Monteleone, ‘A vulture’s gamble: high-stakes interpretation of sovereign debt contracts in *NML Capital, Ltd v Republic of Argentina*’ (2013) CMLJ (pointing out the perils created by holdout creditors empowered by the clause). By allowing a single holdout creditor to block restructuring, commitment clauses such as the *pari passu*, increase the probability of default and its costs, some of which might spill over to third parties through contagion. Creditors and lenders do not usually take into account these externalities when writing contracts containing “no restructuring” type clauses. For a comprehensive analysis of the Second Circuit remedy’s desirability see A Gelpert, ‘Contract hope and sovereign redemption’ (2013) CMLJ.

²⁵ See Int’l Monetary Fund, *supra* note 2 (giving examples of sovereigns that have responded to the Argentina decision by modifying *pari passu* clauses, issuing clarifying memorandum, identifying the decision as a risk factor in debt prospectuses, and noting that “there is no evidence to date that these modifications and clarifications have affected the price of the issuances”).

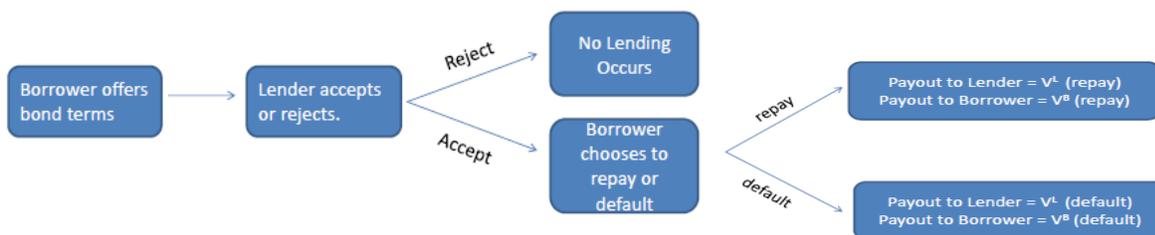
²⁶ See LC Buchheit & SD Martos, ‘What to Do about *Pari Passu*’ (2014) *Butterworths J. Int’l Banking & Fin. L.* 491 (presenting five options sovereigns may use to address the Argentina case—“remove the clause entirely,” “disavow the ratable payment interpretation,” “focus on the remedy,” “limit *pari passu* to a representation” and “make it part of the bargain”—and predicting that sovereigns will eventually settle on option two); J Cotterill, ‘Sovereign *pari passu* and the litigators of the lost cause’ (2013) CMLJ (suggesting the clause should be redrafted to avoid the Second Circuit interpretation which resulted in inefficient litigation). On the same vein, see also MLJ Wright, ‘The *Pari Passu* Clause in Sovereign Bond Contracts: Evolution or Intelligent Design?’ (2011) 40 *Hofstra L. Rev.* 103, 103 (“Much of the recent debate surrounding the *pari passu* clause in sovereign bonds has concluded that it is at best a coccyx and essentially meaningless, and at worst, a set of wisdom teeth that introduces unnecessary litigation risks”).

²⁷ See M Gulati & RE Scott, ‘The Costs of Encrusted Contract Terms’ (forthcoming 2016) (manuscript at 21-22) (on file with authors).

remove the clause would be viewed unfavorable by lenders who would require a higher yield as compensation.

3. Why do sovereigns pay their debts? The repeated game

To understand how a legal change that makes borrowers worse off in default can actually make borrowers better off *ex ante*, we must understand how a sovereign who is immune to most legal consequences can convince lenders to voluntarily part with their money in the first place. A central puzzle in the international debt literature is why, if sovereign debt contracts cannot be enforced, sovereign borrowers ever choose to repay their debts, and thus why anyone would ever lend to a sovereign in the first place. Consider the loan-repayment decision tree below:



The potential lender will only extend a loan if the expected value of lending is sufficiently high to compensate for the risk of suffering a default. But the expected value of lending depends on the decisions of the borrower after the loan is made. The borrower will choose to default if the value of defaulting - $V^B(\text{default})$ - is greater than the value of repaying - $V^B(\text{repay})$. In a one-time game the benefits of repaying are small and the borrower will choose to default. The lender knows this, so no lending takes place.

In practice, sovereigns are able to borrow because sovereign borrowing is not a one-time event. Benevolent governments wish to finance government spending in the least economically costly manner.²⁸ In most instances, the least costly method of financing a given stream of government spending is a mix of taxes and borrowing that smoothes tax rates over time. But this “optimal tax” can only be achieved if the government has repeated access to credit markets. Sovereigns wish to borrow in the future, and they know that how they treat current lenders will influence the lending decision of future lenders.

²⁸ The economic “cost” of government spending is the deadweight loss of the taxes or borrowing necessary to pay for it.

In a repeated game, countries can access international markets by maintaining a good reputation for repayment. Repaying a loan today is valuable (i.e. $V^B(\text{repay})$ is high) because it establishes a reputation for repayment which is rewarded with capital market access in the future. The equilibrium with borrowing is characterized by lenders that lend cheaply to governments with good reputations for repayment and punish governments who default by refusing to lend to them in the future. Governments choose to repay because they value future market access more than any payments they could expropriate today with a default.

Defaults only occur in the repeated game when lenders underestimate the government's value of default or overestimate the value the government places on future market access. This often happens because the lenders decision to extend the loan and the government's decision to repay take place at different times, and the fiscal or political facts may change in unexpected ways between the decision to lend and the decision to repay. For this reason, countries with hard-to-forecast fiscal balances or unpredictable political commitments will be charged a higher interest rate or perhaps excluded from the market altogether. The higher interest rate is necessary to increase the value of the loan to lenders (increase $V^L(\text{repay})$) to a sufficient level to compensate for the risk of default.

Unfortunately, there is a limit to how much interest rates can rise to compensate for default risk. Any increase in the interest rate produces two results: a pooling effect—whereby the only borrowers willing to pay the higher interest rate are those that are inherently riskier—and an incentive effect—whereby, because higher interest rates result in lower returns for the borrower, the borrower takes on riskier (and higher upside) projects.²⁹ As loan rates of interest increase, the borrower's value of future borrowing ($V^B(\text{repay})$) decreases and the value of default ($V^B(\text{default})$) increases until the borrower's best strategy is default. In this way, increasing interest rates can also increase the risks of the loans so that, beyond a certain threshold, increasing the interest rate actually decreases the expected value to the lender.³⁰ But lenders know this and therefore refuse to lend at usurious rates and countries with extremely volatile economies or unstable governments find themselves cut off from capital markets.

²⁹ JE Stiglitz & A Weiss, 'Credit Rationing in Markets with Imperfect Information' (1981) 71 *Amer. Econ. Rev.* 393, 393-94.

³⁰ *Id.*

3.1 Why do lenders trust they will be repaid? Control of future market access

Sovereign borrowers may also find themselves cut off from capital markets if today's lenders think future lenders will lend to governments regardless of their repayment histories. If a borrower can default but still access capital markets with little or no penalty, the future value of repaying ($V^B(\text{repay})$) will be low and default is likely. But current lenders know this and should therefore refuse to lend. The repeated game equilibrium relies on the future lenders collectively shunning a borrower who has a poor reputation for repayment. Therefore, the repeated game equilibrium requires a collective action mechanism to convince current lenders that future potential lenders will not lend to borrowers in default on their previous loans.

The model of international lending as a repeated game has empirical support from before World War I. As the theory goes, the threat of the loss of access to credit markets resulting from a default can, under certain conditions, sufficiently incentivize repayment. Before World War I, most sovereign borrowing took place on European exchanges with strong collective action mechanisms to punish defaulters, and repayment histories strongly influenced the terms of market access. Tomz (2007) showed that between 1820 and 1870, only 1 of 16 countries in default—Greece—was able to access the capital market, and was only able to do so after other non-defaulting countries gave loan guarantees.³¹ Even when able to access capital markets, the cost of borrowing was greater for countries with defaults in their histories. Tomz's (2007) survey of 30 sovereign borrowers in 1870 found that sovereigns with recent restructurings were charged in excess of 25% to borrow, while new borrowers were charged roughly 8% and sovereigns with good credit histories around 5.5%. Looking at the 1880-1914 period, Flandreau and Zumer (2004) find that default episodes were associated with long periods of market sanctions in the form of higher borrowing rates.³²

In more recent times, the availability of alternatives to international bond markets, such as direct loans from multilateral institutions or commercial banks, may have dampened the

³¹ Tomz, *Reputation and International Cooperation*, supra note 4, 53-55 (noting that the prospectus for the post-default debt issuance not only featured pledges from England, France and Russia, but also pledged "all the revenues of Greece" as security).

