

Three Essays on
Intra-Creditor Coordination Failures in
Sovereign Debt Restructuring

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“After all, the international financial system is a set of interlocking parts. No single reform may significantly improve its performance characteristics, or be feasible, in the absence of other, complementary reform.”

(Barry Eichengreen)

Die vorliegende Arbeit umfasst drei Aufsätze, die versuchen, einen Beitrag zur Debatte über die Ausgestaltung eines (rein marktbasiereten) vertraglichen Ansatzes zur Umschuldung von Staatsanleihen aufstrebender Volkswirtschaften zu leisten. Ein Schwerpunkt der Arbeit liegt dabei auf dem Problem mangelhafter Koordination unter den Anleihebesitzern.

Obwohl eine inhaltliche Verbindung besteht, ist jeder dieser Aufsätze als eine eigenständige Einheit zu betrachten.

Aufsatz I (Kapitel II): Bei der jüngsten Umschuldung argentinischer Staatsanleihen kam es zum ersten Mal in der neueren Geschichte von Finanzkrisen dazu, dass die Krisenbewältigung ein vollständig marktbasierter Prozess ohne Intervention des öffentlichen Sektors war. In diesem Aufsatz wird dargestellt, in welcher Form der hieraus resultierende höchste Forderungsverzicht von privaten Investoren in der Geschichte der Umschuldung staatlicher Anleihen zumindest teilweise auf eine mangelhafte Koordination im Rahmen eines Assurance-Spiels unter den Gläubigern zurückgeführt werden kann. Außerdem bestehen für den Schuldner im Rahmen eines solchen Spiels Anreize, die hieraus entstehenden Probleme in der Koordination der Anleihebesitzer durch bestimmte vertragliche Elemente zu seinem Vorteil auszunutzen. Die Analyse zeigt, dass im Gegensatz zur Wahrnehmung in der Literatur die Effekte von so genannten „Exit Consents“ und „Collective Action Clauses“ nicht identisch sind. Hätten die Anleihen Argentiniens derartige Mehrheitsklauseln aufgewiesen, hätte die Koordination unter den Gläubigern hiervon profitiert.

Aufsatz II (Kapitel III): Umschuldungsverhandlungen des letzten Jahrzehnts haben gezeigt, dass Angebote des Schuldners zum Tausch alter gegen neue Anleihen das bis dato vorherrschende Prozedere für die Anpassung der vertraglichen Rückzahlungsvereinbarungen darstellt. Die Verhandlungen zwischen Gläubiger- und Schuldnerseite über die Details dieser Anpassung bewegen sich dabei im Rahmen eines Ultimatum-Spiels, bei dem der Schuldner

praktisch über die gesamte Verhandlungsmacht verfügt. Gläubiger entscheiden über die Annahme eines solchen Angebotes aufgrund eines Reservationswertes, welcher durch Fairnessempfindungen gegenüber dem Schuldner sowie den übrigen Gläubigern beeinflusst werden kann. Die Subjektivität solcher Empfindungen kann dabei zur Heterogenität der Reservationswerte führen, was sich wiederum negativ auf die Effektivität der Koordination unter Anleihebesitzern auswirken kann. Der Schuldner wäre dann in der Lage, diese mangelhafte Effektivität zu seinem Vorteil auszunutzen.

Aufsatz III (Kapitel IV): Ein zentraler Aspekt verschiedener Vorschläge für einen institutionalisierten Prozess der Restrukturierung von Staatsanleihen ist seit jeher die Vermeidung von Mängeln der Koordination unter den Anleihegläubigern. Ein Umstand findet hierbei bisher jedoch noch nicht ausreichend Beachtung: Der momentan vorherrschende Prozess von Umschuldungsverhandlungen ermöglicht es dem Schuldner, den Gläubigern Angebote über den Austausch der entsprechenden Anleihen zu unterbreiten. Für das Schuldnerland bietet die Gestaltungsfreiheit derartiger Angebote jedoch einen Anreiz, zwischen verschiedenen Typen von Gläubigern zeitlich zu diskriminieren. Obwohl dies für den Schuldner vorteilhaft ist, führt eine Diskriminierung zu einem verlängerten und damit ineffizienten Umschuldungsprozess. Lediglich eine effektive Gläubigervertretung, welche alle Gläubiger in ein gemeinsames Votum mit einbinden kann, wäre in der Lage, dies zu verhindern. Eine Erweiterung der aktuellen Vorschläge zur Bildung von „Creditor Groups“ könnte hierbei helfen, den Umschuldungsprozess vor derartigen Mängeln der Gläubigerkoordination zu schützen. Daher skizziert dieser Aufsatz eine derartige Gläubigervertretung, welche in ihrer Funktionsweise Ähnlichkeit mit einer vergleichbaren Institution im vorletzten Jahrhundert hat.

