Bankruptcy Costs and the Implications of the Trust Indenture Act of 1939: An Illustration from Sovereign Collective Action Clauses*

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Abstract

Out of court restructuring is limited by the Trust Indenture Act of 1939. If a firm wants to modify any core concept of a security it requires unanimity agreement of all bond holders. This represents a cost for firms in workout. Recent developments in sovereign debt practice involved the adoption of collective action clause (CACs) in debt contracts. We study price differentials for sovereign bonds that include CACs and those that do not include them. By studding sovereign bonds, we recover the implications of the unanimity requirement that the Trust Indenture Act of 1939 imposes on firms. There appears to be no significant effect of first generation CACs on bond yields. The inclusion of second generation Super-CACs, seems to increase yields. These illustrates that reducing the costs of bankruptcy is possible. However, tilting the balance in favor of borrowers too much could in fact translate into higher borrowing costs.

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1 Introduction

A debt contract is a non-contingent claim in which the borrower promises the creditor a payment stream in the future. However, firms regularly find themselves in distress. For this reason, the efficiency of the environment in dealing with financial distress affects the availability of credit. For example, La Porta et al. (1998) and others show that creditor (investor) protection affects the supply of credit and economic growth.

There is an empirical challenge in measuring the costs of financial distress for the firm. First, there must be a distinction between economic distress and financial distress. For example, a firm could be in financial distress because of too much debt, or it could be that the financial distress reflects economic stress. Distinguishing empirically between financial and economic distress is difficult. An important question to ask is if financial distress, and not only economic distress, is costly? That is, does financial distress affect firm policies such as investment and innovation.

Broadly speaking one can spilt the cost of financial distress into two categories: direct and indirect costs. The more obvious direct costs involve legal fees, trustee fees, professional service fees, etc. Most of these costs occur on bankruptcy. For example, United Airlines paid over three hundred and fifty million to lawyers, accountants, and consultants after filing for Chapter 11 bankruptcy on December 2002. Enron payed over one billion dollars after filing for bankruptcy on December 2001. Indirect costs of financial distress refer to those that occurs not necessarily in bankruptcy. For example, when the value of business is lost because of the presence of debt or de inability of a firm to acquire a new loan.

The environment were distressed firms seek to restructure outstanding bonds is mostly legal. In the United States, there are three procedures for resolving financial distress. From the point of view of the firm the least aggressive is out of court restructuring, often called workouts. These are the objective of this paper. There is also Chapter 11 bankruptcy where the firm and its creditors try to reach an agreement under structured bargaining. And Finally, there is Chapter 7 bankruptcy, which involves the firm's liquidation.

Out of court restructuring is limited by the Trust Indenture Act of 1939. This Act emanated as a response to abusive practices by borrowers in the context of the Great Depression. It was the view that when a firm faced financial distress bond investors were exposed to high risk and frequently were treated unfairly. Thus, the Trust Indenture Act was implemented for the protection of bond investors. It imposes stringent conditions for an out of court restructuring. When a firm is in financial distress, and wants to avoid a bankruptcy it must bargain with its creditors in order to restructure their liabilities. When the number of credi-

tors is small this negotiation can be easy to implement. However, most firms' loans take the form of publicly issued bonds. This is debt issued by firms that are bought by a disperse number of investors. Under United States law, if a firm wants to modify any core concept of a security it requires unanimity agreement of all bond holders in accordance with section 316(b) of the Trust Indenture Act of 1939. Thus, debt restructuring takes place in a complex legal environment. The unanimity requirement makes it almost impossible to modify core concepts in the indenture. This potential involves avoidable costs for both the firm and its creditors.

Sovereign debt is exempt from the Trust Indenture Act, however securities issued by countries in the United States mirror corporate tradition. To that instance, unanimity was a binding requirement until recently. In 2001 Argentina defaulted on its creditors of external debt. The unanimity requirement made the restructuring process lengthy and painful to all the parties involved. In the aftermath of Argentina's default there was ample debate on how to address the complex process of sovereign debt restructuring. The discussion revolved around two ideas. The International Monetary Fund (IMF) proposed a framework to mimic corporate bankruptcy practice. The second idea was to take a contract-based approach. It promoted the inclusion of collective action clauses (CACs) in debt contracts. The SDRM proposal was rejected and the CAC initiative ended up being adopted. In 2003 Mexico issued the first sovereign bond under New York Law with a CAC.

We study price differentials for sovereign bonds that include CACs and those that do not include them. In particular, we look at sovereign debt of a group of emerging market economies. This group is of interest as these countries issue securities under New York law, making their claims similar to those issued by firms in the United States. By studding sovereign bonds, we intend to recover the implications of the unanimity requirement that the Trust Indenture Act of 1939 imposes on firms. Moreover, sovereign debt is not significantly different from corporate debt. Countries, just like firms, search for potential investors to sell their bonds to (see Figure 1a). Furthermore, countries also face financial distress and often default on their debt[1] (see Figure 1b).

We find two important results. First there appears to be no significant effect of first generation collective action clauses on bond yields trading in the secondary market. This sheds light on the implications of the Trust Indenture Act on firms. If the costs, both direct and indirect, of filing for bankruptcy are high, both creditors and firms would support the possibility of an orderly out of court restructuring mechanism. This mechanism could be

[1]See Das et al. (2012) for a survey on sovereign default.

Figure 1: Sovereign Debt Example

(a) Search for Investors

Source: Unknown, taken from the internet.

(b) Sovereign Default

Puerto Rico faces worse debt crisis than Argentina

The island has not learnt from past international restructurings, says John Dizard

© AP

Nobody should go hungry in America. Anyone can get the free food that is distributed from US Department of Agriculture surplus stocks, including the notorious orange government cheese, packed with calories, fat, sodium and protein. It is not something most would buy with their own money. The term has become a synecdoche for the low quality of life offered to dependants of the state in the US.

Source: Associated Press.

accomplished by allowing firms to include collective action clauses into their debt contracts. Second, the inclusion of second generation collective action clause, Super-CACs, seems to increase bond yields in the secondary market.

These results are novel and striking. It suggests that creditors found collective action clauses attractive. This translated into a negative, although not statistically significant, effect on bond yields. However, handing too much bargaining power to the borrower appears to be priced by creditors. This illustrates the delicate balance that any regulation on firm bankruptcy must consider. Reducing the costs of bankruptcy associated with the Trust Indenture Act of 1939 is attractive. However, tilting the balance in favor of borrowers to much could in fact be translated into higher borrowing costs.