³² M Flandreau & F Zumer, *The Making of Global Finance 1880-1913* (2004) 39 ("When debt renegotiation occurred, spreads went up by about 500 basis points. Once settlement was reached, a penalty of about 90 points was paid the first year, and it was still 45 basis points ten years later. . . . [M]arkets did remember.") However, because over the medium term, the penalty for defaulting is more than offset by the savings associated with debt repudiation, the penalty from default was not a systematic deterrent. *Id.*

importance of the need to access international credit markets and, thus, the importance of maintaining one's reputation. In the post-World War II era, repayment history has only a small effect on the duration of capital market exclusion or the borrowing costs, and the main cost of a default episode is reflected in output loss and economic crises.³³ Thus, in modern times, "debts which are forgiven will be forgotten."³⁴ This is particularly true when the default is seen as excusable, in which case the defaulting sovereign is able to access the market even more quickly.³⁵

Gelos et al. (2004) find that, since the 1980s, defaulting sovereigns have been forced to wait on average only 0-2 years before an international bond issuance or bank borrowing³⁶ and, during the 2000s, only 2.5 years before positive net transfers.³⁷ In fact, modern capital market access may be impacted more by global credit cycles rather than exclusion as a result of default. Any increase in the cost of borrowing following a default similarly lasts only a short while, falling to negligible levels within a few years of default.³⁸ The amount of the increase in the cost of borrowing following modern defaults is between 3-4%.³⁹ However, evidence on punishment remains controversial. More recently and employing the most comprehensive dataset on sovereign defaults, Cruces and Trebesch find that default, and the resulting haircut upon restructuring, is correlated with an increase in spread and length of market exclusion felt by the defaulting sovereign.⁴⁰

3.2 Why do lenders trust they will be repaid? Alternative punishments

The premise of enforcement by reputation has been challenged both on empirical and on theoretical grounds. Bulow and Rogoff, for instance, postulate that under certain conditions that

³³ According to Panizza's comprehensive survey of the empirical literature, the finding that defaulters are not punished (enough) is based on studies using post-WWII data. See Panizza et al., *supra* note 8, 675-77.

³⁴ Bulow & Rogoff, *supra* note 8, 49.

³⁵ C Richmond, DA Dias & T Wang, 'Duration of Capital Market Exclusion: An Empirical Investigation' (2012) (Univ. of Ill. At Urbana-Champaign, Working Paper) 4.

³⁶ RG Gelos et al., 'Sovereign Borrowing by Developing Countries: What Determines Market Access?' (2004) (Int'l Monetary Fund, Working Paper No. WP/04/221) 19, 21.

³⁷ C Richmond & DA Dias, 'Duration of Capital Market Exclusion: Stylized Facts and Determining Factors' (2008) UCLA Dep't Econ 6, tbl.6.

³⁸ *Id.* at 677.

³⁹ Tomz & Wright, *supra* note 4, 13.

⁴⁰ JJ Cruces & C Trebesch, 'Sovereign Defaults: The Price of Haircuts' (2013) 5 Am. Econ. J.: Macroeconomics 85, 113-14.

limit implicit reputation contracts, small countries cannot establish a reputation for repayment.⁴¹ Empirical studies⁴² cast further doubt on the importance of reputation by showing that the threat of losing one's reputation may be insufficient to incentivize external debt repayment and to sustain loan availability.

Perhaps given the unsettled conclusion concerning the effectiveness of reputation as a commitment mechanism, the literature has broadened the concept of reputation and speculates on whether the impact on reputation may even spill over from the debt arena to other arenas where trust is important. For example, lenders may refuse to lend to a country with a reputation for economic instability—even if the issuing state has a good reputation for keeping its promises (i.e., the promise to not default)—because the country could simply devalue its currency.⁴³ However, the issuing state could circumvent its reputation for instability by issuing its debt in foreign currency. Thus, the state's separate reputation for promising keeping will allow access to capital markets even with a poor reputation for economic stability. As an alternative theory of multifold reputation, the reputational harm from defaulting can be felt by the exclusion, not just from credit markets, but from other future cooperative agreements.⁴⁴ Or, in a more abstract sense, by defaulting, a country has simply signaled to the world that it is in a general sense, not limited to the debt area, unreliable.⁴⁵

Rather than expanding the concept of reputation as a commitment mechanism, another line of literature has expanded the range of retaliation to defaulting sovereigns. Creditors may punish bad debtors by threatening the debtor's interests outside its borrowing relationships through: 1) cutting or impeding trade with, or imposing a trade embargo upon, the debtor country

⁴¹ Bulow & Rogoff, *supra* note 8.

⁴² The literature on this is too vast to cite here; please see Cruces & Trebesh, *supra* note 42 for a list of the main references in the literature.

⁴³ E Posner et al., 'Political Risk and Sovereign Debt Contracts' (2011) (Pub. Law & Legal Theory Working Papers, No. 370) 5.

⁴⁴ For a discussion on how the importance of a State maintaining its reputation can incentivize compliance with international law, see generally R Brewster, 'Unpacking the State's Reputation' (2009) 50 *Harv. Int'l L.J.* 231. Such a reputational mechanism for compliance is not so straightforward, however, as governments are not purely unitary (that is, not purely good or bad), but is complicated by the fact that governments can change over time, that governments might not fully internalize the costs of non-compliance and that it is unclear how broadly one noncompliance may impact a state's reputation. See generally *id.*

⁴⁵ See HL Cole & PJ Kehoe, 'Models of Sovereign Debt: Partial Versus General Reputations' (1998) 39 *Int'l Fin Rev.* 55 ("The basic idea is that if a government is thought to be sleazy or untrustworthy in one area of behavior, the country is thought to be sleazy or untrustworthy in other areas as well.").

or 2) military interventions. Again, whether these mechanisms were effective is disputable, and the literature seems ambivalent on whether this is empirically verified.

The first means by which investors may threaten the borrower's interests outside of the borrowing relationship is by restricting trade, either directly or indirectly, with the borrowing country. Countries defaulting on official Paris Club debt,⁴⁶ for example, experience a greater decline in trade than would be expected by the standard "gravity" model, which, generally speaking, assumes that trade between countries will increase as the size of the countries increase and decrease as the cost of transportation (i.e., the distance between the countries' economic centers) increases.⁴⁷

Rose & Spiegel (2002), looking specifically at trade between the defaulting and creditor sovereigns, finds that trade decreases during and after default.⁴⁸ Although the magnitude (an 8% decline in bilateral trade per year subsequent to default) and duration (the reduction in trade was found to last 15 years) of the reduction in trade are significant – which could have a much larger impact on GDP than extra interest costs –, the mechanism by which trade is reduced is unclear.⁴⁹ Such reductions in the borrowing sovereign's trade could be due to several channels or reasons hypothesized in the literature, with empirical evidence on each of these mechanisms ambiguous. Other trade-restricting mechanisms to punish bad debtors include: (1) the imposition of direct trade barriers through the use of tariff and nontariff barriers against the defaulting country; (2) an increase in the cost of trading through the loss of trade credit resulting from default; and (3) the seizure of tradable foreign assets of the defaulting sovereign.⁵⁰

The second means by which investors may threaten the borrower's interests outside of the borrowing relationship is by the use or threat of military intervention. Many believe that this

⁴⁶ See generally AK Rose, 'One Reason Countries Pay Their Debts: Renegotiation and International Trade' (2005) 77 J. Dev. Econ. 189 (using a data set that includes bilateral trade between 217 entities between 1948 and 1997). For more information about the data set used, see *id.* at 193-94.

⁴⁷ See *id.* at 205; E Borensztein & U Panizza, 'Do Sovereign Defaults Hurt Exporters?' (2010) 21 Open Econ. Rev. 393.

⁴⁸ See AK Rose & MM Spiegel, 'A Gravity Model of Sovereign Lending: Trade, Default and Credit' (2002) (Nat'l Bureau of Econ. Research, Working Paper No. 9285) (using a data set that includes bilateral trade and international banking claims from 20 creditor and 149 debtor countries from 1986-1999). For more information about the data set used, see *id.* at 62-63 app.

⁴⁹ *Id.*; KJ Mitchener & MD Weidemaier, 'Supersanctions and Sovereign Debt Repayment' (2005) (Nat'l Bureau of Econ. Research, Working Paper No. 11472) 5 (referencing Rose, *supra* note 48). But see Mitchener & Weidemaier, *supra*, 26 (finding that trade did not generally fall in response to default).

⁵⁰ Tomz & Wright, *supra* note 4, 14.

method of so-called gunboat diplomacy was commonplace into the twentieth century. Throughout history, there were several examples of one country using or threatening military action to protect the interests of its citizen-bondholder. After Mexico missed an 1837 coupon on debt contracted in London, Britain implied the threat of military force, which eventually led to diplomatic negotiations and customs revenues being set aside for the benefit and repayment of British bondholders.⁵¹ In other instances, actual military force was used as a means of forcing repayment or punishing default. In 1902, several European countries used a naval blockade against Venezuela, which resulted in a gradual liquidation of Venezuelan debt under which those countries participating in the blockade were awarded preferential treatment to those creditor countries that did not participate. In 1904, under the so-called Roosevelt Corollary⁵² to the Monroe Doctrine,⁵³ the United States began a practice of militarily enforcing the debts owed by Central and South American countries to European creditors.⁵⁴ In all, Mitchener and Weidemaier (2005) find that defaulting sovereigns between 1870 and 1913 faced threatened or actual military intervention 40% of the time.⁵⁵

Micro-history evidence, however, casts doubt on the widespread use of these “supersanctions,” likely due to the high economic and political costs of such means. In fact, default may never have actually been the reason for military intervention, but rather gunboat diplomacy may have been “driven by the coincidence of defaults with other disputes (civil wars, territorial conflicts, and tort claims) . . .”⁵⁶ Borchard, among the greatest authorities on sovereign

⁵¹ Chabot & Gulati, *supra* note 22.