Abschließend lassen sich damit die Aussagen der Aufsätze wie folgt zusammenfassen: Der aktuelle Status des vertraglichen Ansatzes der Umschuldung von Staatsanleihen aufstrebender

Volkswirtschaften ist aufgrund des Mangels einer umfassenden und wirkungsvollen Gläubigervertretung noch nicht in der Lage, eine effektive Koordination unter den Anleihebesitzern zu gewährleisten. Die Einrichtung einer derartigen Gläubigervertretung würde die institutionelle Entwicklung während der Hochzeit der Anleihemärkte im vorletzten Jahrhundert nachzeichnen, welche zu einer signifikanten Verbesserung in der Gläubigerkoordination geführt hat. Und da das Ergebnis eines potentiellen Umschuldungsprozesses auch einen Einfluss auf die ex-ante-Investitionsentscheidung des einzelnen Anleihebesitzers hat, könnte dies einen Beitrag zu den wohlfahrtserhöhenden Effekten einer Außenfinanzierung aufstrebender Volkswirtschaften durch private Anleihegläubiger leisten.

This work is comprised of three essays that attempt to contribute to the task of reviewing the prevailing (solely market-based) contractual approach for sovereign debt restructuring. These essays particularly focus on aspects of intra-creditor coordination. Although the content of these essays is interconnected, each unit is a stand-alone entity.

Essay I (Chapter II): The latest Argentinean debt restructuring was the first time the resolution of a modern financial crisis was completely handed over to the private financial markets without official intervention by public institutions. This essay argues that the resulting harshest haircut for private creditors in history can be at least partially related to an assurance game played by creditors. It shows that incentive schemes provided by the Argentinean government were factors facilitating this haircut. The analysis suggests that, contrary to the recognition in the literature, the effects of Collective Action Clauses and Exit Consents within a restructuring process are not equal. In the case of Argentina, the inclusion of Collective Action Clauses in the defaulted bonds could have benefited the holdout creditors.

Essay II (Chapter III): Experience from events of sovereign debt restructuring over the last decade shows that the prevailing process is mainly shaped by exchange-offers launched by the debtor. This suggests that negotiations for changing the repayment terms of the debt take place in an ultimatum game which centers virtually all bargaining power on the debtor side. Creditors vote according to reservations values that might be influenced by fairness consideration both vis-à-vis the debtor and their fellow creditors. And, as fairness is usually a highly subjective influence, this can result in a heterogeneity of reservation values which might impede effective intra-creditor coordination for the benefit of the debtor.

Essay III (Chapter IV): Mitigating intra-creditor coordination failures has always been crucial in any proposal for an institutionalized process of restructuring sovereign bonds. However, one source of failure in creditor coordination has not been taken into consideration. The current

process of sovereign debt restructuring enables the debtor to launch an exchange offer which provides incentives to inter-temporally discriminate among creditors with different reservation values. Only a creditor representation that can effectively bind in all different creditor types will mitigate this failure and thereby prevent potential conflicts of interests among creditors. Enhancing the current proposal of creditor groups so that creditors can effectively pre-commit can shield the process from this kind of coordination failure. This essay concludes with a proposal for a creation of a creditor representation body which exhibits a similar mode of operation as a celebrated institutionalized creditor representation body in the penultimate century.

To summarize the conclusions drawn from these essays, the contractual approach is not yet able to guarantee effective creditor coordination due to a lack of a comprehensive and forceful permanent creditor representation. Establishing such a permanent representation body would replicate the institutional development experienced during the last heydays of bonds as a source of emerging market financing. This would lead to a significant improvement in creditor coordination. Moreover, since the result of a potential debt restructuring draws back to the ex-ante lending decision by the individual investor, this improvement could contribute to the welfare-enhancing effects of external financing by private creditors for developing economies.

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I. Introduction¹

I.1. Sovereign Debt Restructuring in the Bretton Woods Era

It has always been an integral feature of the international financial system that sovereign debtors – mostly emerging economies – experience boom-bust cycles, times of financial distress, and defaults and restructurings. Even the enhanced multilateral cooperation institutionalized in the Bretton Woods system after WWII was not able to shield the international credit markets from disputes with countries claiming their inability to fulfill their legal repayment obligations. The nature of and the mechanism to solve these disputes, however, has changed over time resulting from a shift in the structure of capital flows to emerging market countries.

When international lending resumed after the war in the 1970s it was mostly in the form of syndicated bank loans from international commercial banks. Supported by the advent of the Eurodollar market, this led to what was called the “the recycling of the Petrodollars.”² Satisfying the increasing need for external financing caused by widening trade deficits in developing countries brought an attractive investment opportunity for an increasing liquidity among banks that resulted from the current account surpluses of the oil-exporting countries. But these loans were mostly short-term, denominated in foreign currency and contained variable interest rates which after an imprudent risk management by the creditor banks gave rise to an unsustainable debt burden for these countries leading to the debt crises of the 1980s.

¹ Unless otherwise indicated the material for this chapter is mostly drawn from Roubini and Setser (2004), Rieffel (2003), IADB (2006), Sturzenegger and Zettelmeyer (2006), Eichengreen (2003) and Mauro and Yafeh (2003).

² Eurodollars are U.S. Dollar denominated deposits at banks located outside the United States.