1.1 Layout

The remainder of the paper is organized as follows. Section 2 reviews the literature. Section 3 reviews the framework for firm bankruptcy and the Trust Indenture Act of 1939. This section also describes the holdout problem associated with debt renegotiation. Section 4 looks into the adoption of collective action clauses by sovereign debt issuers. Section 5 outlines the empirical strategy for the exercise carried out in this paper. Section 6 presents the estimation results. Section 7 concludes.

2 Literature Review

There is a longstanding literature on the effect of collective action clauses in bond contracts. Díaz de León (2016) provides a historical account of the contractual innovation that lead Mexico to include collective action clauses in their sovereign bond issuances. Moreover, he provides a detailed account of recent changes into collective action clauses, namely the *super-CACs* or second generation CACs. Coffee and Klein (1991) study the use of exit consents to cohere creditors to accept exchange offers. A collective action clause provides a contractual agreement that is market friendly and avoids the use of such instances.

There are some empirical papers in the literature that consider the effects of including CACs in sovereign bond contracts. Most of them find no evidence that the presence of this contractual provision leads to an increase in bond yields. As opposed to the New York law tradition, bonds issued under English law have traditionally included CACs. These studies look into pricing differentials between English law issued bonds and bonds issued under US law.

Becker et al. (2003) examine price differentials in the secondary market and find no price effect from including CACs. Eichengreen and Mody (2004) consider the primary market. In the aggregate, they find no price differentials for bonds issued under English law relative to similar bonds those issued under US law. They do however find a higher yield for low rating bonds. Armella (2017) proposes a dynamic quantitative model consistent with this observation. In his paper a lower rating is associated with a higher probability of default. Highly distressed assets attract holdout type creditors. It is only after this type of creditors are attracted to buy sovereign debt that a price differential is observed. Causality is difficult to identify as the decision of whether to issue under US or English law is clearly endogenous. Moreover, countries that issue under US law are traditionally different from those that issue under English law. Lastly, there is no reason to believe that investors behave the same way in the US bond market than in the UK bond market. English and US law differ in more than the inclusion of CACs in contracts. For example, the legal environment in dealing with financial distress might affect the availability of credit. In their seminal paper, La Porta et al. (1998) show that credit protection affect economic outcomes. However, these exercises provide interesting insights. Perhaps on better grounds, Richards and Gugiatti (2003) study issuance of sovereign debt bonds with CACs in the US market. The analysis is done with data up to June 2003. This provides with only a four month period[2] to observe price differentials between bonds with and without CACs. The authors find no evidence of CACs having any

[2]The first issuance of sovereign bonds with CACs was made by Mexico in February 2003.

impact on bond prices.

In a recent paper, Carletti et al. (2016a) consider price differentials in Venezuela's sovereign debt. The authors find price differentials between bonds with and without CACs. Non-CAC bonds trade at a lower yield relative to bonds with CACs. However, the authors attribute the yield differential to a modification in the *pari passu* clause, and not to the collective action provision. The reasoning for the above is that no price differential is observed between bonds with different aggregation thresholds (e.g. 85 and 75 percent). However, this is at odds with the fact that there seems to be no price differential for Mexican sovereign bonds. As in Venezuela's bonds, Mexico also included a modified *pari passu* clause in response to the litigation strategy followed by holdouts of the Argentine debt. The same authors (Carletti et al., 2016b) also look into price differentials in domestic law bonds of European countries. Albeit the information used is questionable[3] they find the opposite effect. Sovereign bonds with CACs seem to trade at a lower yield. The effect is larger in countries with a stronger investor protection legal environment.

This paper is novel as it is the first, to the best of my knowledge, to empirically consider the effect of second generation CACs or *Super-CACs*. Moreover, the focus of this paper is into the potential benefit of allowing for out of court restructuring for firms. A practice that is now impossible due to the Trust Indenture Act. Relative to previous papers, we focus on issuances by emerging market economies only in the United States. In particular, under the New York Law and an indenture structure. The exercise is similar to the one in Carletti et al. (2016a). However, they look into the consequences for European creditors that traditionally issue under local European law. In that regard, it is similar to Richards and Gugiatti (2003). However, we know have the benefit of observing a considerable larger number of issuances that incorporate CACs.

3 Firm Workouts and The Trust Indenture Act of 1939

In the United States, there are three procedures a firm can follow for resolving financial distress: *i)* out of court restructuring; *ii*) Chapter 11 bankruptcy; and *iii)* Chapter 7 bankruptcy. Chapter 7 and Chapter 11 refer to in-court procedures. Chapter 11 protects a firm from its creditors for a limited time and allows a company in financial distress to reorganize. The Chapter 11 procedure consists of a structured bargain between the firm and

[3]The authors use Bloomberg's Collective Action Clause flag as an identifier for the presence of CACs. This is incorrect. Bloomberg's flag refers not only to aggregation in payment modifications.

its creditors. If a successful agreement is reached, the firm is able to exit bankruptcy and continue its operations. This contrasts with Chapter 7. Under this procedure, a firm seeks to liquidate its assets and will cease to exist.

Out of court restructuring occurs when a firm and its creditors agree to renegotiate the firm's liabilities without entering a bankruptcy procedure, namely Chapter 11 or Chapter 7. This procedure, often referred to as *workout*, is the object of study in this paper.

3.1 The Trust Indenture Act

When a firm is in financial distress, and wants to avoid a bankruptcy it must bargain with its creditors in order to restructure their liabilities. When the number of creditors is small this negotiation can be easy to implement. However, most firms' loans take the form of publicly issued bonds. This is debt issued by firms that are bought by a disperse number of investors. Under United States law, if a firm wants to modify any core concept of a security it requires unanimity agreement of all bond holders.

Requiring unanimous agreement dates to the Trust Indenture Act of 1939. In section 316(b) of the Act it reads that "*Notwithstanding any other provision of the indenture to be qualified, the right of any holder of any indenture security to receive payment of the principal of and interest on such indenture security, on or after the respective due dates expressed in such indenture security, or to institute suit for the enforcement of any such payment on or after such respective dates, shall not be impaired or affected without the consent of such holder...*".

Thus, debt restructuring takes place in a complex legal environment. The unanimity requirement makes it almost impossible to modify core concepts in the indenture (see Section 3.2). Especially if bonds are diffusely held. Thus, this requirement may preclude a firm and the majority of its creditors to reach an agreement on restructuring the firm's debt position.

For the above-mentioned reasons, out of court restructuring takes the form of an exchange offer. In this procedure, the firm offers bondholders a new security in exchange for the old one, and sets a date in the future for the exchange to take place. Creditors then decide whether to tender before the deadline or not. If they tender, they receive the new security with lower face value, longer maturity or a combination of these in exchange for the old debenture. If they instead decide not to tender they get to keep their original claim.