⁵² “If a nation shows that it knows how to act with reasonable efficiency and decency in social and political matters, if it keeps order and pays its obligations, it need fear no interference from the United States.” President T Roosevelt, Corollary to the Monroe Doctrine (1904).

⁵³ The Monroe Doctrine, originally sent from President Monroe to Congress in 1823, set forth the United States position as regarding European governments. Likely in partial response to concerns about an intervention of the Holy Alliance (Austria, Russia and Prussia) in Spanish America and about questions about Alaska between the United States and Russia, the Monroe Doctrine attempted to establish American foreign policy that (1) any effort from European countries to colonize land in North or South America would be seen as attacks against America, requiring American defense and (2) the United States would not interfere with existing European colonies or European governments themselves. Although the United States was not much of a power at the time—so it is unclear how seriously these declarations were taken by European colonies—the importance (and the scope) of the Doctrine grew over time. For a greater discussion on the Doctrine and its evolution, see Corporation of Foreign Bondholders, Thirty-third Annual Report of the Council of the Corporation of Foreign Bondholders for 1905-1906 (1907), 14-20.

⁵⁴ KJ Mitchener & MD Weidemaier, ‘Empire, Public Goods, and the Roosevelt Corollary’ (2005) 65 *J. Econ. Hist.*, 658.

⁵⁵ Mitchener & Weidemaier, *supra* note 51.

⁵⁶ Panizza et al., *supra* note 8, 678 (referencing Tomz & Wright, *supra* note 4).

debt, seemingly agreed, stating that the use of armed force was not simply to collect debt, but either as a response to a broken international agreement between the defaulting sovereign and the intervening power or in order to protect the its nationals, which “were being menaced by disorder and revolution.”⁵⁷ Furthermore, the great powers of the time frequently manifested their dislike for military intervention.⁵⁸ Additionally, historical lending patterns contradict the importance of such a mechanism to secure repayment. The strength of borrowing sovereigns’ militaries, and therefore the susceptibility to such use or threat of force, did not seem to impact the ability to borrow money. Similarly, the strength of the investors’ sovereigns’ militaries did not impact the rate at which those investors were repaid. The notion that the use of force may not have been such an important means of ensuring repayment can be demonstrated by the fact the oft-cited example of gunboat diplomacy—the 1902 intervention against Venezuela—actually stemmed from tort claims rather than debt default.⁵⁹ Finally, the use of force to collect on sovereign debt is arguably forbidden by customary international law today.

In sum, the literature on debt repayment struggles to identify one universal reason that modern sovereigns would be willing to repay their debt *ex post*. Unlike the late 19th century when the rules of major stock exchanges made it difficult if not impossible for defaulters to float new loans, late 20th century defaulting sovereigns have been able to find new lenders in a relatively short period of time with reasonably small yield penalties. This does not imply that late 20th century sovereign borrowers were better off in the relatively sanction-free environment. True, nations that defaulted were better off conditional on default, but lenders knew this at the time of the loan and required compensation for default risk. A sovereign that could credibly convince lenders that they would be repaid would benefit from lower borrowing costs.

⁵⁷ Borchard & Hotchkiss, *supra* note 18 (“In rare instances – as in the historic cases of Mexico (1861) and Venezuela (1902) – bondholders’ governments have even resorted to armed force for the collection of debts; they based their action, however, not on the mere neglect of bondholders’ claims but on the contention that the defaulting state had broken international agreements respecting payment which it had made with the intervening powers, or that the lives and property of their nationals were being menaced by disorder and revolution.”).

⁵⁸ C Vizcarra, ‘Guano, Credible Commitments, and Sovereign Debt Repayment in Nineteenth-Century Peru’ (2009) 69 *J. Econ. Hist.* 358, 371-72; see also WM Mathew, *The House of Gibbs and the Peruvian Guano Monopoly* (London Royal Historical Society, 1981) 234 (“It has been assumed . . . that Peru was pushed into [settlement] by the British government. Foreign Office documents, however, show that British pressure was relatively weak. And that Peru came to an agreement basically because she wished to restore her credit on the London money market, thereby opening the way to fresh borrowing.”); WM Mathew, ‘The First Anglo-Peruvian Debt and Its Settlement, 1822-49’ (1970) 2 *J. Latin American Studies* 81, 85 (noting, that regards to Peru’s default on its debt held by English bondholders, “[n]o threats to employ the Pacific squadron were ever delivered; even if they had been it is doubtful if they would have been taken al that seriously”).

⁵⁹ Tomz & Wright, *supra* note 4, 14.

We argue that before World War I the rules of the London Stock Exchange allowed sovereigns to write bond contracts that were viewed as a credible commitment to repayment and thereby lowered borrowing costs. During what is often cited as the Golden Age of capital flows, credible commitment through a private extra-legal mechanism of enforcement supported by the rules of the London Stock Exchange allowed developing nations with short credit histories access to European capital markets. These loans provided developing nations the funds necessary to develop high-return domestic investments without sacrificing short-term consumption.⁶⁰

4. History's Laboratory: The Market for Sovereign Debt in London before 1914

The first foreign sovereign bond issued in England was a £500,000 8-year loan to the Emperor of Austria in the year 1706.⁶¹ The bond offered 8% interest and was secured by a portion of the revenue of Silesia. Foreign loans were rare until the early 19th century, when France listed bonds on the London stock exchange in 1815 and Guatemala, Russia, Denmark, Portugal, Buenos Aires, Mexico and Greece followed in 1824 and 1825.

Many early offerings included promises to set aside earmarked revenues to secure the interest and repayment of the loan. For example, in 1824 the newly independent country of Mexico issued its first sovereign bond on the London Stock Exchange. Although the debt was viewed as risky—and had a 9.14% yield-to-maturity to match—the bonds were well received. One reason the offering was successful was the inclusion of a promise by the Mexican government to deposit a mortgage bond with the Bank of England that pledged general revenues and hypothecated one-third of customs revenue collected at Gulf of Mexico ports. The success of the 1824 issuances allowed Mexico to undergo another bond offering in 1825 on essentially identical terms.⁶² When Mexico defaulted in 1827, bondholders discovered that the mortgage bond was backed by no more than the word of the sovereign and lacked the formal contractual mechanisms (mortgages on earning assets, revenues in the hands of bondholder appointed

⁶⁰ Bordo et al., *supra* note 10.

⁶¹ A brief history of foreign offerings in London before 1875 can be found in *Investors Chronicle and Money Market Review*, (1875).

⁶² Chabot & Gulati, *supra* note 22, 11.

trustees, segregated accounts, etc.) to ensure the pledged revenues remained under bondholder control.⁶³

The Ottoman £3,000,000 loan of 1854 was probably the first to offer a special hypothecation of revenue that “*for the first time, probably, form[ed] a real security for the Loan and its interest.*”⁶⁴ This loan hypothecated an annual £282,000 from the tribute paid by the Pacha of Egypt⁶⁵ and put in place machinery for the bondholders to collect and forward this money to London. The Ottoman loan was well received by the market, and many sovereigns included similar hypothecation clauses in future debt issues.

From primary sources (prospectuses, advertisements, and various financial manuals) we collect the promised payments, hypothecations and collateral information for 660 foreign bonds issued and listed in London between 1855 and 1913. Of these bonds, 425 (64%) were secured by no more than the issuing sovereign’s general revenues or “full faith and credit,”⁶⁶ but the remaining 235 (36%) include specific hypothecations of revenue. For example, in order to proceed with what would be known as the “mutton loan” – a six percent £6,000,000 debt in 1865 – the Ottoman Empire hypothecated its “sheep tax” in Rumelia and Archipelago, and the yearly produce of copper mines and revenues assigned for the payment of its Syrian Indemnity Bonds to be freed in 1868. The Venezuelan government similarly hypothecated 55 percent of its customs revenues of the ports of La Guayra and Puerto Cabello (valued at a total amount of £164,000) as security for its six percent £1,214,000 loan of 1862.

⁶³ C Vizcarra, *supra* note 60, 376. Several examples are illustrative of the fact that issuing sovereigns could simply disregard such pledges at their own convenience. New Granada—now Columbia—pledged revenues from its salt revenues, before the government simply abolished the salt monopoly. Venezuela pledged customs revenue for several debts, but often suspended such funds during civil wars and rebellions. Ecuador pledged customs from Guayaquil, but suspended payments when Guayaquil was blockaded by Peru’s navy. *Id.* at 376 n.44.

⁶⁴ *Investors Chronicle and Money Market Review* (1875) Vol 30, 310

⁶⁵ *Foreign Stock Manual: A Compendium of Stocks* (1872) 95

⁶⁶ For several examples of this type of clause, see Borchard & Hotchkiss, *supra* note 18, 82 n.3. A few examples include: an 1833 Greek loan promising “as guaranty and as a general mortgage of the present loan, all the property and revenues of the State”; a Peruvian bond promising “a guaranty for the fulfillment of the obligations contracted in this bond, the Government of Peru, *under the national faith*, pledges the general revenues of the republic”; and a 1908 Russian Note secured by “all the property of the State.” *Id.* (emphasis added).

