

The Value of Legal Recourse in Sovereign Bond Markets: Evidence from Argentina

Sebastian M. Saiegh
Department of Political Science
University of California San Diego

Glen Biglaiser
Department of Political Science
University of North Texas

Abstract

We study how the choice of governing law affects the valuation of sovereign debt. To the extent that sovereign immunity waivers and clauses calling for litigation abroad reduce expropriation risk, then bonds that are governed by foreign law should, *ceteris paribus*, trade at a premium compared to bonds issued under domestic law. During its 2020 debt exchange, Argentina issued pairs of identical bonds (with the same currency, maturity, coupon, and other features) but under different legal jurisdictions. Leveraging these “twin bonds,” we identify the effect of legal jurisdiction on sovereign bond prices. Our findings indicate that foreign-law bonds consistently trade at higher prices. In addition, overseas/institutional investors tend to disproportionately hold foreign-law bonds. The results suggest low-rated sovereigns have a choice of attracting overseas/institutional investors that shore up longer-term capital needs at lower cost, or issuing bonds that fuel short-term speculator interest and may increase their financial instability.

Keywords: Sovereign Debt, Governing Law, Foreign-Law Premium, Argentina

1. Introduction

Argentina's challenges with bondholders over the past two decades are well documented (cf. Alfaro 2015; Guzman 2020). Following a moratorium on payment of its sovereign debts in 2001, the country offered bondholders to exchange the defaulted bonds at a significant discount in 2005 and in 2010. While more than 91% of bondholders participated in the exchange offers, the remaining holdouts -- led by NML Capital, Ltd., a hedge fund that specializes in buying distressed debt--, decided to litigate against Argentina in the United States. On February 23, 2012, Judge Thomas P. Griesa of the U.S. District Court for the Southern District of New York granted relief to the plaintiffs. The ruling featured an injunction declaring that financial intermediaries who assisted Argentina in its attempt to repay the exchanged bonds bondholders without also repaying the holdouts would be in contempt of court. Argentina appealed, but the Second Circuit upheld the injunctions, and on June 16, 2014, the U.S. Supreme Court rejected a review of the case.

Barred from making payments on the exchange bonds, Argentina defaulted once again on its sovereign debt shortly after. Less than two years later, Argentina reached a settlement with most of the holdouts, and the injunction preventing payments to the restructured bond holders was lifted. As a result of their victories in U.S. courts, most litigants ended up making significant returns on their debt holdings. Not all of Argentina's creditors, however, had the opportunity to litigate in the United States. While some of the defaulted bonds were issued under foreign law, others were governed by local Argentine law. U.S. courts had jurisdiction over the former because of Argentina's waiver of sovereign immunity in their covenants, which ultimately enhanced creditors' enforcement rights. In contrast, by giving Argentina a "home field"

advantage in any legal disputes associated with repayment, the contract terms of the domestic-law issues placed creditors in a relatively weaker bargaining position. This example illustrates the main issue that motivates our analysis –to the extent that sovereign immunity waivers and clauses calling for litigation abroad reduce expropriation risk, then bonds that are governed by foreign law should, *ceteris paribus*, trade at a premium compared to bonds issued under domestic law.

Despite the importance of contract terms, much political economy work on sovereign debt has overlooked this issue. Instead, most studies emphasize the role of economic and political risk factors in the sovereign state, and give little attention to the venue of bond litigation and its effects on bond pricing (e.g., Mosley 2003; Archer, Biglaiser, & DeRouen 2007; Beaulieu, Cox, & Saiegh 2012; Ballard-Rosa, Mosley & Wellhausen 2021). Recent research on the law and practice of capital markets has examined how contractual terms – including listing place, covenants, amendments clauses, currency of denomination, and governing law – affect sovereign debt markets (Becker et al. 2003; Richards & Gugiatti 2003; Eichengreen & Mody 2004; Gelpern 2008; Bardozzetti & Dottori 2014; Bradley, De Lira Salvatierra & Gulati 2016; Fang, Schumacher & Trebesch 2021; Chamon, Schumacher & Trebesch 2018; Clare & Schmidlin 2014; Nordvig 2015; Bradley, et al. 2018; Chari & Leary 2021; Weidemaier & Gulati 2021).

Evidence on the effect of legal clauses on pricing in sovereign debt markets, however, is still limited. First, most studies exploit cross-national, rather than within-country, variation in sovereign bond issues. As such, they face well-known problems posed by unobserved heterogeneity, confounders and measurement error bias. Second, the choice of governing law is unlikely to be random. For example, low-rated sovereigns may be more likely to relinquish legal

immunity and subject themselves to the authority of foreign courts that highly-rated sovereigns (Bradley, De Lira Salvatierra & Gulati 1996). Therefore, the choice of governing law can pose significant selection and endogeneity effects.

In this study, we leverage Argentina’s 2020 sovereign debt restructuring to examine the effects of legal jurisdiction on bond prices. As part of its debt exchange offer, Argentina issued pairs of identical bonds – sharing the same currency, maturity, coupon, and other features – but with different legal jurisdictions (i.e. domestic- versus foreign-law). The “twin bonds” sold at virtually the same price at issuance; but their price histories diverged markedly thereafter. We collect the daily prices of 5 pairs of “twin bonds” issued by the Argentine government for the period between September 15, 2020 (when the exchange was launched) and September 2022. The identification of the value of legal recourse comes from comparing the prices of identical bonds, issued by the same sovereign, but under a different jurisdiction.