3.2 The Holdout Problem

There are some interesting features that arise from this exchange mechanism. First, consider a firm in distress and who's debt is diffusely held. For simplicity consider that the only security available is a one period zero coupon bond. The firm proposes an exchange that if accepted by a large majority of creditors will allow him to exit default. Thus, the exchange offer consists of tacking a haircut on the previous debt. The coordination problem arises if not enough creditors tender. If this is the case, then a creditor facing the decision of whether to tender or not faces the following outcomes. If he tenders, then his claim gets diluted and the firm is still in default. If he does not tender, then he gets to keep his original claim.[4] Clearly, the creditor prefers (weakly) no to tender. To avoid the coordination problem, firms have used conditional exchange offers. In this type of procedures, the firm conditions the exchange to having a minimum of creditors tender before the deadline. Otherwise the exchange offer does not go through. In practice this minimum has been set between 60 and 90 percent, 75 percent being very common.

Now consider a scenario like the one described above. This time, a majority of creditors tender so that the firm is assured to exit default. A creditor in this situation has to compare the expected payoffs of tendering *vis-à-vis* rejecting the offer. If the creditor accepts the exchange, then the face value of his claim decreases. If he does not tender, then he gets to keep his original claim. As a large majority of creditors agreed to the exchange, the firm is able to exit default and repay all creditors' claims.[5] Clearly, the creditor in question prefers to holdout of the exchange. Hence this issue is referred to as the holdout problem. This problem illustrates the complexity of renegotiating debt obligations when bondholders are a diffuse group of investors and forms the basis of our analysis.

A more formal exposition of the holdout problem is done by Gertner and Scharfstein

[4] In fact, if someone else did tender then his claim is worth more.

[5] This can be illustrated with the following game from Law literature on tender offers (see for example Coffee and Klein (1991)). Payoffs are for the creditor with $\nu < 1 - h < 1$. The creditor is confronted with the decision to tender or not to tender given that a sufficient majority of other creditors has tendered (not tendered) and thus the exchange will (will not) go through and the firm will (will not) exit distress). The h represents a haircut on a debt with face value 1. Finally, ν represents the recovery value if the country is not able to exit default because the exchange does not go through.

		Creditor	
		Tender	Not Tender
Sufficient Others	Tender	$1-h$	1
	Not Tender	ν	ν

With these payoffs it is a weakly dominant strategy for the creditor not to tender.

(1991). In their setting, a firm with short and long term debt is under financial distress and seeks to restructure its liabilities. Creditors choose between liquidation or renegotiation, where they accept the exchange offer. Renegotiation offers a positive net present value return. For each dollar of the old debenture, B, if the bond holder tenders his expected payment at $t = 2$ is $\frac{Y_1}{B'}$ where Y_1 is the amount of resources that the firm has available at $t = 1$. This corresponds to the liquidation value of the firm at this period. B' corresponds to the stock of debt after renegotiation. If the creditor does not tender, then his claims are not diluted and his expected payoff is higher. Thus they find that it is better for a creditor to holdout. If you do not accept the exchange, you get paid 100 cents on the dollar of the debt that is due at $t = 1$, and have equal seniority on the claims that are due at $t = 2$. This problem illustrates the complexity of renegotiating debt obligations when bondholders are a diffuse group of investors and forms the basis of our analysis.

3.3 Collective Action Clauses as a solution

There has been ample debate on how to address the complex process of out of court restructuring. Gertner and Scharfstein (1991) provide one possible solution. Providing new securities with seniority over old debentures. However, more often than not, this is not a possible solution. A firm seeking a workout faces the choice of filling for Chapter 11 or going through with an out of court exchange that could allow for the presence of holdout creditors.

As it was previously discussed, filling for in-court bankruptcy is expensive. But those are not the only direct costs. In court workouts typically involve a longer renegotiation period. Delays in bargaining translate into indirect costs of financial distress. That is why the National Bankruptcy Conference proposed adding a new Chapter 16 to the Bankruptcy Code.[6] Under the proposed figure a firm and its creditors would allow binding votes on payment terms in a faster bankruptcy like a Chapter 11.

Collective action clauses provide the answer to resolving the holdout problem in a contract-based approach. CACs are contractual provisions that specify that a supermajority of bondholders can change the terms of a bond. The decision of this super majority is binding on the minority. This contractual agreement eliminates the possibility of a small bondholder free-riding on the good will of other creditors that decide to accept a haircut. The problem: collective action clauses are illegal, for corporate debt, under the Trust Indenture Act of 1939.

[6] See Roe (2016).

There are two evident implications of including collective action clauses in debt contracts. First, easier restructuring creates a moral hazard problem to the firm. If it is less costly to default then default would happen more often. This should result in higher funding costs. Second, a reduction in bargaining costs. For example, it takes less time to restructure if no holdout creditors are present. It also takes less time to restructure out of court than having to go through the court system. Moreover, avoiding the direct costs of filling for Chapter 11 are also considerable. These reduction in costs results beneficial for everyone involved in the process. This would result in lower funding costs. The aggregate effect of CACs would be then reflected in the pricing function for sovereign debt.

In this paper, we look into an example that allows us to evaluate the effect of eliminating the unanimity requirement of the Trust Indenture Act of 1939 with the use of collective action clauses. Although sovereign countries were exempt from the unanimity requirements of the Trust Indenture Act, their securities contained this provision. It was not until the default of Argentina in 2001 that this practice changed. Section 4 describes in detail this example.

4 Collective Action Clauses in Practice: The Sovereign Debt Example

Before the 1990's liabilities of emerging market economies, especially foreign (external) debt, were typically syndicated loans with a handful of banks. This changed as countries gained access to broader markets and substituted bank loans with publicly issued bonds. Many of these liabilities are issued under New York law and mirror specifications found in corporate bonds. Sovereign debt is exempt from the requirements of the Trust Indenture Act. However, following corporate tradition countries issued their bonds with the same unanimity requirements to modify any payment condition. This includes restructuring.

In 2001 Argentina suspended all debt payments (defaulted on over 100 billion in external sovereign debt) and started negotiations with bondholders to restructure their obligations. A universal concept in restructuring debt obligations is to try to reach a reasonable agreement on a reasonable amount of debt relief (Wigglesworth, 2016). However, Argentina's unwillingness to renegotiate in good faith has been amply commented. It was not until 2005 that Argentina finally reached an agreement with most of its creditors. An exchange was made for 37 cents on the dollar. As previously described a country cannot command bondholders

to accept the exchange[7] and some bond holders opted to holdout of the exchange. Another exchange was made in 2010. At that time, more than 90 percent of the original liabilities had been restructured.