Contemporary investors were under no illusion about the enforceability of these hypothecations. Sovereigns enjoyed absolute immunity⁶⁷ in British courts, and as one investment guide put it:

*[I]n some instances duties and taxes are hypothecated or mortgaged to secure the due payment of dividends; and this to some extent enhances their value; not very considerably however, as the foreign Government can ignore the hypothecation as readily as it can decline to pay the debt.*⁶⁸

But contemporaries did disagree about the market value of these hypothecations. The foreign stock column in the February 9th, 1867 *Economist* noted that:

*Generally, the hypothecation of some particular source of revenue to the purposes of a loan, has been looked upon as favourable. Where a specific branch of the revenue of a country is affected to the interest and to the redemption of a loan, at least some moral guarantee results for the security of the bondholders. A material difficulty is also raised to the misapplication of the funds required for the loan. In the case of the Government of Venezuela, the customs duties were specially assigned to be regularly paid over to the agents of the bondholders. But a public outrage was necessary to divert those funds from the purpose to which they had been consecrated. The world was thereby apprised of the violence and of the wrong committed, and a Government convicted of bad faith by such an instance stands at once discredited in every money market in the world.*⁶⁹

Likewise, a prominent underwriter of sovereign debt writing in 1872 stated:

*[T]he most essential element of a [sovereign] loan is the security hypothecated. A banker or broker will not lend money to an applicant on his promise of a liberal rate of interest or speedy repayment, without security; but on deposit ample and perfect security he will make advances allowing the rate of interest and mode of repayment to be settled hereafter. This proves, what is universally known, that the security for a loan is of more vital importance than the rate of interest and mode of repayment. In fact, the Turkish Government received full value in cash for the special securities of the Loans of 1858 and 1862, which becomes quite evident on comparing their prices of issue with the price of the 5 per cent Turkish Stock without special security, at those periods.*⁷⁰

The reader may wonder why investors valued contract terms that could not be enforced in any court. While it is tempting to think contract terms are only valuable if they can be enforced

⁶⁷ The principle of absolute immunity comes from customary international law and was widely accepted through the nineteenth century. See P Verdier & E Voeten, 'How Does Customary International Law Change? The Case of Sovereign Immunity' (2015) 59 Int'l Stud. Q. 209, 209-12.

⁶⁸ RA Wood [1871] Investment 108

⁶⁹ The Economist[1867] 150

⁷⁰ August 1872 letter from J. Gerstenberg to Mr. Clark (London Stock Exchange). Inclosure 1. In No.89. Correspondence respecting the Ottoman Loans of 1858 and 1862. House of Commons. July 16, 1874.

in court, bonds issued by sovereigns have always contained a profusion of terms which baffle legal scholars.⁷¹ Why did sovereigns and sophisticated lenders negotiate lengthy and detailed contracts if they are not *ex post* enforceable? The answer is that although these hypothecation clauses were not enforceable in court, private institutions such as the London stock exchange (LSE) sanctioned sovereigns that failed to adhere to the letter of their bond contracts. We argue that in an era of absolute sovereign immunity, commitment was nonetheless possible through this private extra-legal enforcement. Clauses that committed sovereigns to be treated worse *ex post* in the event of a default relied on extra-legal enforcement and internal dispute resolution provided by the LSE and the monitoring and incentive to maintain sponsorship of well-reputed underwriters.

The LSE acted as a self-governing institute, regularly recognizing and enforcing transaction that were, under British law, unenforceable. In the 1820s, the LSE, acting in this self-governing role, implemented a rule refusing to list new debt issued by defaulting sovereigns that had not settled with existing creditors through “some satisfactory arrangement”⁷² This ruling came in response to an 1827 letter from holders of Spanish debt who were concerned that Spain would be listing new debt while it was in default on existing London loans.⁷³ Thus, old creditors of defaulted bonds could block new issuances by sovereigns in default on their existing debt.⁷⁴

Members of the stock exchange who assisted in underwriting the debt of sovereign defaulters in other markets were also subject to sanction, and banks who underwrote the debt of

⁷¹ There is an entire body of legal scholarship known as the “contracts matter hypothesis” that seeks to explain why sovereign debt contracts are so detailed when courts refuse to enforce them. For a recent survey see Weidemaier & Gulati, *supra* note 24.

⁷² “The committee will not sanction or recognize bargains made in new bonds, stock, or other securities issued by any foreign Government that has not duly paid the dividends on former loans raised in this country, unless such Government shall have effected and carried out a satisfactory arrangement with the holders of such stock, bonds, or other securities, on which the dividends have been left in arrear.” Money-Market & City Intelligence, *TIMES* (London) [1868], 8; *Fenn’s Compendium of the English and Foreign Funds, Debts, and Revenues of all Nations* (4th ed., 1863) 93. See also Rule 63, in Melsheimer & Gardner, *The Law and Customs of the Stock Exchange* (4th ed. Longon, 1905) 179; M Flandreau, ‘Sovereign States, Bondholders Committees, and the London Stock Exchange in the Nineteenth Century (1827-68): New Facts and Old Fictions’ (2013) 29 *Oxford Rev. of Econ. Pol’y* 668, 677-78 (“After [1827], one can always find the rule, with essentially the same wording, in the Stock Exchange rulebook, even if the deplorable habit of renumbering the rule each time a new one was inserted before it pushed its mark further up and made the catch a moving target.”).

⁷³ *Id.* at 675-76.

⁷⁴ Flandreau & Zumer, *supra* note 34.

nations in default in markets outside of London were considered “accomplices”⁷⁵ and subject to reputational sanctions should they try to engage in business in London. Finally, many of the other bourses of Europe looked to the London Stock Exchange as the standard bearer and likewise refused to list new debt issues of nations declared in default by the Committee of Stock Exchange.⁷⁶

By (re)issuing in London, sovereigns agreed to subject themselves to the rules of the LSE: default, if not followed by satisfactory agreement obtained with their bondholders, resulted in sovereigns being cut off from London markets and banks wishing to do business in London.⁷⁷ Importantly, the exchange did not require a missed payment to declare a nation in default. Failure to adhere to the terms of various hypothecations was sufficient even when the bond itself was current on all payments.⁷⁸ Further, the question of what constituted a “satisfactory” settlement gave quasi-judicial powers to the LSE, making it a sort of International Court of Debt Arbitration.⁷⁹ In this way, the sovereignty of the LSE provided a mechanism by which bondholders could coordinate to protect themselves through extra-legal enforcement of sovereign debt clauses. The LSE generally looked to the creditors themselves to determine whether the settlement was satisfactory, which created problems involving multiple negotiating groups. To solve these issues, the LSE decreased the costs of renegotiation by coordinating the actions

⁷⁵ August 1872 letter from J. Gerstenberg to Mr. Clark (London Stock Exchange). Inclosure 1. In No.89. Correspondence respecting the Ottoman Loans of 1858 and 1862. House of Commons. July 16, 1874. See also Inclosure 2 in No. 89, Turkish Loan of 1872, Memorandum of Proceedings before the Committee of the Stock Exchange, Tuesday, September 10, Tuesday, September 17, and Wednesday, September 18, 1872 (“A discussion took place, Mr. Lawrence, Mr. Dixon, Mr. Hyde Clarke, and Mr. Paterson contending . . . that, under the legislation of the Stock Exchange, parties supplying a defaulting Government with money were treated as accomplices . . .”).

⁷⁶ *Id.* (“A great service will be rendered by the action of the Committee in the sense indicated to some Bourses of the Continent, which, to their regret, are not quite independent, but whose proceedings are either dictated by Government or influenced by private and local circumstances, over which the members have not sufficient control. Those Bourses look up to the Committee in the London Stock Exchange as a beacon-light of justice . . .”). See also *General Report of the Council of the Corporation of Foreign Bondholders for the Year 1874* (1875) 44 (“After consultation with the Bourses of the Continent, it appears desirable to make known to the Mexican Government that Mexico [following late payments to foreign creditors] would no longer be allowed to avail herself, directly or indirectly, of the European markets for the purpose of raising capital. The effect of this intimation became immediately apparent.”); *Borchard & Hotchkiss v. 2*, supra note 18, 287 (“Because the previous [1833] Greek loans were in default, neither the London Stock Exchange nor the Paris Bourse admitted the issue to quotation.”).

⁷⁷ The examples of exclusion resulting from default are too numerous to list here. See *Borchard & Hotchkiss*, supra note 18, 174 for an illustrative, but far from exhaustive, list of examples.

⁷⁸ For example, the LSE prevented the listing of the Ottoman Loan of 1872 when holders of previous loans complained that although their bonds had been paid in a timely manner the Ottoman government had failed to establish a bondholder-directed syndicate to collect and segregate hypothecated revenues. In the wake of the LSE’s action, the Ottoman government quickly acquiesced to bondholders demands.