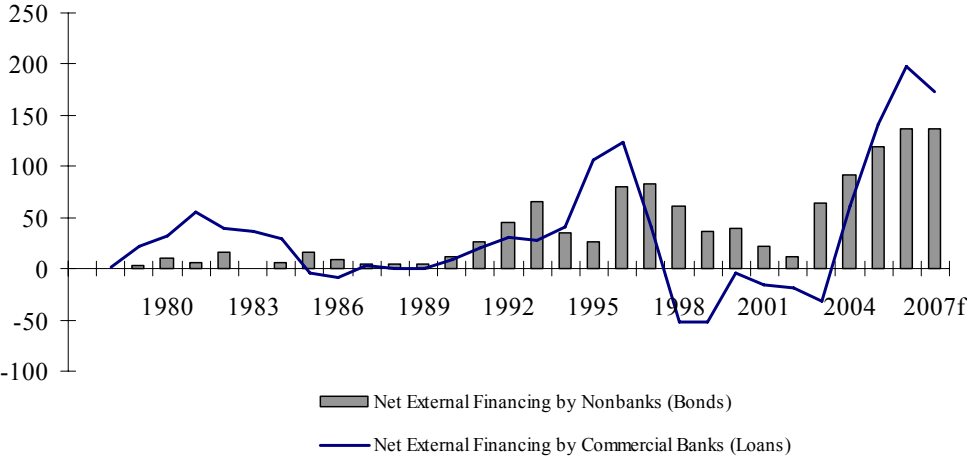
Starting with Mexico declaring its inability to repay its debt in August of 1982, this crisis infected many countries in Latin America and had severe economic consequences which led to what was later called the “lost decade” for this region.

The international financial system was also substantially affected by this crisis. Because commercial banks in the advanced economies contained sizable credit exposures to defaulting countries the financial soundness of these institutions was at risk. In the U.S., for example, at least four of the largest banks were prone to exposures that exceeded their total capital. Since a breakdown of these banks could have been a major threat to the stability of the international financial system of that time this made the restructuring of the defaulted loans extremely difficult. In consequence, the financial authorities orchestrated several rescheduling agreements between the debtor countries and the creditor banks in order to buy time so that the banks could accumulate enough capital to absorb the losses resulting from a write-down of their claims.³ Bargaining of the details of any rescheduling – and later restructuring – agreement, however, was left to bilateral negotiations between debtor and creditor. After several years of rescheduling this finally led to the announcement by the U.S. Secretary of the Treasury Nicolas Brady in March 1989 of an initiative to solve this situation which was later called the “Brady-Plan.” This plan provided incentives for debtor countries and their creditors to restructure the defaulted bank loans into bonds with significant write-downs on the claims. The goal of this – in the end, successful – strategy was two-sided. On the one hand the write-down enabled debtor countries to return to a sustainable debt payment path, and on the other the creditor banks were given an opportunity to liquidate these bonds on the secondary market, receiving at least the current market value of their claims.

³ In contrast to a restructuring, a rescheduling lacks a substantial reduction of the net present value of the future debt payments.

The resulting issuance of “Brady bonds” marked the return of a well known platform for emerging market financing: the bond market. Bonds had already been the primary source of financing for developing countries between 1820 and 1930 until international lending ran dry in the onset of the Second World War. The renaissance of bond financing started when the crisis countries reached restructuring agreements with their creditor banks which initiated the development of an active and liquid secondary market for emerging market bonds. Today, emerging market bonds represent 32 percent of total government debt securities outstanding (IADB 2006: 84). Further highlighting the maturing of the market, debtor countries have displaced nearly all of the initial Brady bonds with newly issued Eurobonds and global bonds, partially to prevent the remembering of the tainted past of the 1980 debt crisis.⁴ Large parts of the 1990s bonds have even replaced bank loans as the primary vehicle for external financing (see figure below).

Annual Financing Flows to Emerging Markets from Private Creditors (in USD billion)



Source of Data: Institute of International Finance

⁴ A Eurobond is a debt instrument denominated in a currency different from the issuing country. A global bond, in contrast, is denominated in the issuing country’s currency but is offered on several markets simultaneously.

In consequence, all major debt crises which necessitated a restructuring since the Brady-Plan involved bondholders instead of commercial banks as the largest group of private creditors.

I.2. The Economics of Sovereign Debt Restructuring

When a country asks its private creditors for the restructuring of its debt obligation there are two explanations for this request: Either the country is not able to repay the debt (e.g., because its economy has been hit by a negative shock) or it is simply not willing to pay its debt.⁵ Although the distinction between the two motives seems to be easy in theory it is highly complex in practice. Because the debtor is a tax-collecting government, determining the largest possible but still economically sustainable debt level is nearly impossible for several reasons. First, uncertainty of the future economic development of the country prohibits the precise prediction of future primary budget surpluses which are the main ingredients of any fundamental debt sustainability analysis. Second, information asymmetries prevent the creditors from identifying the exact degree of effort the debtor will undertake to foster its repayment capacity through economic adjustment. And third, the sovereignty of the debtor forecloses a guarantee for creditors that no future government will exercise its sovereign immunity and repudiate its external obligations. Hence, any repayment schedule must also take the political sustainability of the resulting fiscal adjustment measures – higher tax burden and lower public spending – into consideration. This enriches the topic of sovereign debt restructuring with a political level further complicating the analysis of sustainability. Moreover,

⁵ It is important to note that this work solely focuses on the restructuring need of an insolvent debtor which requires a write-down in debt payments. Thereby it circumvents the complex issue of illiquidity and the threat of moral hazard resulting from potential official sector intervention. The resolution of liquidity crises in emerging markets can also be prone to intra-creditor coordination failures turning a liquidity into a solvency crises. For a survey on this debate see Roubini and Setser (2004) and Sturzenegger and Zettelmeyer (2006), as well as Rieffel (2003).

without a precise assignation of the still sustainable debt level the restructuring exercise becomes a matter of discretion highly influenced by the design of the bargaining process between the debtor country and its private creditors.