Our analysis reveals that foreign-law bonds consistently traded at higher prices than their domestic-law counterparts. This finding suggests that relinquishing the “home field” advantage in legal disputes associated with repayment may help a sovereign lower its cost of acquiring capital. The evidence also shows that overseas/institutional investors tend to disproportionately hold foreign-law, rather than domestic-law bonds, suggesting that long-term investors are more likely to value legal protection than short-term speculators.

The findings in this paper contribute to political economy as well as the law and practice of capital markets research. It is of particular interest to the literature studying how the legal framework of sovereign debt affects bond pricing and default risk. We add to this body of work by comparing pairs of otherwise identical bonds that were issued in different jurisdictions, serving as the first study to estimate the value of legal recourse in sovereign debt markets. Using

this research design allows us to credibly identify the premium associated with foreign-law bonds, enabling a sovereign to lower its cost of capital. We also observe that long-term investors are more likely to favor the legal protection associated with foreign-law bonds. The results suggest that sovereign bond issuers have a choice of attracting overseas/institutional investors that shore up longer-term capital needs at lower cost, or issuing bonds that fuel interest from short-term speculators, increasing financial instability in the sovereign state.

The remainder of the paper is organized as follows. In the next section, we discuss the relationship between sovereign immunity and legal recourse. In Section 3, we introduce the context provided by Argentina's 2020 sovereign debt restructuring. We analyze the foreign-law premiums in the Argentine sovereign bond in Section 4. Next, we examine who values having legal recourse in sovereign lending risk pricing in Section 5. A final section concludes the paper.

2. Sovereign Immunity and Legal Recourse

The classic literature on sovereign debt identifies a “willingness to pay” as the main factor that distinguishes sovereign debt from ordinary debt owed by non-government entities. In the corporate world, debt contracts are enforced by the threat of liquidation in the event of default. In contrast, creditors have limited legal redress in the case of sovereign entities, as countries usually have few, if any, commercial assets outside of their own borders for creditors to attach. In addition, there are legal principles protecting debtor governments, such as the doctrine of “absolute” sovereign immunity, which states that a government cannot be sued in foreign courts. Therefore, one of the cornerstones of the sovereign debt literature is that sovereigns enjoy immunity from suit and from having assets seized to satisfy a creditor's judgment.¹

¹ See Eaton and Fernandez (1995) for a survey of this literature.

The rule of absolute immunity gradually changed after World War II, when developed countries started to adopt a more restrictive view on sovereign immunity. For example, according to the Foreign Sovereign Immunities Act (FSIA) of 1976, sovereigns can be sued for their commercial activities carried on in the United States. The issuance of bonds is a commercial activity; therefore, when sovereigns relinquish immunity and issue bonds under U.S. law, creditors can sue them in the United States courts. Countries, however, may only waive sovereign immunity with respect to commercial assets. Sovereign assets often continue to be immune from attachment by sovereign debt creditors.² In consequence, collecting sovereign assets is notoriously difficult, making judgments in foreign courts somewhat limited.

These restrictions on creditor litigation notwithstanding, sovereign bond contracts often contain detailed terms establishing how and where sovereign debt disputes should be resolved. In addition, evidence from Schumacher, Trebesch & Enderlein (2021) indicates that: (1) creditor lawsuits have become an increasingly common feature of sovereign debt markets; and (2) individual creditors have had some notable successes in obtaining and executing judgments against defaulted sovereigns. These findings imply that having legal recourse should be valuable to bond market participants.

2.1 Pricing the Foreign-Law Premium

To understand the importance of risk and legal recourse, consider two bonds with exactly the same cash flows, but issued in two different jurisdictions, foreign and domestic. For simplicity, suppose first that foreign-law bonds are never restructured. Then, an observed foreign-law

² For example, foreign assets held in a diplomatic capacity, such as military assets or an ambassador's residence, are always protected in the United States.

premium should reflect the probability of a selective default on domestic-law bonds. The main challenge in pricing this risk is to calculate the expected change in the domestic-law bond's cash flow associated with selective default.

But, how can we obtain a reasonable set of default probabilities? Modern finance has found an ingenious and practical way of dealing with this question. The two bonds can be priced in an *artificial* risk-neutral environment where the foreign-law premium is indirectly taken into account. The solution requires that the relevant probability distribution be a *market-determined* probability, rather than a *real-world* probability.

Let $y^d(T)$ be the yield on a T-year sovereign zero-coupon bond issued under domestic law, and $y^f(T)$ the yield on an identical T-year sovereign zero-coupon bond issued under foreign law. Then, the value of a T-year foreign-law bond with a principal of 100 should be $100e^{-y^f(T)T}$, while the value of a similar domestic-law bond should be $100e^{-y^d(T)T}$. Denote by $Q(T)$ the probability that the sovereign will default between time zero and time T. Assuming zero recovery upon default, then there is a probability $Q(T)$ that the domestic-law bond will be worth zero at maturity and a probability $1 - Q(T)$ that it will be worth 100. The value of the domestic-law bond for a risk-neutral investor would be:

$$\{Q(T) \cdot 0 + [1 - Q(T)] \cdot 100\} e^{-y^f(T)T} = 100 [1 - Q(T)] e^{-y^f(T)T}.$$

Recall that the yield domestic-law bond is $100e^{-y^d(T)T}$, therefore,

$$100e^{-y^d(T)T} = 100 [1 - Q(T)] e^{-y^f(T)T},$$

and the T-year survival probability is given by

$$S(T) = 1 - Q(T) = e^{-[y^d(T) - y^f(T)]T},$$

where $Q(T)$ is the risk-neutral probability of selective default, which can be inferred from the prices of the traded bonds.