⁷⁹ Flandreau, supra note 76, 692-93.

among creditors and minimizing the risks of a hold-out by groups of creditors. Creditor coordination eventually led to the formation of a unified British creditor organization, the Corporation of Foreign Bondholders (CFB), in 1868. The CFB, which has stated as its object to protect “the interests of the holders of foreign securities,”⁸⁰ was the first recognized means of bondholder organization and, importantly, avoided the conflict of interest felt by issuing houses that often owed obligations to both defaulting governments and the bondholders.⁸¹ The CFB also improved bondholder coordination by committing individual bondholders that wished to deposit her securities with the CFB in order to more freely sell the equivalent of her holdings with the open market.⁸² In exchange, the individual bondholders agreed to a deposit agreement that committed the individual to be bound by the vote of the CFB majority.⁸³ Further, the CFB provided information about the borrowing countries, including analysis of the countries’ budgets and revenues, which was particularly important given the absence of any credit rating agencies.⁸⁴ Since its unanimous adoption at a general meeting of foreign-bond holders in London, the CFB was heavily involved in the settlement of nearly all governmental defaults involving British bondholders.⁸⁵

The existence of a recognized organization of bondholder coordination has been shown to affect bondholders, at least *ex post*. From the time of the CFB’s formation, through the early twentieth century, both the number of and total value of countries in defaults decreased.⁸⁶ Further, British bondholders—protected by the CFB—realized higher *ex post* rates of return on foreign bonds than did American bondholders—who did not have the benefit of a bondholder association to protect them.⁸⁷ The question of how the protection of a bondholder association

⁸⁰ *Corporation of Foreign Bondholders*, supra note 79, v.1.

⁸¹ E Borchard, ‘Foreign Bondholders Protective Organizations’ (1933) 43 YALE L.J. 281, 285.

⁸² Borchard & Hotchkiss, supra note 18, 210.

⁸³ *Id.*

⁸⁴ For an example of information the CFB provided, see generally *Corporation of Foreign Bondholders*, supra note 79. To illustrate the need for this information, investors were once duped into buying bonds from the nation of Poyais, a nation which did not exist. See M Flandreau & JH Flores, ‘Bonds and Brands: Foundations of Sovereign Debt Markets, 1820-1830’ (2009) 69 J. Econ. Hist. 646.

⁸⁵ *Id.* at 284-85.

⁸⁶ B Eichengreen & R Portes, ‘Settling Defaults in the Era of Bond Finance’ (1989) 3 World Bank Econ. Rev. 211; but see P Mauro & Y Yafeh, ‘The Corporation of Foreign Bondholders’ (2003) (Int’l Monetary Fund, Working Paper No. WP/03/107) 9 (suggesting that this decline may simply have been the result of other factors “such as improving macroeconomic conditions in the emerging markets of the day”).

⁸⁷ Eichengreen & Portes, supra note 90.

affects bondholders *ex ante* has, until now, remained open. We demonstrate that one way in which the CFB mattered, *ex ante*, is by enforcing security interests.

The denial of a stock exchange listing was a real penalty that increased the cost of default. While nothing prevented nations in default from attempting to sell bonds over-the-counter via a private placement, bonds without a stock exchange listing were illiquid and ineligible for central clearing and therefore could not be pledged as collateral in the centralized repo market for securities listed on the exchange.⁸⁸ Empirical work by Alquist (2010)⁸⁹ and Chavaz and Flandreau (2015)⁹⁰ show that Victorian investors demanded compensation for liquidity differences. In addition, there is well-known literature on asset pricing in modern bond markets that convincingly attributes differences between otherwise similarly risky securities to equilibrium compensation for the ability to leverage.⁹¹

In addition to refusing to list new securities on the LSE, members of the stock exchange enacted rules to sanction their fellow members who underwrote new bonds listed elsewhere by sovereigns in default. The result was a penalty remarkably similar to the modern sanction against potential underwriters of Argentine debt today. Although sovereign immunity protects Argentine assets from creditor attachment, the injunction prevents Argentina from floating new bonds or using the payment system to discriminate against bondholders and threatens sanctions against any bank that assists Argentina in doing so. By including hypothecations, historical sovereign borrowers could commit to set aside sufficient revenue to assure repayment and submit to similar punishments should they renege on their promise.

⁸⁸ The LSE used fortnightly clearing that minimized the costs of forming leveraged portfolios via margin borrowing. On the day before settlement, the LSE clearing house ran a netting operation where shorts who did not want to deliver bonds could be matched with longs who did not wish to take delivery. Supply and demand was equated via the “contango” or “backwardation” rate—the repo rate paid by longs and shorts to carry their position for another 14 days. Thus, shorting involved none of the search frictions modeled in papers such as Duffie et al., ‘Securities Lending, Shorting, and Pricing’ (2002) 66 J. Fin. Econ. 307. See Fed. Reserve Bd., Rates of Interest on Collateral Call Loans, S. Doc. No. 66-262 (2d Sess. 1920) for a description of repo loans on the Victorian LSE.

⁸⁹ See R Alquist, ‘How Important is Liquidity Risk for Sovereign Bond Risk Premia? Evidence from the London Stock Exchange’ (2010) 82 J. Int’l Econ. 219.

⁹⁰ See M Chavaz & M Flandreau, “High and Dry”: The Liquidity and Credit of Colonial and Foreign Government Debt in the London Stock Exchange (1880-1910)’ (2015) (Bank of England Working Paper No. 555).

⁹¹ See, e.g., FA Longstaff, ‘Are Negative Option Prices Possible? The Callable U.S. Treasury-Bond Puzzle’ (1992) 65 J. Bus. 571; M Fleckenstein et al., ‘The TIPS-Treasury Bond Puzzle’ (2014) 58 J. Fin. 2151; A Krishnamurthy, ‘The Bond/Old-Bond Spread’ (2002) 66 J. Fin. Econ. 463.

Underwriters—banks providing certification services, which were often essential to sovereigns attempting to borrow from private foreign lenders⁹²—operated in conjunction with the LSE. These underwriters, each having a long-lived reputation, had incentives to punish defaulters by refusing to issue or sponsor their debts. This punishment stemmed from the fact that underwriters capture economic rents from their reputations. The presence of high-reputation underwriter, a highly monopolized market, signaled the credibility of the borrower and resulted in more favorable lending terms by reducing information asymmetry with investors. The monopolization of high-quality underwriters was the result of (1) high switching costs felt by borrowing sovereigns and (2) the limited availability and high cost of gathering information about the borrowing sovereigns.⁹³ With so few prestigious underwriters, the importance of maintaining the sponsorship of any given underwriter increased. Further, the presence of one of these higher-rank intermediaries signaled loans that were likely to be repaid, while the use of other, lesser intermediaries signaled loans of lower quality. The concern in maintaining their reputation incentivized the higher-quality intermediaries to monitor the borrowing sovereigns. The intermediaries could offer better lending terms to sovereigns that repaid and restrict market access to those sovereigns that did not. By agreeing to underwrite the borrowing of only those sovereigns that the intermediaries believed would repay, borrowing sovereigns—in order to retain access to the international capital market—were incentivized to refrain from defaulting. In this way, the high-quality intermediaries that largely came to monopolize the international capital market lent their reputation and credibility to borrowing sovereigns, while also providing monitoring and punishment to sovereigns that did not repay.⁹⁴

This era of private enforcement began to wane after WWI, in part, because the incentives for cooperation among bondholders—which was a driving factor behind this form of private enforcement—started to disintegrate at the close of the century. As discussed previously, the gradual erosion of sovereign immunity had given individual creditors another avenue to seek redress, thereby limiting the need for cooperation.⁹⁵ Also, cooperation among bondholders

⁹² Borchard & Hotchkiss, *supra* note 18, 18 (“The great majority of governments in need of funds from private lenders abroad are forced to resort to the procedure of selling the entire bond issue to one or several banking houses for placement on foreign money markets.”).

⁹³ Sovereign risk reports were not published by nonbanking entities until 1900, and the creditworthiness on foreign government bonds was not rated until 1918. See NA Gaillard, *A Century of Sovereign Ratings* (2011) 4.

⁹⁴ See Flandreau & Flores, *supra* note 88.

⁹⁵ See P Mauro & Y Yafeh, *supra* note 90.

became increasingly more difficult, as bond ownership became more disperse and bondholders increased in numbers.⁹⁶ Further, the New York Stock Exchange and other European markets—in Paris and Berlin in particular—grew in size and importance and did not always cooperated with the LSE.⁹⁷ Without cooperation among the exchanges, a defaulting sovereign could not be cut off from all markets and would still have access to capital after default.

5. Testable Implications

Economic theory predicts that sovereign borrowers can lower their borrowing costs by including contract terms which raise the cost of default thereby credibly signaling their intent to fulfill the contract. The obvious empirical implication is that bonds that contain such clauses should trade at higher prices (lower yields) than similar bonds without these clauses.

While little literature exists on the pricing impact of the various terms in modern sovereign bond contracts, the literature that does exist shows mixed empirical results.⁹⁸ Roubini (2000)⁹⁹ argues that legal parameters such as Collective Action Clauses are unlikely to impact asset pricing outside of default while other scholars have argued that the market rewards those clauses.¹⁰⁰ More recently, scholars have turned their attention to the price impact of governing law parameters in sovereign bond contracts. Generally, governing premia are meant to compensate bondholders for various risks associated with issuing under local law, including the risk of unilaterally changing terms of the bond or aspects of restructuring or repayment, as well as the possibility of biased local courts. Choi et al. (2011) find that the yield on Greek sovereign bonds with Greek choice-of-law terms was higher than that of Greek sovereign bonds with English choice-of-law-terms, and this yield spread increased during the Greek financial crisis.¹⁰¹ Also looking to the Greek restructuring, Bradley et al. (2015) showed that bonds subject to local

⁹⁶ *Id.* at 9.