Concerning this design of the negotiations between debtor and creditors the process of exchange-offers has become the vehicle of choice since the revival of bond financing for emerging market debtors. Thereby the debtor offers to exchange old bonds tendered by the creditors for newly issued ones containing amended financial terms.⁶ Amended financial terms of these new bonds mostly bring a reduction in the net present value of the future debt payments representing a reduction of the debtor's indebtedness – commonly referred to as a “haircut.” Bondholders can then either accept the exchange-offer and receive the new bond or reject and hold on to the old bonds. This shows that the process of exchange-offers is characterized by three elements: the inside option in case of acceptance, the outside option in case of rejection and the voting procedure. While accepting creditors receive the restructuring terms offered the yield from rejection is not that obvious. Bondholders can either continue to bargain aiming at more favorable restructuring terms or consider taking legal action against the debtor. But both alternatives, however, are associated with a certain degree of uncertainty because, concerning the former alternative, the achievement of any future bargaining is significantly influenced by the behavior of all fellow creditors so that the results are prone to coordination failures – e.g., due to information asymmetries – among a highly dispersed creditor community. And concerning the latter alternative, the enforcement of a judgment against a defaulted sovereign debtor has been successful only in a very limited number of cases

⁶ Alternatively, the debtor could call for a bondholder meeting and ask its creditors to vote on a change of the financial terms of the bond. For a more detailed analysis of these different restructuring procedures see chapter IV.

in the past.⁷ Therefore, it is difficult for the single bondholder to evaluate the obtainment in case of rejection which has an impact on its decision whether to accept or to reject.

But the uncertainty over the success of litigation against a sovereign debtor in default is somehow necessary to prevent distortionary incentives threatening the success of the debt restructuring. If litigation and especially its enforcement against the debtor would never be successful then creditors would lose an important threat against the delinquent debtor. The incentive for the debtor to reach an agreement – hence its willingness to repay – would be solely liable to reputation effects, e.g., its ability to receive external financing at affordable interest rates in the future.⁸ But this would limit the possible amount of such collateralized debt to much tighter limits than today's debt levels. If, on the contrary, litigation will always guarantee the total fulfillment of all contractual obligations the creditors would face severe free-riding incentives. As long as the other creditors accepted the restructuring terms, thereby bringing the debtor back to solvency, the single bondholder could benefit by rejecting the exchange-offer while seeking legal enforcement. Therefore any institutionalized restructuring mechanism exhibits a trade-off between acknowledging the contractual entitlement resulting from the bond and the limitation of free-riding incentives threatening the necessary burden-sharing among creditors. This trade-off is reflected in the choice of a specific (potentially majority-) voting procedure which has a substantial impact on the effectiveness of creditor coordination.

⁷ See Sturzenegger and Zettlemeyer (2006: 72-73) for a list of successful litigation cases since the 1990s.

⁸ In this context the seminal contribution of Eaton and Gersovitz (1981) on reputation effects and, consequently, the question of why private creditor are willing to lend to a sovereign debtor provoked an intense debate in the literature with still puzzling features. For a survey on this issue and arguments in favor of the occurrence of default in equilibrium see Sturzenegger and Zettlemeyer (2006: 31-36) and Aguiar and Gopinath (2006).

I.3. Creditor Coordination in Recent Cases of Debt Exchange-Offers

The history of creditor coordination among bondholders against a sovereign debtor dates back to the first heyday of the bond market in the penultimate century. Comparable to the restructurings over the last decade, most negotiations between the 1820s and the 1870s involved ad hoc creditor committees achieving only a poor performance from a creditor's point of view. The reasons were a lack of specialization and experience as well as heterogeneity among creditors which lead to a weak coordination and sometimes even competing creditor committees. This changed with the establishment of an institutionalized and thereby permanent creditor representation body in 1868, the Corporation of Foreign Bondholders (CFB), which was able to significantly increase the effectiveness of creditor coordination. This success, however, was not achieved until a reconstitution through an act of parliament in 1898 that replaced a somehow biased - in favor of only some creditor groups - through a more balanced membership to represent all different groups of bondholders. The CFB had two main functions: First, to provide information about debtor countries to the bondholders and, second, to negotiate settlements with debtors and coordinate the different groups of bondholders. But the corporation did not have the legal authority to accept any restructuring terms. The negotiated restructuring agreement would only become valid after the CFB had asked the bondholders to vote on it.

When international lending returned in the form of syndicated lending by commercial banks private creditor representation had to be adapted. The decisive difference was that in the 1970s and 1980s debtor countries experienced times of financial distress it was not a widely dispersed community of individual bondholders but a few creditor banks that had to be coordinated on reaching a restructuring agreement to bring the debtor back to a sustainable debt level. Therefore ad hoc "Bank Advisory Committees" (BAC) were created usually under the leadership of the bank with the largest credit exposure against the debtor country concerned.

This process – also referred to as the “London Club Approach” – was somehow similar to the mode of operation of the CFB as a representation body negotiated with the debtor but acceptance of the restructuring terms was taken by each creditor individually.⁹ Moreover, a relatively small and transparent creditor community allowed for some moral and economic arm-twisting of banks that tried to elude their contribution in the burden-sharing which limited free-riding incentives. As commercial bank loans are still a source of external financing for emerging markets BACs still play a role in today’s restructurings but most debt crises and restructurings between 1998 and 2005 focused on sovereign bonds held by a heterogeneous group of creditors which were mostly non-banks.