Holdouts, mostly hedge funds, decided to embark in a legal strategy and demanded they be paid in full. Most notably is the strategy followed by Elliott Management (Republic of Argentina v. NML Capital).[8] They sued Argentina in New York courts on the grounds of another significant contractual arrangement: the *pari passu* clause. This clause in essence states that creditors should be treated equally and without preference. Once again, this clause was taken from corporate practice where *pari passu* was used in the winding-down of a company. According to these hedge funds if Argentina serviced the restructured bonds, they were obliged to also fully service holdout bonds. Argentina disagreed and defended themselves by saying that a Rights Upon Future Offers (RUFO) clause on restructured bonds impeded them from giving holdouts any payment in excess of that offered in 2010. The case took several years to work its way through the United States' courts. In 2014, a final ruling was made in favor of Elliott Management which technically lead to a new default by Argentina in 2014. It was not until 2016 that Argentina reached an agreement with the holdouts.

It is not the objective of this paper to fully describe the restructuring process or give full detail of all the accounts that occurred in the Argentine experience. However, the last two paragraphs illustrate how tortuous and complex the renegotiation process can be when a unanimity clause, similar to the one that the Trust Indenture Act imposes on firms, is present. For Argentina, it took approximately 15 years to reach agreement with all creditors.

In the aftermath of Argentina's default there was ample debate on how to address the complex process of sovereign debt restructuring. The discussion revolved around two ideas. The International Monetary Fund (IMF) proposed a Sovereign Debt Restructuring Mechanism (SDRM). The idea was to set up the framework to mimic corporate bankruptcy practice.[9] The second idea was to take a contract-based approach. It promoted the inclusion of CACs in debt contracts. This idea was in ultimately supported by the US treasury, in particular by John Taylor (Taylor, 2002), at the time serving as Under Secretary of Treasury for International Affairs.

The SDRM proposal was rejected and the CAC initiative ended up being adopted. In

[7]Sovereign bonds were issued with unanimity requirements similar to the ones outlined by the Trust Indenture Act of 1939.

[8]For further detail of this case see Hébert and Schreger (2015).

[9]Even United Nations voted on establishing a bankruptcy court for countries (Wigglesworth, 2016).

2003 Mexico issued the first sovereign bond under New York Law with a CAC.[10] The aim of reforming the sovereign debt restructuring process was to reduce the costs that the complex process entailed. Before, there was no way for a country to ensure that a deal agreed by a majority of creditors could be enforced on all. CACs eliminate the holdout problem. While CACs prevent a minority from delaying or disrupting an agreement, the inclusion of CACs also affects the incentives that sovereign governments have to repay their debt obligations. Moreover, by agreeing to the inclusion of CACs, creditors forgo of the right to exercise their holdout option.

In their contractual innovation, Mexico set the supermajority threshold at 75 percent. Other emerging market economies experimented with different threshold levels (for example Brazil and Venezuela initially set the level at 85 percent) but the threshold seemed to have converged towards the 75 percent benchmark. At its inception, the clause only aggregated bonds on a series by series basis. However, now countries issue their bonds with a super-CAC. This super-CAC also aggregates bonds horizontally with a menu based approach. The borrower may choose to modify the debentures in the following ways:[11]

1. with the vote or written consent of the holders of 75 per cent of the amount outstanding of each series. This is exactly what first generation CACs allowed the sovereign to do.

2. with the vote or written consent of the holders of two thirds of the aggregate amount outstanding under all series affected, and the holders of 50 per cent of the aggregate amount outstanding for each affected series.

3. with the vote or written consent of 75 per cent of the holders of the aggregate amount outstanding under all affected series, This allows for horizontal aggregation with a similar 75 percent threshold.

In 2012 Greece faced a similar holdout problem to that encountered by Argentina. However, they opted for a different strategy. Debt issued under Greek law had CACs added retroactively. Holdouts of foreign law issued debt were paid in full. Following the Greek debt crisis, and as the Argentine legal battle unfolded, the debate on reforming the sovereign debt restructuring process revived. In particular the G20 discussed during 2012-2014 the SDRM proposal once again. Once again, the contract-based approach has prevailed. The

[10] Richards and Gugiatti (2003) note that other countries had issued bonds with CACs before. However, the issue appeared to be unnoticed. It was not until the Mexican issuance that investors where made aware of this contractual provision.

[11] Díaz de León (2016). Information on the standard collective action clause for the terms and conditions of sovereign notes is available at the International Capital Market Association webpage www.icmagroup.org

Eurozone mandated all members to include in their debt contracts, starting in 2013, a super-CAC with a 66 percent threshold.[12]

5 Empirical Strategy

Given the framework under witch sovereign debt is issued, it is possible to evaluate the costs of the Trust Indenture Act unanimity clause within this market. By studying price differentials for sovereign bonds that include CACs and those that do not include them it is possible to evaluate the potential impact on corporate funding if the unanimity requirement of Trust Indenture Act of 1939 were to be terminated.

In particular, we look at the sovereign debt of a group of emerging market economies. The group is composed by Argentina, Bermuda, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Grenada, Indonesia, Jamaica, Mexico, Paraguay, Peru, Sri Lanka, Trinidad and Tobago, Uruguay and Venezuela. This group is of interest as all these countries issue their public bonds under New York law and a trust indenture structure.

The bonds issued by each of the countries listed above can be categorized into three groups. First, some bonds have no collective action clauses. These bonds, resemble bankruptcy practices of the Trust Indenture Act of 1939. The second group, is composed of bonds issued at a later date and contain the first generation collective action clause previously described in Section 4. These bonds allow the sovereign to vertically aggregate each series to avoid the holdout problem. Finally, the newer issued bonds contain the second generation super-CAC clause. These bonds allow the sovereign to also aggregate series horizontally.

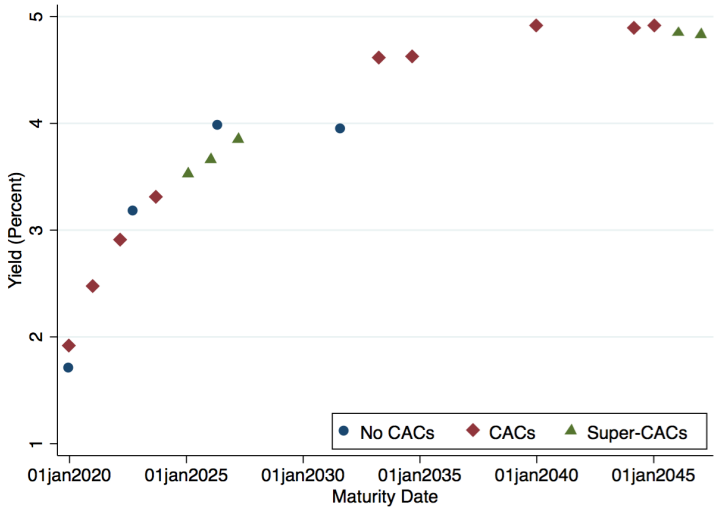
Figure 2 provides an example of outstanding bonds for Mexico.[13]. Mexico is of particular interest as it was the first country to issue bonds with CACs under New York law in February 2003. Moreover, continuing with their sovereign debt innovations, Mexico was also one of the first countries to issue debt with the second generation collective action clause arrangement. This occurred in November 2014. By studding difference in yields with collective action clauses and those without them it is possible to obtain the impact that CACs have on sovereign bond yields. Similarly, by studding yield differentials between bonds with second generation collective action clauses and first generation ones, it is possible to obtain the differentiated impact of Super-CACs.