Suppose now that, in the event of a selective default, the holder of a domestic-law bond receives a proportion R of its no-default value. If there is no selective default, then the bondholder receives 100. The bond's no-default value corresponds to the foreign-law bond, $100e^{-y^f(T)T}$, and the probability of default is $Q(T)$. Now, the risk-neutral value of the domestic-law bond should be

$$[1 - Q(T)]100e^{-y^f(T)T} + Q(T) 100 R e^{-y^f(T)T},$$

so that,

$$100e^{-y^d(T)T} = [1 - Q(T)]100e^{-y^f(T)T} + Q(T) 100 R e^{-y^f(T)T}.$$

So, now the implied probability of selective default in terms of yield and recovery rate is given by,

$$Q(T) = \frac{1 - e^{-[y^d(T) - y^f(T)]T}}{1 - R}.$$

Under these assumptions, the price difference between foreign-law domestic-law bonds with face value of 100 can be expressed as

$$P_F - P_D = Q(T)(1 - R).$$

As in Chamon, Schumacher & Trebesch (2018), suppose that foreign-law bonds are either never restructured, or are restructured under the same terms as domestic-law bonds (i.e. the recovery rate R will be the same for both types of bonds). Then, the observed foreign-law premium can be attributed to the probability of a selective default on domestic-law bonds.

Finally, we can now incorporate the overall country risk. Essentially, we relax the assumption that foreign-law bonds are never restructured. Suppose that the payment stream of the foreign-law bond is the same as that of a risk-free bond with probability p , and the same as

the domestic-law bond with probability $1-p$. As before, we do not know what these real-world probabilities look like. Yet, we can still price them in a risk-neutral environment. In this case, we need to consider the price differential between the risk-free bond and the domestic-law bond.

Then, the foreign-law premium could be simply expressed as

$$P_F - P_D = Q'(T) Q(T) (1 - R),$$

where $Q'(T)$ is the risk-neutral probability that both domestic and foreign-law bonds will be in default inferred from the difference between the yield of the domestic-law bond and the yield of a risk-free bond with their same characteristics.

3. Study Context: Argentina's 2020 Debt Restructuring

By the end of 2019, Argentina owed about US\$323 billion of federal sovereign debt to, among others, the IMF, the Paris Club, and private bondholders. On February 12, 2020, the Argentine Congress enacted Law No. 27,544 for the Restoration of the Sustainability of the Public Debt issued under Foreign Law, authorizing the Ministry of Economy to restructure the government's public debt; and on April 21, 2020, the government launched an invitation to restructure eight series of bonds issued under its 2005 indenture and 17 series of bonds issued under its 2016 indenture. The bonds targeted had maturities ranging from 10 months to 97 years, were denominated in three currencies, and totaled approximately US\$65.8 billion in aggregate principal amount.

In May of 2020, while pursuing their restructuring, Argentina defaulted again on the payment of its international sovereign bonds. This was its ninth default since the country's independence and third one since the year 2000. After months of tense negotiations, on

August 31 2020, the country's center-left Peronist government reached a deal with private creditors to restructure about \$65 billion in foreign debt. Under the agreement, creditors would receive new bonds in exchange for defaulted debt and unpaid interest. These new bonds started trading on September 7, 2020.

3.1 “Twin Bonds”

As Chamon, Schumacher & Trebesch (2018) note, one would ideally estimate the premium on foreign-law bonds by comparing two otherwise identical bonds that were issued in different jurisdictions – that is, “twin bonds” that share the same currency, maturity, coupon, and other features except that one was issued under domestic law while the other was issued under a foreign jurisdiction. Fortunately, such “twin bonds” were issued under the 2020 Argentine debt restructuring offer. Specifically, of the 20 bonds maturing between 2029 and 2041, half were governed by foreign law, while the other half were issued under domestic law. Table 1 details how each pair of bonds offered the same terms, and only differed in their governing law.

While domestic-law bonds (AL) are governed by the “Law of the Argentine Republic,” foreign-law bonds (GD) explicitly include a choice-of-law clause stipulating to the application of foreign law, a clause submitting to the jurisdiction of foreign courts, and a waiver of sovereign immunity. With respect to governing law, the contract contains the following stipulation:

“This Bond shall be governed by and construed in accordance with the laws of the State of New York without regard to principles of conflicts of laws, except with respect to authorization and execution by the Republic, which shall be governed by the laws of the Republic.”

Regarding the jurisdiction of foreign courts, the terms state that Argentina:

“... The Republic agrees that a final non-appealable judgment in any Related Proceeding... shall be conclusive and binding upon it and may be enforced in any

Specified Court or in any other courts to the jurisdiction of which the Republic is or may be subject (the “Other Courts”), by a suit upon such judgment.”

Finally, with regard to sovereign immunity, the bond contract stipulates that:

“ ... the Republic irrevocably waives such immunity to the fullest extent permitted by the laws of such jurisdiction, including the United States Foreign Sovereign Immunities Act of 1976 (the “Immunities Act”)”

Table 1. Bond Characteristics

Bond	Issue Date	Maturity	Law	Indenture	Amort. (Start)	Out. (USD Mill)
AL29	9/4/20	9/7/29	ARG	2016	10 (2025)	2,189
GD29	9/4/20	9/7/29	NY	2016	10 (2025)	2,635
AL30	9/4/20	9/7/30	ARG	2016	13 (2024)	13,101
GD30	9/4/20	9/7/30	NY	2016	13 (2024)	16,091
AL35	9/4/20	9/7/35	ARG	2016	10 (2031)	18,719
GD35	9/4/20	9/7/35	NY	2016	10 (2031)	20,502
AL38	9/4/20	9/1/38	ARG	2005	22 (2027)	7,196
GD38	9/4/20	9/1/38	NY	2005	22 (2027)	11,405
AL41	9/4/20	9/7/41	ARG	2005	28 (2028)	1,468
GD41	9/4/20	9/7/41	NY	2005	28 (2028)	10,482

These contractual provisions are intended to shield investors from the risk of legal instability, including the risk the sovereign will change its law to reduce its payment obligations. Therefore, we can examine the prices of the pairs of Argentine sovereign loans listed in Table 1 to gauge the value of having legal recourse to market participants.