Starting with the debt crises in Russia there were eight relevant bond exchanges since the Brady-Plan initiated a renaissance of this segment of the bond market. These cases can be categorized to three pre-default restructurings (without missed payments prior to the restructuring) in Pakistan (1999), Uruguay (2003) and the Dominican Republic (2005) and five post default restructurings in Russia (1998-2000), the Ukraine (1998-2000), Ecuador (1999-2000), Moldova (2002) and Argentina (2001-2005).¹⁰ Although all these cases exhibit a certain degree of idiosyncrasy there are some common elements that summarize the experience made. First, although participation rates in the exchange-offers varied between hundred percent (Moldova) and 76 percent (Argentina) with a different treatment of holdouts, participation seems to be negatively correlated with the number and dissimilarity of the investor base. Second, in most cases there were no formal negotiations between the debtor and a creditor committee as the ad hoc bondholder representation bodies were only of minor relevance for the

⁹ The London Club should not be confused with the Paris Club, the machinery for restructuring official sector sovereign debt. In contrast to the London Club, the Paris Club is a well documented institution with a secretary located at the Banque de France.

¹⁰ A summary of the details of the restructuring can be found in chapter V.

outcome of the restructuring process. And third, the smaller the number of creditors involved in the process, the better the communication and hence negotiation between the debtor country and its bondholders. These findings suggest that the coordination among creditors is affected by the number and heterogeneity of different types of creditors.

I.4. The International Financial Architecture and the Contractual Approach

Ever since the official sector – especially the International Monetary Fund – tackled the financial crises in Mexico (1994) and in a number of East Asian countries (1997) with large rescue packages containing public sector money, this conveyed the impression that private creditors would be bailed out in times of trouble. Hence, a discussion started on the topic of how to involve the private sector – and thereby primarily private bondholders – in the burden-sharing of the costs of resolving financial crises in emerging markets. The design of an institutionalized restructuring process for emerging market bonds represents an important part of this debate on the details of an international financial architecture.

Summary of Debt Restructuring Mechanisms

<i>Debtors</i>	<i>Creditors</i>					
	IMF	Multilateral development banks	Bilateral agencies	Commercial Banks	Bond Investors	Suppliers
Sovereigns	Preferential treatment		Paris Club	London Club	<u>Contractual Approach</u> (some aspects still to be determined)	Ad hoc
Public sector enterprises	No such debt exists	Special treatment				
Banks	No such debt exists		No such debt exists	Special treatment		No such debt exists
Private companies	No such debt exists	National corporate bankruptcy regime				

Source: in reference to Rieffel (2003: 21)

Large parts of this discussion were about two competing proposals for such a process which were labeled statutory and contractual. While the latter one represented only minor changes of

the status-quo by the amendment of clauses in bond contracts specifying the voting procedure in combination with a code of conduct binding debtor and creditor on a voluntary basis, the statutory proposal implied larger changes by aiming at the establishment of an international bankruptcy law. Comparable to the U.S. corporate bankruptcy law should the debtor and its creditors subordinate to a legally codified restructuring process. After years of intensive dispute it is the contractual approach that is currently prevailing, albeit some aspects still need to be determined.¹¹

Although both proposals exhibited substantial differences the common element was the goal to create permanent machinery for the restructuring of emerging market bonds that helps to make the restructuring process both more effective and predictable and thereby reduces the costs of financial crises resolution. Defending the restructuring process against intra-creditor coordination failures plays a crucial role in achieving this goal as a limited coordination among creditors can have a significant influence on the result of the negotiations and can lead to a welfare loss caused by inefficient bargaining. Hence, although not fully formed yet the currently prevailing contractual approach to sovereign debt restructuring needs constant review of its ability to foster the coordination among bondholders.

I.5. Three Papers on Intra-creditor Coordination Failures

This work comprises three essays that try to contribute to the task of reviewing the contractual approach for sovereign debt restructuring especially focusing on aspects of intra-creditor coordination. Although the content of these essays is interconnected, each unit is supposed to represent a stand-alone entity. Therefore, the work lacks bridge passages between the chapters

¹¹ A more detailed analysis of this debate and the open aspects can be found in chapter IV.

and exhibits introductory chapters containing replicating descriptions of the restructuring process. This, however, enables an unhinged and independent reading of each of the three chapters (essays).

The first essay analyses the experiences drawn from the largest and most complicated restructuring process of sovereign bonds after the Brady-Plan in Argentina which lead to an exchange-offer in January 2005 containing a haircut of about two-thirds. It highlights the potential coordination failures among bondholders in simultaneous decision-making and in how far these failures can be exploited for the benefit of the debtor. The second essay hints at the one-sided distribution of bargaining power in an exchange-offer and the consequences social preferences can play in determining heterogeneous creditor behavior. Starting from the heterogeneity among creditors the third essay describes the current status of the contractual approach and the resulting possibility for the debtor to benefit from inter-temporally discriminating between different creditors. This essay concludes with a proposal for a creation of a creditor representation body which exhibits a similar mode of operation as the CFB in the penultimate century.