⁹⁷ H Feis, *Europe, the World's Lender, 1870-1914: An Account of European Foreign Investment and the Connection of World Finance with Diplomacy Before the War* (1930) (New York, A.M. Kelly 1961) 115.

⁹⁸ Further, these papers often run into problems with adequacy because the papers largely looked at emerging-market sovereigns issuing overseas, which tended to issue a small number of bonds.

⁹⁹ N Roubini, 'Bail-In, Burden-Sharing, Private Sector Involvement (PSI) in Crisis Resolution and Constructive Engagement of the Private Sector' (unpublished manuscript) (on file with New York University Stern School of Business).

¹⁰⁰ See also P Bolton & O Jeanne, 'Structuring and Restructuring Sovereign Debt: The Role of a Bankruptcy Regime' (2007) 115 J. Pol. Econ. 901 (arguing that debt with Collective Action Clauses ends up as effectively senior to debt without such a clause).

¹⁰¹ SJ Choi, M Gulati & EA Posner, 'Pricing terms in sovereign debt contracts: a Greek case study with implications for the European crisis resolution mechanism' (2011) CMLJ.

law suffered haircuts of 60-75%, while bonds governed by foreign law were paid in full.¹⁰² Chamon et al. (2014)¹⁰³ find that foreign-law bonds carry a lower yield compared to domestic-law bonds, and the yield premium widens during financial stress.

Note that these results, i.e., that these clauses that raise the cost of default are priced by modern markets – the “contract matters” hypothesis – , is not so surprising given several recent decisions eroding sovereign immunity in modern courts. We present evidence below that contract clauses were also priced in the 19th century when sovereigns were litigation-proof and sovereign immunity was absolute. One explanation for why contractual protections would be valuable even in a time of absolute sovereign immunity is that they may resolve the ambiguity on whether default has or has not occurred and function as a coordination mechanism in a repeated game. Although there was no legal enforcement, clauses can function as a focal point during the restructuring process, denoting and preserving the parties’ expectations at the time of contract formation and helping to coordinate punishment in extra-legal arrangements. Because it is difficult to apply or coordinate sanctions if there are no clear rules, even unenforceable clauses can put in place the bounds of negotiation in the event of debt restructure following a default.¹⁰⁴

6. Empirical Examples

Recall that economic theory predicts that a borrower can lower their borrowing rate by “bargaining” for a severe punishment in the event of default. Agreeing to punishment serves as a credible signal that the borrower intends to honor their debt obligation. To test whether such bargains existed we examine all bonds¹⁰⁵ trading in London between 1869 and 1914 to see if investors did indeed reward issuers who included clauses that increased the cost of default.

A natural candidate for a contractual clause that increased the cost of default is the hypothecation pledge of specific revenues. Hypothecation clauses, which were common in sovereign debt before the great depression,¹⁰⁶ pledged specific revenue toward the payment of principal and interest. Hypothecations made it difficult for a defaulting sovereign to negotiate a

¹⁰² See M Bradley et al. ‘Pricing Sovereign Debt’ (2015).

¹⁰³ M Chamon et al., ‘Foreign Law Bonds: Can They Reduce Sovereign Borrowing Costs?’ (2014).

¹⁰⁴ See Wright, *supra* note 28, 105.

¹⁰⁵ We observe 660 bonds issued by 49 countries. The sample comprises all the bonds that regularly appeared on the official quotation list of the London Stock Exchange.

¹⁰⁶ We were able to identify hypothecation pledges in 34% of the sovereign bonds listed on the LSE before 1929.

settlement that employed the pledged revenue without first offering preferential treatment to the secured bondholders.¹⁰⁷ Although these pledges were unenforceable in court, they could nonetheless be valued by the market if they made renegotiation more complex and costly or served as a focal point in post-default bargaining. Recall that sovereigns in default were prohibited from listing new bonds on the London stock exchange until they were able to secure a settlement with a majority of the holders of each outstanding defaulted bond. Holders of bonds with specific hypothecations were loath to accept terms that did not recognize their contractual claims to specific revenues before other bonds with mere full faith and credit promises. As a result, holders of bonds with hypothecations were able to use the threat of market embargo to raise their bonds to a de-facto senior status over bonds without pledged revenue.

Bargaining theory predicts that hypothecations should be valued by the market because the punishments these clauses make possible allow bondholders to negotiate higher recovery values in default, which in turn makes default less likely. The obvious empirical implication is that *bonds with hypothecation clauses should trade at lower yields, default less often, and have higher recovery values when default occurs.*

Unfortunately, we cannot test this hypothesis by simply comparing the yields, default probabilities and recovery values of all bonds with and without hypothecations. Bond yields differ for reasons unrelated to hypothecations. In addition to typical contractual terms like coupon rates or time-to-maturity, many historical bonds had lottery-like sinking fund provisions¹⁰⁸ and embedded call options.¹⁰⁹ Even with identical default probabilities and

¹⁰⁷ For example, Mexican bondholders successfully blocked a proposed debt exchange in 1870 by refusing to surrender their hypothecation of custom revenues. Holders of bonds protected by hypothecations were eventually offered preferential status. W Wynne, *State Insolvency and Foreign Bondholders: Selected Case Histories*(2000). Likewise, Peruvian bondholders blocked a proposed 1848 debt exchange and floatation of new bonds in London by noting that the Peruvian government wished to secure their new bonds with revenues (guano exports) already pledged to existing bondholders (“Report of meeting of Peruvian Bondholders” *Times* (London) July 12th 1848). Peru responded by offering better terms in 1849 that were accepted.

¹⁰⁸ A sinking fund is a contractual promise to establish and finance a fund to retire outstanding bonds via a pre-committed amortization schedule. Often these funds were given the right to redeem a percentage of outstanding bonds via random draw. When the redemption price was greater than the market value these drawings took on the characteristics of a lottery where drawn bonds were redeemed at prices well above the market value of undrawn bonds.

¹⁰⁹ Many bonds were redeemable at the whim of the issuer after a vesting date. Furthermore, some sinking funds included provisions to retire bonds via purchase in the open market or redemption at par, whichever was cheaper. A bondholder who purchased a bond with these options had a cash flow equivalent to the option free bond combined with a short call option at the redemption price.

recovery rates, differences in coupon rates, maturity, sinking fund provisions and embedded call options will result in different bond prices and yields-to-maturity.¹¹⁰

Any comparison of bonds with and without hypothecation clauses must control for the confounding effects of different contract terms. Previous studies using modern data have noted the difficulty in controlling for contractual differences due to the fact that variation in contract terms is non-random. Sovereigns tend to use terms that are largely identical—both to their own previous issuances and to other sovereigns—resulting in fewer differences in contract terms. Additionally, terms tended to change only in response to certain events, in which case terms would change in clusters making the isolation of price effects on any particular provision very difficult.¹¹¹ Each of these difficulties exists in our historical period as well and are often exacerbated by the proliferation of historical contract terms that are “exotic by modern standards.”¹¹²

We isolate the effect of hypothecations while controlling for other confounding factors by searching our database for examples of multiple bonds issued by the same country that are most similar in standard terms such as coupon rate, time-to-maturity and sinking-fund provisions but differ in hypothecation clauses that give one bond a senior claim over other bonds issued by the same country.¹¹³ Because the effect of these clauses should be most apparent in default, we limit our search to the set of countries that defaulted between 1869 and 1914.

Theory predicts that bonds with clauses that raise the cost of default should have lower default rates and greater recovery in default. Consistent with these predictions, we find examples of both sovereigns who defaulted on unsecured bonds while continuing to pay secured bonds (Spain in 1872) and sovereigns who gave preferential treatment to secured bonds in a restructuring (Argentina in 1890).

¹¹⁰ The difficulty of measuring yield when bonds have embedded options and sinking funds is discussed in R Alquist & B Chabot, ‘Did gold-standard adherence reduce sovereign capital costs?’ (2011) *J Monetary Econ* 58-3, 262-272.

¹¹¹ *Id.*; Choi et al, supra note 105, 2 (noting that the phenomenon of changes being felt in clusters of terms has typically forced researchers to “approximate the price effects of particular terms from the pricing differences between bonds with different groups of terms”).

¹¹² Tomz & Wright, supra note 4, 16-17.

¹¹³ The few similar studies that exist do not control for different characteristics in this way, resulting in an “apples-to-oranges” comparison which could cast doubt on the results. See, e.g., Choi et al., supra note 105, 165, 172 (noting that the comparison in their study is “but a rough approximation . . . because there are also some other contractual differences between the two bonds . . . such as those related to grants of security interests that could also have implications for how investors might value the two categories of bonds”).

The Spanish Default in 1872:

Spain had the following three bonds trading in London at the time of their default in 1872:

The Spanish 3% Loan of 1869

Authorized in April 1869 to raise money to retire and consolidate existing internal and external debt, the 3% loan of 1869 was a perpetual bond paying 3% interest. £43,428,000 was issued at an IPO price of 24.46% of par for a yield to maturity of 12.26%. The bond offered no special security beyond the full faith and credit of the Spanish crown.