4. Data and Analysis

We collected the prices of each of the bonds listed in Table 1 – quoted both in US Dollars as well as in Argentine pesos. The data frequency is daily, ranging from September 2020 until October 2022. Bond price data were obtained from *Refinitiv*, and are based on mid prices (average of bid

and ask) at market closing time.³ For each pair of bonds, we estimate the foreign law premium by comparing the observed price of the foreign-law bond to its corresponding domestic-law counterpart.

As an illustration, consider the bonds maturing in 2030 denominated in US Dollars. Figure 1 shows the evolution of their prices according to their governing law. The blue line corresponds to the prices of the foreign-law bonds, and the red line to the domestic law ones. It is clear from the graph the prices of the two bonds are in complete lockstep at issuance. A price gap emerges a few weeks later as shown by a vertical dashed line. From that point onwards, and despite having exactly the same characteristics except for their governing law, the two bonds trade at different prices. This price difference, as discussed above, can be interpreted as the foreign-law premium. In the case of these bonds, it ranged from a minimum of USD -1.08 per USD100 in nominal value on their first trading day (September 15, 2020) to a maximum of USD 4.85 per USD100 in nominal value on November 26, 2011. Overall, it is clear from Figure 1 that investors are willing to pay more on debt issued under a foreign than local legal system.

We can further examine the foreign-law premium for all the pairs of twin bonds. Keep in mind, though, that one should only draw inferences from comparisons within “twin” issues, rather than across the different bond types. Figure 2 presents the average foreign-law premium for five different Argentine bonds denominated in US Dollars and maturing between 2019 and 2041 based on daily data for the period between September 2020 and October 2022. Median foreign-law premia in each type of bond are indicated by the horizontal line inside each box. Line-ends give minimum and maximum; box-edges give 25th and 75th percentiles

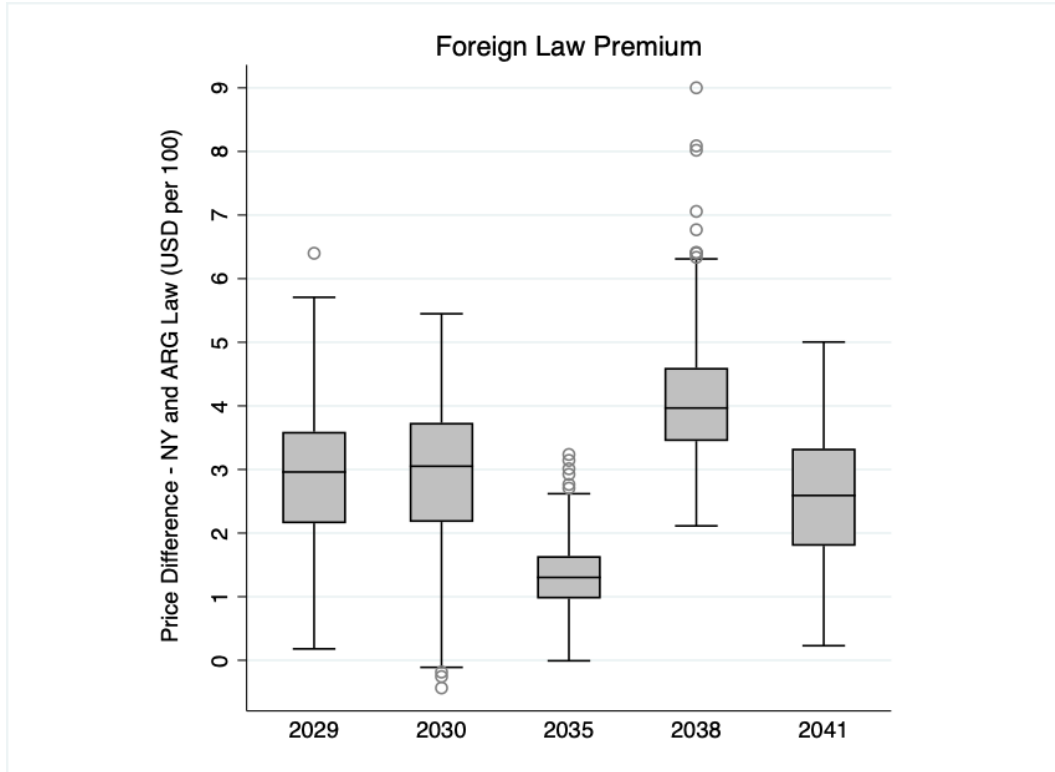
³ <https://www.refinitiv.com/>

Figure 1



We see that, regardless of the bond characteristics, the price differential between foreign- and domestic-law bonds is positive, and statistically distinguishable from zero. This finding indicates that the average yield on the foreign-law bonds are systematically lower than the yields on the domestic-law bonds. North and Weingast's (1989) seminal work sparked a debate over whether institutional constraints help make sovereign debt more credible. Unconstrained sovereigns can unilaterally reschedule debts; so debt-holders' rights should be more secure when the executive is constrained. As Bradley, De Lira Salvatierra & Gulati (2016) note, one way for a sovereign to assure investors that the debt terms will be honored is to have a third-party control the terms of a loan agreement; i.e., to have the contract governed by foreign law. Based on the evidence in Figure 2, we can conclude that relinquishing the "home field" advantage in any legal disputes associated with repayment can lower the cost of capital for the issuing sovereign.