Summarizing the conclusions drawn from these essays the contractual approach is not yet able to guarantee effective creditor coordination due to a lack of a comprehensive and forceful permanent creditor representation. Establishing such a permanent representational body would replicate the institutional development experienced during the last heydays of bonds as a source of emerging market financing which lead to a significant improvement in creditor coordination. And since the result of a potential debt restructuring draws back to the ex-ante lending decision by the individual investor this improvement could contribute to the welfare-enhancing effects of external financing for developing economies, Wright (2005).

II. Assurance Game in Argentinean Debt Restructuring¹²

II.1. Introduction

On March 3rd 2005 the Argentinean government announced the success of its restructuring process, including the harshest haircut private creditors on the international bond markets have ever agreed on.¹³ Creditors holding about 76% of the debt volume of USD 103 billion accepted the offer for a debt swap, including a major reduction in the present value of the exchanged Argentinean bonds. Hitherto, this substantial reduction in debt service payments enabled the country to enjoy a strong economic growth over the last years, thereby reversing the negative economic effects of the currency and debt crises that led to default in December 2001. But this successful resolution of the Argentinean debt crises came at a high price in terms of face value to creditors who accepted. These creditors lost about 70% of their bonds' nominal values, and creditors that did not tender their bonds were left with an unknown future. The so-called holdouts were mostly European Retail Investors who are now irritated about what to do with their apparently worthless bonds. The best they can hope for is that Argentina opens for a second time a window for its exchange-offer to tender their bonds.

This restructuring did not only set a new all-time record line in terms of debt reduction but it was also the first time the restructuring of a modern debt crises of a major emerging market debtor since the early 1990s was completely handed over to the financial markets. In this process neither the IMF nor any other multinational political institution was willing to either

¹² The content of this chapter is drawn largely from Engelen and Graf Lambsdorff (2005). The term Assurance-game is generic name for what is more commonly known as a Stag-hunt game.

¹³ See chapter V for comparable debt exchange since the Brady-Plan.

coordinate or finance the resolution mechanism. This case provides a new benchmark for future debt restructurings, with repercussions on the design of the international financial architecture.

The process of sovereign debt restructuring substantially changed over the last two decades due to a major shift in the capital flows to the emerging markets from banking loans towards the international bond markets. In most modern debt crises the debtor does not negotiate with the creditors or a representation body but unilaterally offers a bond exchange including a haircut on the amount owed. Creditors then uncoordinatedly decide on accepting or rejecting the offer. Most theoretical work on this topic highlights the threat of coordination failures between the debtor and creditors due to strategic behavior of both parties caused by asymmetric information (Haldane et al. 2005). However, among creditors there also might appear coordination failures due to an increasingly diverse and diffuse creditor base that could induce a minority of creditors to free-ride on the debt reduction effort of the majority (Krueger 2001), as well as difficulties in the aggregation and representation of different claims (Bartholomew et al. 2004). Several approaches to mitigate these coordination problems have been made and were lately intensively discussed (Roubini and Setser 2004; Rieffel 2003). These approaches vary from pure market based suggestions to rather statutory concepts. But despite the intense discussions on the new design of financial architecture and progress in the inclusion of Collective Action Clauses in new bond issues, as well as the determination of a common Code of Conduct, these elements had only a minor impact on the Argentinean debt restructuring.¹⁴ First, most of the

¹⁴ Collective Action Clauses (CACs) determine a common decision-making process by bondholders. The most popular among these clauses are the majority clauses that allow a qualified majority of bondholders to bind in a ruffling minority in a debt restructuring process, thereby limiting the vetoing power of each individual bondholder. In most cases (e.g., bonds under UK law), an acceptance of 75% of the overall debt amount is sufficient to change the financial terms (principal, interest payments, and maturity) of a bond. However, bonds that were issued under U.S. law do not consist of majority voting clauses with respect to the financial terms of the bond.

defaulted bonds were issued under New York Law without Collective Actions Clauses; second, Argentina was the only Emerging Market country not willing to sign the voluntary Code of Conduct, arguing that it would negatively influence its restructuring effort.

However, after the experiences of restructuring efforts in Ecuador (year 1999-2000) and Uruguay (year 2003), some academics suggested using Exit Consents as a substitute for Collective Action Clauses as long as these clauses were not yet integrated in most of the Emerging Market bonds currently issued (Chamberlin 2001).¹⁵ These, mostly law, academics argue that such consents offer the opportunity to bind in a holdout minority of bondholders by threatening to change the non-financial terms of the restructured bond, which could impose a loss to the holdouts. This threat should deter so-called vulture investors from buying distressed debt at a discount from the secondary market in order to extort a debtor by disruptively vetoing the restructuring process. In their opinion, the effects of Exit Consents should equal those of Collective Action Clauses. As it is argued in this paper, the effects of the two contractual instruments to bind these holdouts are dramatically different, with Exit Consents clearly favoring the debtor. This is one effect that led to the high haircuts in Argentina.