Past papers have considered a similar exercise. The novelty of this paper is twofold.

[12]It is important to note that the *pari passu* clause has also been modified to avoid the litigation strategy used by hedge funds against Argentina. For more details on the *pari passu* clause see Díaz de León (2016).

[13]A similar figure, with data corresponding to the year 2003, is available in Eichengreen and Mody (2004)

Figure 2: Mexico's outstanding bonds



Note: This figure omits a 100 year maturity bond issued by Mexico in 2010 which matures October 12, 2110. This bond has a first generation collective action clause. The yield corresponding to that bond is 5.69 percent. Data corresponds to that of April 28, 2017.

First, most of the old papers were conducted comparing New York Law issued bonds with bonds issued under English law. As the objective of this paper is to look into the effects of the Trust Indenture Act in the United States that exercise would be unfruitful. Second, past papers consider the effect of collective action clauses close to the implementation of this covenant by sovereign issuers. There are two upsides from doing the exercise with newer data. First, by now many countries have adopted collective action clauses in their debt contracts. This allows us to have a richer data set. Second, to my knowledge this is the first paper that looks into the effects of second generation collective action clauses.[14] As this were only adopted at the end of 2014, papers written before that date cannot address the question of whether super-CACs have a different effect than the first generation clauses. This is outmost important, as most sovereigns have completely shifted to issuing with this newer framework.

[14] IMF (2017) mentions that, as of January 2017, no study of knowledge of the IMF has been done on the effect of second generation collective action clauses.

5.1 Identification

The objective of the inference in this paper is to study the effect on bond prices from including collective action clauses. As it is well known, there is a one to one relation between bond prices and bond yields. For intuition, consider the simplest example: a one period zero coupon bond. Let the face value of the bond that mature next period be 100. Let the price of the bond today be given by q. Then the yield of this bond, r, is given by

$$1 + r = \frac{100}{q}.$$

A similar exercise can be carried out with longer maturity bonds and with bonds that have a non-zero coupon. Thus, our outcome variable will be the yield on sovereign bonds trading in the secondary market.

The first specification for the regression is given by regressing bond yields on a dummy variable that takes the value of one if a bond contract includes collective action clauses and zero otherwise, and a set of control variables X.

$$r_i = \alpha + \beta CAC_i + \gamma X_i + \varepsilon_i \tag{1}$$

As control variables we include a country specific fixed effect, days left until the bond matures, days since the bond was issued, the countries credit rating, whether the bond has investment grade or not, and the amount issued under that particular bond. The last two intend to capture liquidity premium in the market. Maturity controls for term premium and credit rating controls for risk premium.

Identification relies on the assumption that there is a common term premium for these countries bonds up to a country and credit rating shifter. Given that the group is composed of similar emerging market economies there is no reason to believe this is implausible. Investors in these bonds are similar across issuer as they are mainly large global institutional investors.

We also consider the effects of second generation collective action clauses or super-CACs. As described in Section 4 second generation CACs contain first generation clauses. Thus, the regression specification is such that we are able to test for the marginal effect of making cross aggregation easier. The regression specification is similar to that in Equation 1. The difference is that now we also include a dummy variable that takes the value of one if the bond contract contains second generation collective action clauses.

$$r_i = \alpha + \beta_0 CAC_i + \beta_1 super\text{-}CAC_i + \gamma X_i + \varepsilon_i \tag{2}$$

5.2 Data

Data is collected for all outstanding United State Dollar denominated bonds from Argentina, Bermuda, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Grenada, Indonesia, Jamaica, Mexico, Paraguay, Peru, Sri Lanka, Trinidad and Tobago, Uruguay and Venezuela. The data corresponds to that of the secondary market on May 5, 2017. This date was collected from the Bloomberg terminal at close of market on May 5, 2017. For robustness, the same exercise was estimated for different dates (see Appendix B for May 15, 2017 data). We found no difference in the results. The variables of interest obtained are the following:

- *Country:* Identified by the Country variable in Bloomberg (e.g. MX for Mexico)
- *Yield:* For the bond yield we use the bid yield to maturity available in the Bloomberg terminal.
- *Credit Rating:* Consider Bloomberg Composite Rating
- *Maturity:* Consider the days left from May 5, 2017 to the day the bond Matures corresponding to the variable Maturity in the Bloomberg terminal.
- *Issue:* Consider the days since the bond was issued up to May 5, 2017. The day the bond was issued corresponds to the variable Issued Date in the Bloomberg terminal.
- *Face Value:* Consider the amount issued under each security. In the Bloomberg terminal, this is identified as Issued Amount.

Whether a bond includes collective action clauses or not is obtained from reviewing bond prospects for each security issued. In particular, we use contracts available in the Bloomberg platform. This task involves going over the debt contract of each bond in the data set. For each security, we search whether the unanimity clause is included in the contract or not. Carletti et al. (2016b) use the Bloomberg flag for collective action clauses available under the covenant description of each security. That procedure yields incorrect data. This specific Bloomberg flag refers to collective action for modifying non-core concepts of the security. That is, it does not refer to restructuring the amount due or other core concepts. The only

way of ensuring that the security has (or does not) the collective action clause that is object of this paper is going over each contract. From the Second progress report on inclusion of enhanced contractual provisions in international sovereign bond contracts published by the IMF on January 2017[15] we categorize whether the bond has a first generation or a second generation collective action clause. In doing this we assume the following two rules. After a country issues a bond with collective action clauses it never goes back to issuing a bond without them. After a country issues a bond with second generation super-CACs, the country issues all future bonds with the new clause. To the best of my knowledge both assumptions are true for all the countries considered in the sample.

Countries can be broadly classified into two groups according to the characteristics of their outstanding debt. The first group, Panel A, corresponds to countries that on May 5, 2017 had outstanding bonds with and without collective action clauses. The countries that integrate this group are: Argentina, Brazil, Colombia, Costa Rica, Ecuador, Jamaica, Mexico, Trinidad and Tobago, Uruguay, and Venezuela. The second group, Panel B, corresponds to countries that on the same date had outstanding bonds with first generation collective action clauses as well as second generation super-CACs. This group contains all countries in Panel A, except for Venezuela, and in addition Bermuda, Chile, Dominican Republic, Indonesia, Paraguay and Peru. For Grenada and Sri Lanka all outstanding securities incorporate second generation CACs.