Figure 2



4.1 Threats to Inference

Previous studies have shown the existence of a foreign-law premium in sovereign lending (cf. Bradley, De Lira Salvatierra & Gulati 2016; Chamon, Schumacher & Trebesch 2018). However, the cross-sectional design used in prior work does not fully account for country effects, different political and economic conditions, etc. Although we believe that our analysis, based on a comparison of pairs loans with comparable contractual terms, produces a clearer identification of the effect of legal recourse on bond prices, we still need to make sure that no unaccounted confounders are driving our results.

Consider the price impact of a country's choice of exchange on which to list its sovereign bonds. As de Fontenay, Meyer, Gulati (2019) note, according to the *bonding hypothesis*,

complying with the listing standards set by a reputable exchange can send a credible signal to the market of an issuer's creditworthiness. This argument implies that, all else being equal, listing on one of the major global exchanges should lower the yield on sovereign's foreign bonds. In the case of the Argentine debt issued under the 2020 sovereign restructuring, the domestic-law bonds were listed in a local exchange (the Bolsa y Mercados Argentinos S.A. - BYMA), whereas the foreign-law bonds were listed in both the BYMA as well as a foreign exchange (the Luxembourg Stock Exchange). Therefore, we cannot empirically isolate the effect of listing itself from our recovered foreign-law premium.

Nonetheless, in their analysis of the bonding' hypothesis, de Fontenay, Meyer, Gulati (2019) show that which exchange a sovereign chooses to list its bonds makes little difference to its yield. Instead, their findings suggest that sovereigns list solely to satisfy possible investor requirements for listed securities, and thus gravitate toward the international exchanges that offer the cheapest, fastest, and least burdensome listing process.

This seems to be the case with Argentine bonds under analysis in this study. By choosing the Luxembourg Stock Exchange and having the new bonds admitted for trading on the Euro MTF Market, rather than the EU-regulated Bourse de Luxembourg (BdL), Argentina faced less, rather than more, stringent requirements for financial reporting.⁴ According to de Fontenay, Meyer, Gulati (2019), a country's decision to list its bonds in permissive jurisdictions such as Luxembourg, should add very little value to sovereign-debt issuances. This view is also borne out in the Argentine case. As Figure 1 shows, the listing jurisdiction did not affect the price of

⁴ Non-European sovereigns and corporate issuers whose shares are listed on an EU Regulated Market or equivalent are granted an exemption from the formal approval of their prospectus by LuxSE for admissions on the Euro MTF (FastLane admission process). For more details, see <https://www.bourse.lu/listing/luxse-market-or-euro-mtf>

the USD-denominated bonds maturing in 2030 at issuance. Neither did it for all other bonds issued as a result of the 2020 debt rescheduling agreement. Therefore, we can confidently conclude that the exchange listing does not affect our interpretation of the foreign-law premium as the value of legal recourse to investors.

An alternative explanation for the price difference between “twin bonds” is market liquidity risk. In this context, liquidity refers to the ease at which a bond could be converted into cash without negatively affecting its market price. Suppose that domestic-law bonds are relatively illiquid compared to their former-law counterparts. Then, the former should carry a *liquidity premium*, an additional compensation in the form of higher yields (i.e., lower prices) to encourage investors to carry an asset that cannot be easily and efficiently converted into cash at fair market value. If this were the case with the Argentine bonds studied here, then, these liquidity costs could be confounding the uncovered foreign-law premium. An examination of bid-ask spreads and trading volumes, however, indicates that for all bonds issued under the 2020 Argentine rescheduling agreement, irrespective of their maturity and currency denomination, the market for domestic-law bonds is as liquid as it is for foreign-law bonds. Argentina has a host of capital controls aimed at influencing the foreign exchange market, curbing the outflows of dollars, and conferring policy autonomy to the authorities. To overcome these restrictions, investors use Argentine securities priced in US dollars in the United States and pesos in Argentina to move currency between markets. These trading positions are typically held for short periods of time – where concerns about how litigation abroad may reduce expropriation risk are rarely important – thereby positively impacting the market value and liquidity of domestic-law bonds. We can thus conclude that, if anything, the existence of a liquidity premium probably understates, rather than overstates, the effect of legal recourse on foreign-law bond prices.

The Argentine central bank's involvement in the bond market with the purpose to close the gap between parallel and official exchange rate might also raise concerns regarding our interpretation of the foreign-law premium. Specifically, by selling large quantities of domestic-law bonds in pesos and then buying their dollar denominated counterparts, the monetary authority could tinker with the implicit exchange rate derived from operations with assets that trade in pesos and dollars. For example, by selling enough domestic-law bonds to lower their price from 6,500 to 6,400 pesos, and buying them back at a price of 36, rather than 35, dollars, the resulting implicit exchange rate would be approximately 178 pesos per dollar instead of 186 pesos per dollar -- a 4.3 percentage points decrease. An important implication of this financial operation is that the prices of the domestic-law bonds may deviate from intrinsic values, obfuscating their relationship between them and their foreign-law counterparts. Continuing with the same example, suppose that the price of the foreign-law bond stands at 37 dollars, then by raising the price of the, otherwise identical, domestic-law bond to 36 (instead of 35) dollars, the foreign-law premium would decrease by 100 percent, even though neither the fundamentals nor the expropriation risk have radically changed.