This essay aims to analyze the coordination among creditors and how this process can be influenced by certain features of the exchange-offer. Therefore, it is necessary to present the exchange-offer made by the Argentinean government to the creditors (section II.2.). Based on

¹⁵ The first time Exit Consents (ECs) became publicly known as a restructuring tool in modern financial crises was in the exchange of Ecuador's bonds in 2000. Every bondholder that accepted the offer was required to vote in favor of a long list of amendments to provisions in the original bond documentation. Since even under New York law a qualified majority is sufficient to change the non-financial terms of a certain bond, Ecuador used these Exit Consents to reduce the rights of the remaining bondholders by eliminating certain covenants (e.g., listing at the Luxembourg Stock Exchange). This reduced the attractiveness of the old bond, forcing bondholders to accept the exchange-offer (Salmon and Gallardo 2001).

this exchange-offer it describes the resulting stag-hunt game for creditors (section II.3.) and models the decentralized decision making process (section II.4.). Then, the model is extended to demonstrate how a most favored creditor clause increases the coordination problems and therefore benefits the debtor (section II.5.). Additionally, it is shown how a sovereign debtor could be tempted to influence the expected acceptance of the exchange-offer by specially tailored bonus payments (section II.6.). Conclusively, the analysis draws attention to the differences in the effects of Collective Action Clauses and Exit Consents (section II.7.).

II.2. The Exchange-offer

After experiencing serious macroeconomic instabilities, Argentina defaulted on USD 61.8 billion in public bonds and USD 8 billion in other liabilities on the 24th December 2001.¹⁶ Until the final debt swap offer was launched in January 2005 this amount had increased to a total sum of USD 102.6 billion, including the past due interest payments on the defaulted debt. Two Argentinean proposals for a debt swap with haircuts between 70%-80%, the “Dubai Proposal”, and the “Buenos Aires Proposal” were strongly rejected by the market participants. This changed in late 2004 because of increasing market liquidity and falling spreads on emerging market bonds, which lead to higher present values for the offered debt swaps.¹⁷ This development paved the way for Argentina to launch the third swap offer with only few changes to the previous swap. In addition, ambitious marketing by the government pressured the creditors to accept. The swap started on January 14th 2005 and closed six weeks later. Creditors

¹⁶ For a survey of Argentinean debt history and the current restructuring process see Damill et al. (2005) and Sturzenegger and Zettelmeyer (2006: 165-201).

¹⁷ To value emerging market bonds, future interest and principal payments are discounted by current interest rates in addition to a risk premium for a certain debtor. Therefore, falling interest rates (lower risk-free rates as well as tightening spreads) on the global debt markets reduce these discount rates, thereby increasing the present value of any future payment. This makes an exchange-offer look more attractive due to a higher present value.

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of defaulted debt had the opportunity to tender eligible securities in exchange for any of the three following new securities:

- (i) par bonds¹⁸ due in December 2038 with attached GDP-linked securities;¹⁹
- (ii) discount bonds²⁰ due in December 2033 with attached GDP-linked securities; and
- (iii) quasi-par bonds²¹ due in December 2045 with attached GDP-linked securities.

The par bonds were the most popular of these newly offered securities among creditors.²² Therefore, the details in terms of total volume and the allocation for this specific bond type were an important element of the exchange-offer. Regarding the total volume, Argentina had set a benchmark level of a 70% acceptance rate. Should the offer bring a rate above that level, the country would offer a volume of par bonds of USD 15 billion, and only USD 10 billion if the acceptance was below. Further, Argentina divided the submission period into two periods for purposes of allocation of pars: an early-tender period, comprising the first three weeks of the submission period, and a late-tender period, comprising the remainder of the submission

¹⁸ The offered par bond carried the same amount of principle as the old bonds tendered for it, but with a longer maturity and substantially lower coupon payments.

¹⁹ Each bond in the exchange-offer consists of an attached GDP-linked security – comparable to a warrant - that guarantees additional payments in the case that Argentina should achieve GDP continuous growth rates of more than 3%.

²⁰ Discount bonds had a discount of 66.3% on its principal but carried a higher coupon payment and shorter maturity than the par bonds.

²¹ Quasi-par bonds had a discount on the principal of about 30% and the coupon payments were between the par and the discount bonds. The quasi-pars mainly addressed institutional investors.

²² In debt restructuring processes different groups of creditors have different preferences and want different restructuring terms. Banks and retail investors prefer a preservation of the face value, whereas institutional investors focus on the market value of the newly offered securities (Roubini and Setser, 2004: 258).

period. Bondholders that tendered during the early-tender period would have priority in the allocation of pars.

II.3. The Stag-hunt Game

After the Argentinean exchange-offer was launched each creditor had six weeks to decide whether to accept or to reject it. Acceptance yields the market value of the newly issued bond. Rejection may entail suing Argentina for fulfillment of its contractual liabilities. However, debtor sovereignty limits any judicial enforcement so that the success of such a “going-to-court” alternative is less a matter of legal ruling and more a matter of political pressure.²³ This becomes especially clear in the case of Argentina: although some investors – mostly vulture funds – still try to find ground for legal “guerrilla tactics”, the majority of the holdout creditors are retail investors hoping for a political solution for all creditors, hence not a minority trying to gain at the expense of the majority (“Bond Holdouts gain no ground from Argentina”, Wall Street Journal, 11th July 2005, Pg. C1).