Table 1 presents some summary statistics of the bonds that integrate the data set. The eighteen countries have 281 outstanding international bonds denominated in United States Dollars. These bonds have an average yield of 6.27 percent. Venezuela is an outlier with yields above 30 percent. Current political events in the country have grown worries between investors of an imminent default. The average time until bonds become due is of 11.32 years. Maturity stretches all the way to 93.5 years for a Mexican centennial (100 year maturity) bond issued in 2010. Credit ratings for the countries in our sample varies from A+ (Chile), to CCC- (Venezuela). A mean of 8.49 corresponds to a rating in between BB and BB-. Finally, about 30 percent of the bonds in the sample have investment grade. In other words, more than 70 percent of the bonds in the sample are junk bonds with a rating of less than BBB-. If Venezuela were to be omitted, all subsamples considered (All countries, Panel A, and Panel B) look fairly similar (see Table 6 in Appendix A for a similar table that excludes Venezuela, Grenada and Sri Lanka).

Table 2 presents summary statistics on the inclusion of collective action clauses in out-

[15] IMF (2017)

Table 1: Summary statistics

All Countries

Variable	Mean	Std. Dev.	Min.	Max.
Yield (Percent)	6.2656	6.3108	1.6897	43.7442
Maturity (Days)	4130.7972	3640.0232	12	34127
Face Value (Million)	1652.2149	1309.6291	1.6344	8820.6869
Credit Rating	8.4947	3.3468	1	15
Investment Grade	0.2847	0.4521	0	1
Number of Bonds		281		
Number of Countries		18		

Panel A

Variable	Mean	Std. Dev.	Min.	Max.
Yield (Percent)	7.5306	7.7796	1.7029	43.7442
Maturity (Days)	4239.4762	3895.8538	12	34127
Face Value (Million)	1922.2067	1560.9237	1.6344	8820.6869
Credit Rating	9.2202	3.4214	4	15
Investment Grade	0.3095	0.4637	0	1
Number of Bonds		168		
Number of Countries		10		

Panel B

Variable	Mean	Std. Dev.	Min.	Max.
Yield (Percent)	4.7331	1.6154	1.6897	9.4915
Maturity (Days)	4367.2705	3783.8742	12	34127
Face Value (Million)	1685.3254	1330.8579	1.6344	8820.6869
Credit Rating	7.8770	3.0077	1	12
Investment Grade	0.3197	0.4673	0	1
Number of Bonds		244		
Number of Countries		15		

Notes: All countries are Argentina, Bermuda, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Grenada, Indonesia, Jamaica, Mexico, Paraguay, Peru, Sri Lanka, Trinidad and Tobago, Uruguay and Venezuela. Panel A corresponds to countries with outstanding bonds with and without collective action clauses. Panel B corresponds to countries that on the same date had outstanding bonds with first generation collective action clauses as well as second generation super-CACs.

Credit Rating maps Bloomberg Composite Rating to a scalar. Ratings for bonds in the dataset range from A+ to CCC-. A value of 1 is assigned for A+ while a value of 15 is assigned for a rating of CCC-.

Investment Grade is a dummy variable that takes the value of 1 if a countries rating is BBB- or above. A rating of less than BBB- is considered a junk bond.

standing bonds. Close to 87.5 percent of outstanding bonds now include a collective action clause. This includes both first generation collective action clauses and second generation super-CACs. The reason for this clarification is that super-CACs effectively include the first generation clause. The newer second generation aggregation clause is precent in 25.3 percent of bonds. These two relations are very similar also for Panel A and Panel B countries.

Table 2: Collective Action Clauses

	All Countries	**Panel A**	**Panel B**
Number of Bonds	281	168	244
Bonds with CACs	246 (87.5%)	135 (80.4%)	215 (88.1%)
Bonds with super-CACs	71 (25.3%)	39 (23.2%)	69 (28.3%)

Notes: Number in parenthesis refers to percent of bonds relative to total number of bonds in that category. Bonds with second generation collective action clauses are considered to also contain first generation collective action clauses. The reason for this is that super-CACs effectively contain first generation CACs as a possibility.

6 Results

In Table 7 we report the estimation of the regression specified by equation 1. We estimate the effect of collective action clauses (CAC) on the yield of sovereign bonds ($\ln Yield$) trading in the secondary market. In particular, we consider the impact that including a first generation type of collective action clause has on bond yields. Since the data used is structured as a country by country cross-section, it is likely that residuals are correlated across countries. This would lead to biased standard errors in an ordinary least square estimation. Following Petersen (2009), we compute our estimations with standard errors clustered at the country level.

We find that including such a clause on sovereign bond contracts has no statistically significant effect. This is true for all countries, as well as those in Panel A and Panel B. For this regression, the preferred subset of data is Panel A. This Panel is composed by countries that have bonds with and without collective action clause. However, the economic interpretation of the sign of the estimation is interesting. The sensitivity of contract covenants on bond prices has been a topic of debate. The negative impact of CACs on bond yields suggest the costs of an unordered bankruptcy outweighs the shift in bargaining power in favor of the sovereign. This sheds light into the costs of the Trust Indenture Act of 1939 for firms. If the costs, both direct and indirect, of filing for bankruptcy are high, both creditors and

firms would support the possibility of an orderly out of court restructuring mechanism. This mechanism could be accomplished by allowing firms to include collective action clauses into their debt contracts.

Table 3: The Effect of Collective Action Clauses

	All Countries lnYield	**Panel A** lnYield	**Panel B** lnYield
CAC	-0.121	-0.0239	-0.0628
	(0.0790)	(0.0834)	(0.0712)
Controls	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	281	168	244
R-squared	0.418	0.326	0.511
Number of Countries	18	10	15

Notes: This table reports results for the impact of our variable of interest on the yield of sovereign bonds trading in the secondary market. All countries are Argentina, Bermuda, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Grenada, Indonesia, Jamaica, Mexico, Paraguay, Peru, Sri Lanka, Trinidad and Tobago, Uruguay and Venezuela. Panel A corresponds to countries with outstanding bonds with and without collective action clauses. Panel B corresponds to countries that on the same date had outstanding bonds with first generation collective action clauses as well as second generation super-CACs. The dependent variable in all columns is the logarithm of the bonds yield. Controls include maturity, amount Issued, days since issuance, credit rating, and investment grade. All regressions consider a common constant as well as country level fixed effects. Robust standard errors are reported in parentheses. Standard errors are clustered at the country level. ***, **,* represent statistical significance at the 1, 5, and 10 percent level respectively.