However, two reasons lessen concerns about the Argentine central bank's involvement. First, as long as the Argentine central bank interventions are restricted to the domestic-law bond market, the price distortions will likely produce a downward, rather than an upward, bias on our estimated effect of legal recourse on sovereign law bond prices. Second, and in contrast to the old adage that "the market can remain irrational longer than you can remain solvent," the Argentine authorities lacked the fire power to make the domestic-law bonds deviate from their intrinsic values for long periods of time. According to our calculations, these price distortions were mostly restricted to the domestic-law bonds maturing in 2030, and only lasted for an eight-

week period around the 2021 legislative elections in Argentina. Excluding these observations from our analyses yields almost identical results with regard to the estimated foreign-law premium. Thus, we can also rule out these price distortions as a threat to inference.

5. Who values legal protection?

The empirical evidence reveals that Argentina's foreign-law bonds consistently trade at higher prices than their domestic-law twins. A natural question to ask then is: why are some investors willing to pay a premium to hedge against selective default while others are more risk-prone? Fully addressing this question would require us to document the identity of every bondholder, which is an impossible task. Nonetheless, for each issue, we can establish how much of the debt is held by overseas financial firms (for example PIMCO, BlackRock, Fidelity (United States); UBS Asset Management (Switzerland); and Moneda SA Administradora de Fondos de Inversión (Chile)). Using this information and theory as our guide, we can make some educated inferences regarding who values legal protection and who does not.

Consider first the difference between trading versus investing. As Webb (1994) notes, investors tend to make decisions based on the perceived underlying value of a security or asset in the belief that the price will eventually converge to true value. In contrast, traders are primarily interested in anticipating short-term changes in price independent of the underlying value. Based on this characterization, we can make the first distinction between holders of foreign-law and domestic-law bonds. The former group should be composed of long-term investors, who hold a "buy-and-hold" strategy, while the latter most likely consists of short-term speculators.

The group holding foreign-law bonds may thus include both *institutional* investors (such as pension funds, mutual funds, endowments) as well as retail and individual investors whose

primary goal is to obtain the steady rents provided by coupon/principal payments. Constancy of income, rather than capital gain, is the number one priority of long-term investors. In contrast, short-term traders exploit the liquidity of the bond market for speculative purposes. Their simplest strategy is to lock-in profits in the form of capital gains on their investments. But other, more sophisticated strategies such as the exchange-rate arbitrage discussed above might also attract these traders. Either way, the short-term nature of these strategies implies that they would not be interested in paying a legal protection premium.

Another potential difference between investors who are willing/unwilling to pay for legal recourse involves their country of origin. The theoretical guidance here, however, is less clear. On the one hand, we might expect that by holding less information about the local conditions that could lead to a selective default, they may end-up overestimating the risks and buying the most expensive (i.e. foreign-law) bonds. On the other hand, the opposite argument is plausible. Simply put, by being ignorant of how risky an Argentine domestic-law bond is, foreign investors are comparatively more likely to buy them than well-informed locals, who would use their knowledge to hedge a selective default by buying foreign-law bonds.

Figure 3 shows a detailed breakdown of the overseas financial investments in Argentina's sovereign debt instruments issued in the 2020 rescheduling agreement. The left panel displays the number of overseas funds/portfolios who have holdings on a particular bond. So, for example, only 81 of the funds/portfolios include the dollar-denominated domestic-law bond maturing in 2030; but its twin bond, the dollar-denominated foreign-law bond maturing in 2030 is held by 626 of the funds/portfolios. In terms of the amount of debt held by these investors, the contrast is also stark. Consider again the bonds maturing in 2030. Of the USD 13,581,299,590 the Argentine government borrowed under domestic law, only USD 748,793,000 – or, 5.51 per

cent, is held by overseas funds/portfolios. In contrast, these investors hold approximately one-third (31.25 per cent) of the USD 16,090,612,053 in outstanding debt corresponding to its foreign-law counterpart. All the other bonds show a very similar pattern.

Figure 3 gives us a “snapshot” of who values legal protection. It is clear from both graphs that foreign investors are willing to pay a legal premium when holding Argentine debt. This premium means that these investors are willing to pay more to hold the same amount of bonds in nominal value in order to have legal recourse in case Argentina defaults on its debts. The value of legal protection, however, should not be static. Instead, one could argue that holding foreign-law bonds will be more valuable when litigating against a sovereign in a foreign court becomes more likely. If this is the case, then one should observe changes in investors’ holdings. In addition, as long as foreign-law bonds are also more suitable for holdout strategies, distressed debt investors should enter the market and push up foreign-law bonds’ prices whenever a sovereign shows signs of financial distress.