The 5% Quicksilver Loan

Authorized March 1870, the 5% Quicksilver loan paid 5% interest and was redeemable by an accumulative 1.5% sinking fund which redeemed bonds at par via random drawing. The loan raised £2,318,100 at an IPO price of 80% of par for a yield to maturity of 7.23%.¹¹⁴ As the name implied, the bond contract hypothecated the production of a quicksilver mine and established the legal machinery to assure the mine's output was under the control of the bondholders.

The prospectus stated:¹¹⁵

The Spanish Government engages to consign for thirty years all the produce of the Almaden Quicksilver Mines to Messrs. N. M. Rothschild and Sons in London, who are exclusively charged with the sale of it; the minimum estimated annual production being 32,000 bottles, while a larger quantity may be expected.

An annuity of £150,000 is granted by the said contract to meet the interest on these Bonds, and to redeem them at par in 30 years by half-yearly drawings.

This annuity will be payable out of the proceeds of the quicksilver annually consigned to and sold by Messrs. N. M. Rothschild and Sons, and is secured by a mortgage deed.

The Spanish 3% Consolidated External Debt

¹¹⁴ All yields-to-maturity calculations reflect sinking fund payments.

¹¹⁵ C Fenn, *Fenn's Compendium of the English and Foreign Funds, Debts and Revenues of All Nations* (12th ed., 1876) 430.

Authorized in September 1871, a 3% perpetual bond was offered at an IPO price of 31% of par for a yield to maturity of 9.68%. The offering was extremely popular, and the £20,727,000 bonds offered were 8 times oversubscribed. The bond offered no special security beyond the full faith and credit of the Spanish crown.

One month after issue a new finance minister was appointed who proposed an 18% tax on all external debt. Bondholders responded by petitioning the Committee of the London Stock exchange to declare Spain in default. A new finance minister was quickly appointed, the tax proposal was abandoned, and diplomatic assurances were sent to London that the 3% bond of 1871 was “free of Spanish taxes.”¹¹⁶

IPO Prices and Recovery Values

The Table below compares the prices of Spanish bonds trading in London at the time of the initial public offerings of the Quicksilver Loan and the 3% Loan of 1871. While all bonds were backed by the full faith and credit of the Spanish crown, the Quicksilver loan was the only bond with a hypothecation of specific revenues and contractual protections.

	Yield-to-Maturity	
	March 1870	Sept 1871
Quicksilver 5%	7.23%	7.11%
Spanish 3% 1869	11.22%	8.96%
consolidated 3% 1871		9.68%

The Quicksilver loan was issued at a yield-to-maturity of 7.23% at a time when the other (unsecured) Spanish bond yielded 11.22%, and the (unsecured) Consolidated Loan of 1871 was brought to market at a yield-to maturity of 9.68% at a time when the Quicksilver loan yielded 7.11%. Investors clearly preferred the Quicksilver loan and were willing to pay a higher price (accept a lower yield) to hold it. We should be careful not to assign all the difference in yield to the better contractual protection of the Quicksilver hypothecation, however. These loans differed

¹¹⁶*Id.* at 432.

in time to maturity and, consequently, duration risk, but the sheer magnitude of the yield differences is too large to be entirely (or even mostly) attributable to differences in maturity.¹¹⁷

A likely explanation for the price differences is that investors preferred the security of the Quicksilver hypothecation. In fact, this preference was well founded. Despite Spain's ability to access capital markets as late as 1871, the Spanish government was a poor credit. Fiscal deficits forced Spain into default in 1872. However, Spain had hypothecated the production of their quicksilver mine to the underwriters of the Quicksilver Loan, and the fear of legal difficulties selling quicksilver abroad convinced the Spanish crown that defaulting on the Quicksilver loan was not worth the savings. As a result, the Quicksilver bonds retained a remarkable share of their value when their issuing sovereign defaulted on other debt.

One of the unique features of our pre-1914 data is that, unlike modern markets,¹¹⁸ historical bonds continued to be quoted during defaults and restructurings,¹¹⁹ so it is possible to see the evolution of expectations of recovery rates. Figure 1 plots the market prices of Spanish bonds in London as a ratio of their Jan 1871 price. While the default resulted in an approximate 40% decline in the market price of the unsecured loans, the bond secured by the Quicksilver mortgage declined only modestly as the Spanish crown decided to continue paying the Quicksilver coupons. How did the mortgage on the Quicksilver mine protect bondholders? Clearly Spain had no qualms about violating her other sovereign bond contract. But the Quicksilver hypothecation came with a detailed contract that tasked the underwriters to establish the machinery to take custody of the mine's output and transport and sell the quicksilver in Europe. The value of the collateral was greater than the coupon payments, so the bondholder trustees were returning a positive cash flow to Spain. True, the Spaniards could have increased this annual cash flow by the £150,000 necessary to service the bonds, but this would have

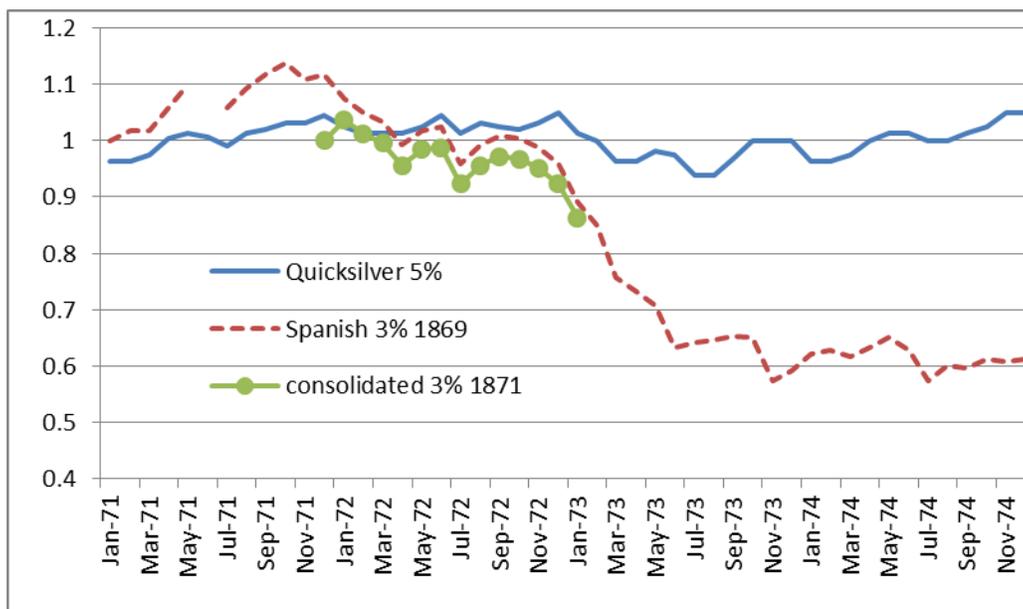
¹¹⁷ The modified durations (how sensitive a bond's price is to changes in interest rates) of these bonds are very similar. If investors believed the probability of default and recovery values were the same across all Spanish bonds, these investors could form extremely high return and low variance portfolios by buying the high yielding bonds and selling the low yielding Quicksilver Loan. Such a portfolio would have an expected sharp ratio (excess return divided by standard deviation of return) more than 10 times greater than the observed sharp ratios on other stocks and bonds trading at the time. Every investor could dramatically increase their return and lower their risk by buying this portfolio. The fact that investors did not flock to this "good deal" is strong evidence that they did not expect all Spanish bonds to default at the same time or have the same recovery values.

¹¹⁸ Because sovereign bonds largely trade OTC after WWII, quotes are missing from major databases such as TRACE and Datastream before the 1990s. Even after the 1990s most issues are rarely quoted when the bond is in default. See Alquist, *supra* note 93.

¹¹⁹ Note that the LSE punished the defaulter by not listing new bonds. Delisting already offered bonds would only punish the bondholders.

required replacing the merchant network put in place by the bondholders and certainly would have raised legal hurdles selling the mine's output in Europe. All in all, the mortgage raised the price of defaulting to such an extent that the Spanish crown simply continued to service the loan.¹²⁰

Figure 1: Spanish Bond Price Indexes



The Argentine Default in 1890:

Argentina had ten bonds trading in London at the time of the Barings Crisis. Luckily for our purpose, four of these bonds were issued at roughly the same time and offered similar coupons and sinking fund formulas, but only one of the bonds included a specific hypothecation of revenues. The bond particulars are reproduced below from an 1898 investment guide for bondholders.¹²¹

The 5% Loan of 1886-7

¹²⁰ Innumerable examples exist of preferential treatment of secured creditors during the restructuring process. See, e.g., Borcard & Hotchkiss, *supra* note 18, 340. This preference may take several forms, such as to the amount of the claim, the time of paying interest or principal, allocation of certain revenues, or assignment of new security. See *id.* at 344. Ultimately, secured loans are treated better than unsecured loans, with a main reason being that creditors believe the secured loan is more likely to be repaid and, for this reason, are willing to pay more for a secured bond. See generally *id.* at 356-58.

¹²¹ C Fenn, *Fenn on the Funds* (16th ed., 1898) 233-234.