In Table 8 we report the estimation of the regression specified by equation 2. In this specification we estimate the differential effect of second generation collective action clauses ($Super\text{-}CAC$) on the yield of sovereign bonds ($\ln Yield$) trading in the secondary market. Again, standard errors are clustered at the country level. We find that the differentiated effect of including a Super-CAC clause on bond yields is positive and statistically significant. This is true for all countries, as well as those in Panel A and Panel B. For this regression, the preferred subset of data is Panel B. This Panel is composed by countries that have some bonds with second generation collective action clauses. The non-significant effect of first generation CACs remains.

As described in Section 4 second generation collective action clauses include first generation clauses as a special case. That is, in addition to the implication of traditional first generation CACs, the Super-CACs allow a country to aggregate bond series more freely. The positive impact of super-CACs on bond yields, in addition to the non-significant effect of first generation CACs, suggest that creditors passed the cost of the sovereigns having grater bargaining power with second generation collective action clauses.

This result is novel and striking. It suggests that creditors found collective action clauses attractive. This translated into a negative, although not statistically significant, effect on bond yields. However, handing too much bargaining power to the borrower appears to be disliked by creditors. This illustrates the delicate balance that any new regulation on firm bankruptcy must consider. Reducing the costs of bankruptcy associated with the Trust Indenture Act of 1939 is attractive. However, tilting the balance in favor of borrowers too much could in fact be translated into higher borrowing costs (higher interest rates).

Finally, in Table 9 we estimate regression 2 country by country. The table shows a subset of countries that are present in Panels A and B. These estimations sheds light into the country specific implications of including CACs. With the exception of Venezuela all countries have a non-significant effect on yields from including first generation type CACs. Venezuela is interesting out of itself. Of all the countries in the data set, Venezuela is the only one to face an imminent default. In fact, as of May 5, 2017 Venezuelan bonds maturing in more than ones were trading in the secondary market at an average of less than 50 cents on the dollar. The negative and significant effect of CACs on Venezuelan yields suggests that creditors, upon distress, value bonds with CAC more than those without them. The rationale for this is that creditors expect the process of restructuring bonds with CACs to be resolved in a more orderly and timely fashion. Venezuela has no outstanding bonds with second generation CACs. Mexico is another interesting case. As previously described Mexico is an active participant in the sovereign debt market. Moreover, Mexico was a key player in the adoption of both CACs and Super-CACs. The estimation results suggest that, while first generation CACs imply no extra borrowing costs for Mexico, second generation Super-CACs do entail an extra cost. The same is true for Argentina. Ecuador and Chile only have outstanding bonds with super-CACs. Thus, the interpretation of the the coefficient on Super-CAC is different. For these two countries, the estimated effect includes both the effect of first and second generation collective action clauses.

Table 4: The Effect of Second Generation Collective Action Clauses

	All Countries	**Panel A**	**Panel B**
	lnYield	lnYield	lnYield
CAC	-0.0777	0.0161	-0.0125
	(0.0864)	(0.0918)	(0.0812)
Super-CAC	0.0947***	0.124**	0.0980**
	(0.0326)	(0.0393)	(0.0371)
Controls	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	281	168	244
R-squared	0.418	0.326	0.511
Number of Countries	18	10	15

Notes: This table reports results for the impact of our variable of interest on the yield of sovereign bonds trading in the secondary market. All countries are Argentina, Bermuda, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Grenada, Indonesia, Jamaica, Mexico, Paraguay, Peru, Sri Lanka, Trinidad and Tobago, Uruguay and Venezuela. Panel A corresponds to countries with outstanding bonds with and without collective action clauses. Panel B corresponds to countries that on the same date had outstanding bonds with first generation collective action clauses as well as second generation super-CACs. The dependent variable in all columns is the logarithm of the bonds yield. Controls include maturity, amount Issued, days since issuance, credit rating, and investment grade. All regressions consider a common constant as well as country level fixed effects. Robust standard errors are reported in parentheses. Standard errors are clustered at the country level. ***, **,* represent statistical significance at the 1, 5, and 10 percent level respectively.

Table 5: The Effect of Second GenerationCollective Action Clauses for Selected Countries

	MX lnYield	**CO** lnYield	**CR** lnYield	**JM** lnYield	**UY** lnYield	**BR** lnYield	**AR** lnYield	**EC** lnYield	**CL** lnYield	**VZ** lnYield
CAC	0.296	0.0660	-0.0314	0.152	0.391	-0.0154	-0.0641			-0.256**
	(0.314)	(0.138)	(0.267)	(0.118)	(0.234)	(0.210)	(0.0905)			(0.0843)
Super-CAC	0.292**	0.0348	-0.0652	0.0458	0.0278	0.159	0.153**	0.0279***	-0.0377	
	(0.130)	(0.144)	(0.0470)	(0.138)	(0.150)	(0.267)	(0.0684)	(0.00563)	(0.0208)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19	15	22	11	10	18	38	9	6	17
R-squared	0.546	0.809	0.892	0.436	0.353	0.646	0.759	0.999	0.997	0.914

Notes: This table reports results for the impact of our variable of interest on the yield of sovereign bonds trading in the secondary market. From left to right columns correspond to Mexico (MX), Colombia (CO), Costa Rica (CR), Jamaica (JM), Uruguay (UY), Brazil (BR), Argentina (AR), Ecuador (EC), Chile (CL), and Venezuela (VZ). The dependent variable in all columns is the logarithm of the bonds yield. Controls include maturity, amount Issued, and days since issuance. Robust standard errors are reported in parentheses. ***, **,* represent statistical significance at the 1, 5, and 10 percent level respectively.

7 Conclusion

Out of court restructuring for firms takes place in a complex legal environment. Most importantly the Trust Indenture Act of 1939 places stringent restrictions on the process. Under United States law, if a firm wants to modify any core concept of a security it requires unanimity agreement of all bond holders in accordance with section 316(b) of the Act. The unanimity requirement makes it almost impossible to modify core concepts in the indenture. This potential involves avoidable costs for both the firm and its creditors.

Sovereign debt is exempt from the Trust Indenture Act, however securities issued by countries in the United States mirror corporate tradition. Recent developments in the sovereign debt market lead to the adoption of collective action clauses in debt contracts. Countries that issue securities under New York law currently have outstanding liabilities with and without CACs. This group is of interest as from a legal status their claims are similar to those issued by firms in the United States. We study price differentials for sovereign bonds that include CACs and those that do not include them. This allows for identification of the impact of CACs on bond yields. Through this channel we recover the implications of the unanimity requirement that the Trust Indenture Act of 1939 imposes on firms.