Figure 3. Foreign Investors’ Debt Holdings by Bond Issues

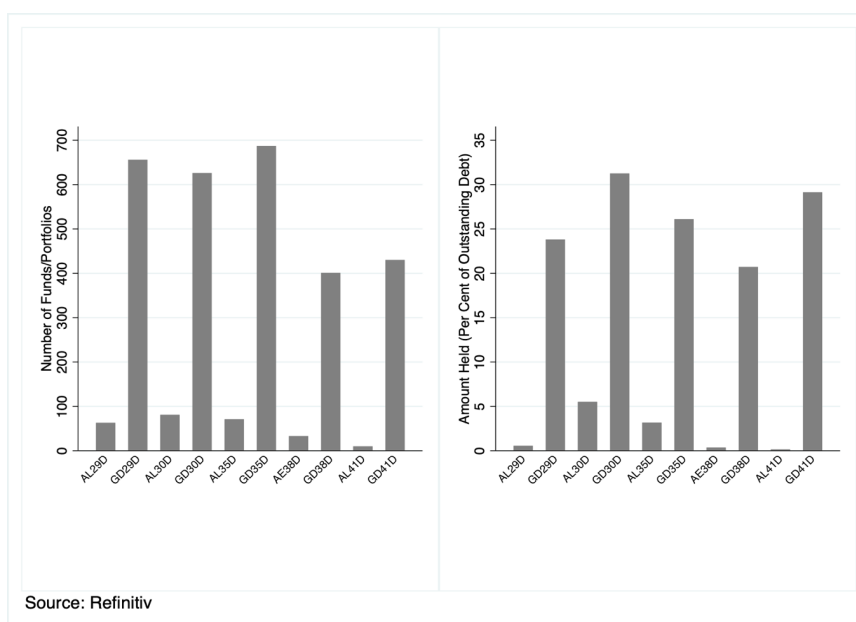
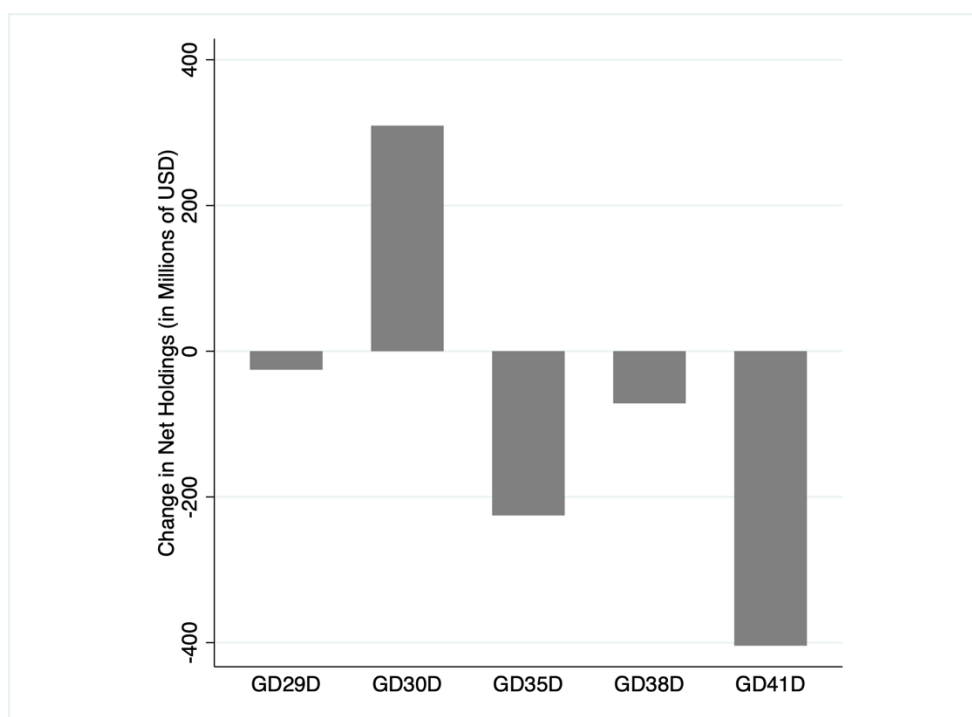


Figure 4 shows the total net changes of overseas investors' holdings by debt instrument. For most of these funds/portfolios, the figures correspond to the financial disclosures filed in mid-2022. The graph reveals that foreign investors have been unwinding their positions in the foreign-law bonds with longer maturities in favor of the foreign-law bonds maturing in 2030. This behavior is consistent with the view that Argentina is bound to reschedule its debts sooner rather than later. In consequence, it pays off to pay for legal protection that covers the short, rather than the long, end of the yield curve.