Five per Cent. Loan, 1886-7.—Issued by Messrs. Baring Bros. & Co. and Messrs. J. S. Morgan & Co. in two instalments, *viz.*:—£4,000,000, in 1886, at 80 per cent., and £4,290,100, in 1887, at 85½ per cent. Redeemable by 1 per cent. sinking fund. Secured specially on customs duties, which were to be paid each month into the National Bank of Buenos Ayres, the bank to remit monthly to the agents the amount necessary for the service of the loan. Included in the Romero Arrangement.

The 5% Treasury Conversion Loan

Five per Cent. Treasury Conversion Bonds, 1887.—The object of the loan was the conversion of the \$3,582,315 outstanding nine per cent. internal Treasury bonds of 1876, of which \$3,044,100 were exchanged for £624,000 of the new bonds. The loan was issued by Messrs. C. de Murrieta & Co. at the rate of £20 10s. of the conversion bonds for every \$100 of nine per cent. Treasury bonds. Secured on the general revenues of the republic. Principal redeemable by 1 per cent. accumulative sinking fund. Included in the Romero Arrangement.

The 4.5% Internal Gold Loan

Four and a Half per Cent. Internal Gold Loan, 1888.—Authorised amount \$19,868,500. Amount offered for subscription, \$19,667,900 (£3,933,580), the balance, \$200,600, having been paid on account of sinking fund before the issue of the loan by Messrs. Baring Bros. & Co. Issue price 87 per cent. Its object was to replace the five per cent. bonds issued to the Provincial Bank of Buenos Ayres for repayment of advances, and to the Provincial Government of Buenos Ayres for expenses incurred in various objects of public utility when the city was made the Federal Capital. Bonds redeemable at par by 1 per cent. accumulative sinking fund. Included in the Romero Arrangement.

The 4.5% Conversion Loan

Four and a Half per Cent. Conversion Loan, 1889.—Amount, £5,263,560. Issued by Messrs. Baring Bros. & Co. and Messrs. C. de Murrieta & Co. at 90 per cent. for the purpose of repaying the six per cent. bonds of 1871 and 1882 and the Buenos Ayres six per cent. bonds of 1870 and 1873. Redeemable by 1 per cent. accumulative sinking fund. Included in the Romero Arrangement.

Because these four bonds have very similar coupons and were issued within a few years of each other and were each redeemable via a 1% sinking fund, their duration risks are virtually identical. Only the 5% loan of 1886-7 included a specific hypothecation, however. This hypothecation proved valuable during the default and restructuring following the Barings Crisis.

After the crisis, the Argentine government and a coalition of foreign lenders worked out a restructuring arrangement known as the Romero Arrangement. Central to the restructuring plan was a moratorium on sinking fund redemptions and a temporary haircut on coupon payments bundled with a new funding loan issued in Europe whose proceeds would pay the reduced coupons for a period of three years.

To induce foreigners to fund Argentina during the restructuring, the funding loan was guaranteed by a hypothecation of custom duties and a law was passed which made any unpaid coupons on the funding loan legal tender for custom taxes. The custom duties had previously been hypothecated in the 5% loan of 1886-7, however, and the funding loan could not be listed on the LSE if the 1886-7 bondholders objected. The Romero agreement therefore gave preferential treatment to the 1886-7 bondholders in the form of smaller haircuts for a shorter duration and first claim on future surpluses until their missed coupons were made current. As a result, the recovery value of the 5% loan of 1886-7 was much higher than bonds backed by only the full faith and credit of Argentina.

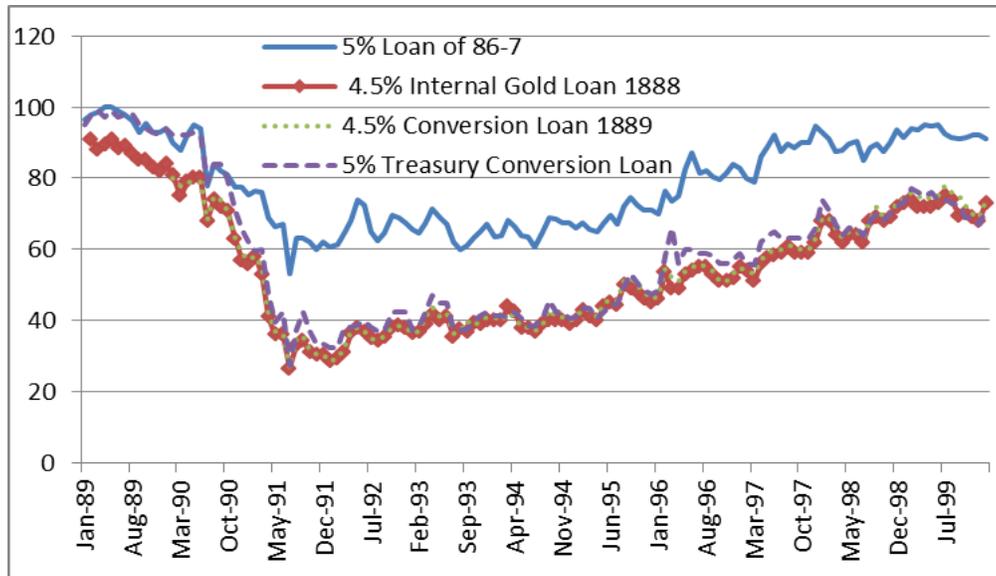
We cannot be certain that bondholders anticipated the preferential treatment of the 1886-7 Loan at time of issue, but consistent with the theory the 5% 1886-7 bonds had a lower yield than the IPO yields of similar bonds issued in the years before the Barings crisis.

Yields on IPO dates

	Yield-to-Maturity		
	Dec 1887	Dec 1888	June 1889
5% Loan of 86-7	5.74%	5.37%	5.15%
5% Treasury Conversion Loan	6.19%	5.60%	5.33%
4.5% Internal Gold Loan 1888		5.62%	5.39%
4.5% Conversion Loan 1889			5.35%

And the market price of the 5% Loan of 1886-7 was considerable higher than similar bonds throughout the Romero restructuring. Figure 2 plots the market price (% of par).

Figure 2: Market Prices of Argentina Bonds



7. Conclusion

Before World War I the London Stock Exchange enforced sanctions against sovereign defaulters that were remarkably similar in practice to the current *pari passu* injunction. Nonetheless, developing nations with less than sterling credit flocked to the LSE, and London became the unquestioned “banker to the world.” Not only did developing nations list in London, but they often voluntarily included contract clauses that made restructuring more difficult and costly. Why would sovereign borrowers list in a jurisdiction where default carried real consequences? Because these borrowers knew that lenders valued contractual protections and expected to be rewarded with cheaper borrowing rates. Borrowing governments are worse off if the cost of default is too low because potential lenders know default is likely and demand a high yield or refuse to lend at any rate. Therefore, borrowing sovereigns can benefit *ex ante* if, in drafting the bond contract, they are able to raise the cost of default.

Given the LSE’s historical success of enforcing secured debt through a private informal mechanism of commitment and punishment, it is puzzling that similar commitment mechanisms are frowned upon today. Despite the criticism that it may possibly vindicate holdout creditors,

the recent *pari passu* rulings offer a mechanism for sovereign borrowers to signal their commitment. Although modern sovereigns who default on bonds with *pari passu* clauses now face a much more difficult road to re-organization, and although the ruling is unquestionably costly for nations currently in default, it does not follow that developing nations will be worse off. History suggests that bond investors value clauses that raise the cost of default, and there is every reason to believe that in the wake of the *pari passu* ruling modern investors will likewise reward nations who include *pari passu* clauses in their bond offerings. A caveat is that the *pari passu* only gets us half-way to the world that existed in 19th century London, as many legacy bonds do not contain collective action clauses, a mechanism to resolve disputes analogous to the functions performed by the London Stock Exchange in conjunction with the Corporation of Foreign Bondholders.

In our days, while security interests are prevalent in domestic debt, which is held by foreigners as well, security interests are rare in sovereign bonds.¹²² Instead, modern bonds rely on clauses that grant creditors structural priority, the ability to sue given by *pari passu* clauses and foreign law clauses waiving immunity. Given the muddle involved in litigation, the granting of structural preference seems like an inefficient way to bind oneself compared to the security rights used in the past. A fruitful avenue for future research would investigate the puzzle of why and when collateral and priority clauses have fallen out of favor in modern sovereign bonds.

The recent court order which effectively bars Argentina from issuing new debt while in default on existing debt has been met with much consternation from the legal community. A great deal of the criticism has focused on the practical implications of the ruling with dire warnings that developing nations will be unable to borrow, and nations whose courts dare to enforce contracts will find their markets shunned by international borrowers. Such criticisms disregard the fundamental fact that markets require both borrowers *and* lenders. While borrowers would no doubt prefer a market where funding is cheap and default has few consequences, lenders are unlikely to lend cheaply, if at all, under such conditions. A jurisdiction that enforces contract rights may be unappealing to borrowers in default, but new borrowers who choose to signal their willingness to repay by listing in such markets should be rewarded with lower interest rates.

¹²² “[O]f the 79 developing and emerging market countries that had at least one public sector international loan or bond outstanding on 1 January, 2003, the face value of collateralized debt was only 6.2% of the face value of total outstanding debt.” J Zettelmeyer, ‘The Case for an Explicit Seniority Structure in Sovereign Debt’ (2003).