We highlight two results. First there appears to be no significant effect of first generation collective action clauses on bond yields trading in the secondary market. This sheds light on the implications of the Trust Indenture Act on firms. If the costs, both direct and indirect, of filing for bankruptcy are high, both creditors and firms would support the possibility of an orderly out of court restructuring mechanism. This mechanism could be accomplished by allowing firms to include collective action clauses into their debt contracts. Second, the inclusion of second generation collective action clause, Super-CACs, seems to increase bond yields in the secondary market.

These results suggest that creditors found collective action clauses attractive. This translated into a negative, although not statistically significant, effect on bond yields. However, handing too much bargaining power to the borrower appears to be disliked by creditors. This illustrates the delicate balance that any regulation on firm bankruptcy must consider. Reducing the costs of bankruptcy associated with the Trust Indenture Act of 1939 is attractive. However, tilting the balance in favor of borrowers too much could in fact be translated into higher borrowing costs.

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A Additional Summary Statistics

Table 6: Summary statistics

All Countries (Panel B)

Variable	Mean	Std. Dev.	Min.	Max.
Yield (Percent)	4.7331	1.6154	1.6897	9.4915
Maturity (Days)	4367.2705	3783.8742	12	34127
Face Value (Million)	1685.3254	1330.8579	1.6344	8820.6869
Credit Rating	7.8770	3.0077	1	12
Investment Grade	0.3197	0.4673	0	1
Number of Bonds		244		
Number of Countries		15		

Panel A

Variable	Mean	Std. Dev.	Min.	Max.
Yield (Percent)	5.1462	1.727	1.7029	9.4915
Maturity (Days)	4376.9536	4014.0809	12	34127
Face Value (Million)	1897.5901	1584.1626	1.6344	8820.6869
Credit Rating	8.5695	2.9699	4	12
Investment Grade	0.3444	0.4767	0	1
Number of Bonds		151		
Number of Countries		9		

Notes: All countries are Argentina, Bermuda, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Indonesia, Jamaica, Mexico, Paraguay, Peru, Trinidad and Tobago, and Uruguay. Panel A corresponds to countries with outstanding bonds with and without collective action clauses. Panel B corresponds to countries that on the same date had outstanding bonds with first generation collective action clauses as well as second generation super-CACs.

Credit Rating maps Bloomberg Composite Rating to a scalar. Ratings for bonds in the dataset range from A+ to CCC-. A value of 1 is assigned for A+ while a value of 15 is assigned for a rating of CCC-.

Investment Grade is a dummy variable that takes the value of 1 if a countries rating is BBB- or above. A rating of less than BBB- is considered a junk bond.

B Estimation with Data from May 15, 2017

Table 7: The Effect of Collective Action Clauses

	All Countries	**Panel A**	**Panel B**
	lnYield	lnYield	lnYield
CAC	-0.118	-0.0245	-0.0595
	(0.0780)	(0.0834)	(0.0695)
Controls	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	280	167	243
R-squared	0.419	0.329	0.513
Number of Countries	18	10	15

Notes: This table reports results for the impact of our variable of interest on the yield of sovereign bonds trading in the secondary market. All countries are Argentina, Bermuda, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Grenada, Indonesia, Jamaica, Mexico, Paraguay, Peru, Sri Lanka, Trinidad and Tobago, Uruguay and Venezuela. Panel A corresponds to countries with outstanding bonds with and without collective action clauses. Panel B corresponds to countries that on the same date had outstanding bonds with first generation collective action clauses as well as second generation super-CACs. The dependent variable in all columns is the logarithm of the bonds yield. Controls include maturity, amount Issued, days since issuance, credit rating, and investment grade. All regressions consider a common constant as well as country level fixed effects. Robust standard errors are reported in parentheses. Standard errors are clustered at the country level. ***, **,* represent statistical significance at the 1, 5, and 10 percent level respectively.

Table 8: The Effect of Second Generation Collective Action Clauses

	All Countries	**Panel A**	**Panel B**
	lnYield	lnYield	lnYield
CAC	-0.0750	0.0156	-0.00901
	(0.0853)	(0.0917)	(0.0793)
Super-CAC	0.0951***	0.124**	0.0985**
	(0.0325)	(0.0393)	(0.0369)
Controls	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	280	167	243
R-squared	0.432	0.349	0.528
Number of Countries	18	10	15

Notes: This table reports results for the impact of our variable of interest on the yield of sovereign bonds trading in the secondary market. All countries are Argentina, Bermuda, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Grenada, Indonesia, Jamaica, Mexico, Paraguay, Peru, Sri Lanka, Trinidad and Tobago, Uruguay and Venezuela. Panel A corresponds to countries with outstanding bonds with and without collective action clauses. Panel B corresponds to countries that on the same date had outstanding bonds with first generation collective action clauses as well as second generation super-CACs. The dependent variable in all columns is the logarithm of the bonds yield. Controls include maturity, amount Issued, days since issuance, credit rating, and investment grade. All regressions consider a common constant as well as country level fixed effects. Robust standard errors are reported in parentheses. Standard errors are clustered at the country level. ***, **,* represent statistical significance at the 1, 5, and 10 percent level respectively.

Table 9: The Effect of Second GenerationCollective Action Clauses for Selected Countries

	MX	**CO**	**CR**	**JM**	**UY**	**BR**	**AR**	**EC**	**CL**	**VZ**
	lnYield	lnYield	lnYield	lnYield	lnYield	lnYield	lnYield	lnYield	lnYield	lnYield
CAC	0.296	0.0660	-0.0324	0.154	0.391	-0.0154	-0.0637			-0.257***
	(0.314)	(0.138)	(0.267)	(0.117)	(0.234)	(0.210)	(0.0905)			(0.0842)
Super-CAC	0.292**	0.0348	-0.0651	0.0431	0.0278	0.160	0.154**	0.0274***	-0.0379	
	(0.130)	(0.144)	(0.0470)	(0.138)	(0.150)	(0.267)	(0.0683)	(0.00534)	(0.0208)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19	15	22	11	10	18	38	9	6	17
R-squared	0.546	0.809	0.892	0.436	0.353	0.646	0.759	0.999	0.997	0.915

Notes: This table reports results for the impact of our variable of interest on the yield of sovereign bonds trading in the secondary market. From left to right columns correspond to Mexico (MX), Colombia (CO), Costa Rica (CR), Jamaica (JM), Uruguay (UY), Brazil (BR), Argentina (AR), Ecuador (EC), Chile (CL), and Venezuela (VZ). The dependent variable in all columns is the logarithm of the bonds yield. Controls include maturity, amount Issued, and days since issuance. Robust standard errors are reported in parentheses. ***, **,* represent statistical significance at the 1, 5, and 10 percent level respectively.