Figure 4. Total Net Change in Foreign Investors' Debt Holdings

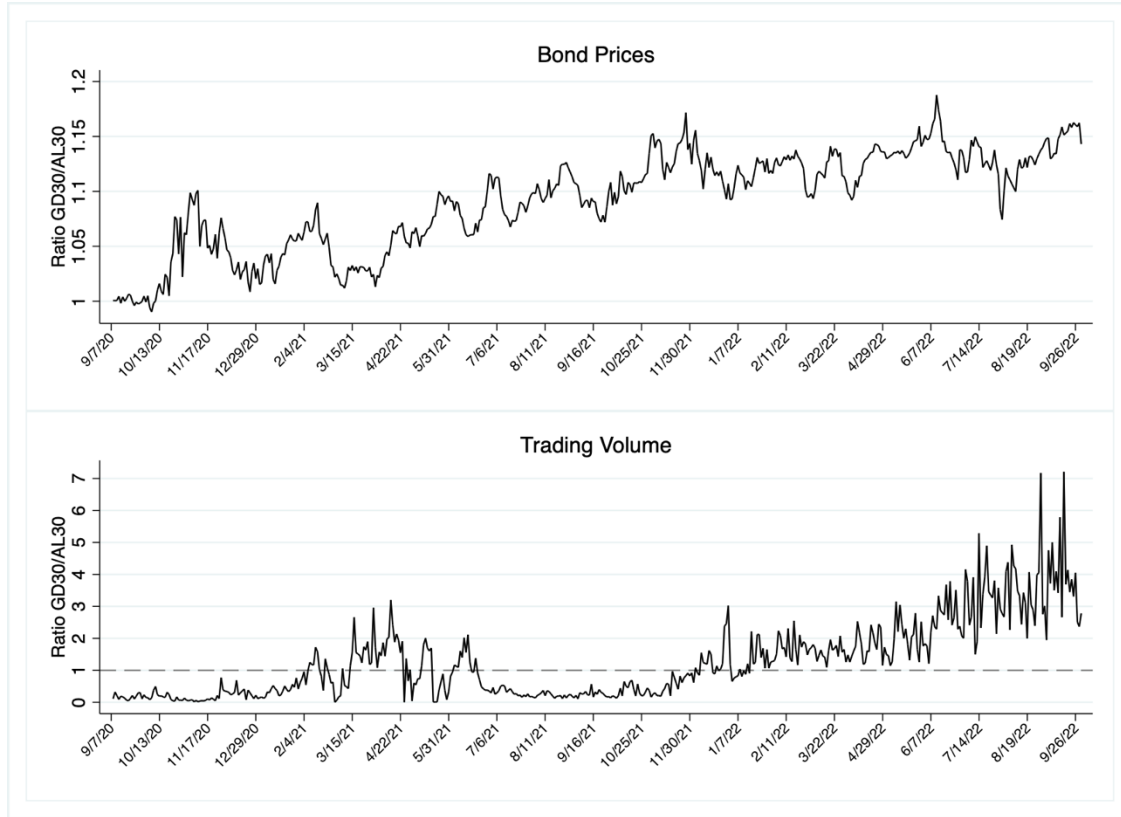


The evidence in Figure 4, however, does not speak to the issue of “new entrants” in the form of distressed funds into the Argentine bond market. Unfortunately the data on the amount of debt held by overseas financial firms does not allow us to examine this issue directly. But we can address it in an indirect fashion. As Figure 4 shows, most of the money is flocking into the

foreign-law bonds maturing in 2030. We can thus examine its trends with regard to prices as well as volume. Specifically, we can consider the ratio of foreign-law bond prices/volume to those of its domestic-law counterparts. An uptrend in the price ratio paired with increasing rates in terms of volume implies that investor enthusiasm for that asset is strong, which could lead to more buying and even higher prices.

The top panel of Figure 5 shows the ratio between the prices of the foreign-law and domestic-law Argentine bonds maturing in 2030. We calculated this ratio using the prices denominated in local currency to avoid the problems associated with the central bank's interventions discussed above. The evidence indicates that the foreign law premium has become increasingly larger over time. While the foreign-law bonds were, on average, only 3 per cent more expensive than the domestic-law bonds in 2020, their prices were approximately 13 per cent higher in 2022. The ratio of the trading volume between the two types of bonds is shown in the bottom panel of Figure 5. The graph shows that both the price and volume lines are both increasing. These trends are visibly clear after the midterm elections that were held in November of 2021. After that date, both the relative price of the foreign-law bonds as well as their trading volume exhibited a significant increase suggesting that trader enthusiasm to hedge against a selective default through legal recourse and/or the desire to profit from foreign litigation has become increasingly strong.

Figure 5. Relative Prices/Volume of Argentine Foreign-Law Bonds maturing in 2030



6. Conclusion

Sovereign bonds serve as an important capital source in developing countries, who are generally capital scarce and need funds to promote economic growth and development. Unlike developed countries, less developed ones are typically less transparent about their finances and more susceptible to economic challenges. Such concerns pose a greater threat of debt non-repayment, which affects risk premiums on sovereign bonds.

Based on the unpredictable investment climate in developing countries, political economy scholarship has extensively studied sovereign bond pricing and default risk. While much of the sovereign bond determinants research highlights economic and political risk factors, the existing literature often fails to address the effects of legal jurisdictions on issued bonds. Amongst the studies that consider legal jurisdiction issues as a bond pricing determinant, nearly

all employ cross-national, rather than within-country, variation in sovereign bond issues, eliciting possible selection and endogeneity problems.

This study investigates legal jurisdictions of bonds and their effects on pricing, default risk, and bondholder interest based on Argentina's 2020 debt restructuring. As part of its exchange offer, the country issued 20 "twin bonds" maturing between 2029 and 2041, with half governed by domestic law and the other half under foreign-law jurisdiction. Our findings indicate that foreign-law bonds consistently traded at higher prices than domestic-law bonds, suggesting a means for sovereign states to acquire lower capital costs. Additionally, the empirical evidence reveals that overseas/institutional investors primarily held foreign-law bonds, as they tended to follow longer-term investment patterns and were more likely to value the protection associated with safer legal jurisdictions relative to short-term speculators.

We recognize some limitations of our work. First, our study compares foreign-law and domestic-law bonds based solely on the Argentine case. As with any analysis based on micro-evidence, there are legitimate issues related to the findings' external validity. Therefore, both scholars and practitioners should exercise caution and do not naively extrapolate the results in this paper to other sovereign borrowers.

Second, we cannot know for certain why some investors are more willing than others to pay a premium to hedge against selective default as we do not know the identity of every bondholder and cannot ascribe their individual preferences. Nonetheless, for each bond issue we are able to determine how much debt is held by overseas financial firms, allowing us to make educated inferences about who values legal protection.

This work provides opportunities for future research projects. Scholars might want to investigate if there are other countries that have issued identical bonds but with different legal

jurisdictions to see if the results presented here hold up or if there are other relevant factors to explain bond pricing. Additionally, although we have focused on legal jurisdictions, scholars may wish to consider alternative factors such as differences in covenants, amendment clauses, and currency of denomination and how bonds that are similar in all other ways may impact sovereign bond prices. Further, future research might compare similar bonds from the same country but issued at different time periods to determine if there are other factors that also affect bond pricing and default.

In sum, developing countries in particular have struggled with sovereign debt repayment, and Argentina is sadly the poster child for default over the past twenty years. In fact, Argentina has struggled financially for decades, experiencing boom and bust cycles and economic instability. Our findings suggest that Argentina might be better off issuing sovereign bonds with foreign legal jurisdictions, as they are more likely to attract longer-term overseas/institutional investors at lower capital costs, while potentially lessening interest from short-term speculators. Although Argentina would still need to find government budgetary strategies to insure bond debt repayment, attracting longer term capital at lower cost may offer part of the answer for Argentina securing greater financial stability, something it has lacked for all too long.

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