A crucial question for debt restructuring concerns the criteria for success or failure of an exchange-offer. An offer is regarded to be successful when international capital starts flowing again. Therefore, the market perspective for minimum participation before granting fresh capital is crucial in this context. Should the debtor with its exchange-offer not reach this benchmark then the offer is regarded as a failure and Argentina gets under strong pressure to launch an improved offer. Although all official institutions – especially the IMF – refused to set such a benchmark, there were some statements from market participants about a minimum

²³ For details in enforcing debt contracts against a sovereign borrower see Häusler et al. (2003).

requirement for the participation rate of at least 70% (Deutsche Bank 2005).²⁴

Interestingly, this wobbliness over a necessary minimum participation was hindering a consistent coordination process among creditors. Without knowing what percentage of debt is necessary to veto the offered repayment terms, creditors could not clearly distinguish their alternative options. A second reason complicating the coordination process was that the creditor side consisted of different creditor groups with different perspectives on the offer. Only two days after the offer was announced, Argentinean pension funds, holding 17% of the debt, issued a statement that they had already tendered, as they had agreed with the government months ago.²⁵ Other Argentinean bondholders were likely to follow this example. Soon after this statement large foreign institutional investors also signaled their willingness to tender. On the other side the Global Committee of Argentine Bondholders (GCAB) – an umbrella representation body of the private retail creditors – recommended to its members that they reject the offer since the amount of the haircut would be economically unjustified. GCAB was convinced that Argentina – after having experienced a substantial improvement in its economy in the aftermath of the default – could pay much more than the roughly 30 cents on the dollar offered (GCAB 2005).²⁶

Some observers stated that in the last weeks of the tender period it was mainly the group of

²⁴ For a critical view on the role of the IMF in the Argentinean debt restructuring process, see Salmon (2004b).

²⁵ It is presumed that the Argentinean government coaxed the domestic pension funds to accept the offer before the tender period by granting regulatory benefits (Sturzenegger and Zettelmeyer 2005: 40).

²⁶ Roubini (2005) strongly criticizes the representation bodies for this advice since, in his opinion, it was mainly self-serving. In his view, banks and financial institutions had ripped-off small savers by dumping their Argentinean bonds on them and in order to not be sued for their ill-advice they are now paying for the representation of these investors. Therefore, the representation had to reject the offer as a signal to the retail creditors that the bonds represent a higher value so that the banks are not accusable of having recommended buying worthless bonds.

foreign retail creditors that were reluctant to accept the offer (Gelpern 2005).²⁷ Taking the numbers of the GCAB, retail investors represented about 50% of the total amount of defaulted debt eligible to the exchange-offer.²⁸ If all retail creditors rejected the offer, it was highly possible that Argentina could not reach even the self-stated minimum participation of 50% and that the whole creditor community could count on an improved offer. Conversely, there was the threat that if half of these retail investors accepted, a participation of just over 70% would be reached and the exchange-offer would be regarded as successful. This would extremely reduce the value of the remaining bonds as it would enable Argentina to delist the defaulted securities, thereby “closing” the secondary market for these bonds (Deutsche Bank 2005). In the end, this is what happened; apparently some of the retail investors accepted the offer.²⁹ This triggered other investors to follow and in the end – about two hours before the deadline to tender – even the strongly opposing retail bondholder representation, the Argentine Bond Restructuring Agency, accepted the exchange-offer. Its chief negotiator, Adam Lerrick, told the *Financial Times*, “that the high level of participation among other bondholders clinched its decision to agree.” (Financial Times, 28th February 2005)

II.4. Coordination in a Stag-hunt Game

Resulting from the structure of the restructuring process the private creditors were stuck in a situation comparable to a stag-hunt game.³⁰ The decision making process is simplified by

²⁷ See Salmon (2004a) for arguments why retail investors will always be the most reluctant to accept an exchange-offer in a sovereign debt restructuring.

²⁸ GCAB (2004) shows that about USD 49 billion (60.5%) of the total USD 81 billion are held by retail investors. By the last presentation in January 2005 this figure decreased to USD 37.9 billion (46.8%) (GCAB 2005).

²⁹ The majority of these investors accepted the offer by selling their bonds to secondary markets (Deutsche Bank 2005).

³⁰ The aspect referred to is the coordination game among creditors. As this sub-game can be interpreted as part of a

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assuming only two investors, each holding (for example) 25% of the bonds, to decide on the exchange-offer.³¹ Another 50% have already accepted the offer. The exchange-offer would be regarded successful if one player accepts, bringing the acceptance rate to 75%. The payoff to the investors would then be depicted by the following matrix:

		Player II	
		accept	reject
Player I	accept	ω	$\Omega-L$
	reject	$\Omega-L$	$\Omega-qL$

Each investor makes a decision whether to accept the offer, ω , or to reject it. The lower left (upper right) term describes the payoff to Player I (II). Acceptance immediately results in a payoff of ω . If an investor rejects the offer he tries to increase political pressure on the country for an improvement of the existing offer. The result is an expected amendment of the exchange-offer whose total monetary equivalent, including the primary exchange-offer, is denoted by Ω , ($\Omega > \omega$).³²

larger zero-sum restructuring game played by the debtor and the whole creditor community we disregard aspects of welfare analysis. That creditor coordination can result in a stag-hunt game has already been shown by Ghosal and Miller (2003). These authors analyze the coordination failures in the context of a rollover-decision by creditors triggering a liquidity shortage.

³¹ A demonstration that the results of the 2x2 game are also valid with n-creditors ($n > 2$) can be found in the Appendix.

³² The condition $\Omega > \omega$ indicates that the debtor country's ability to pay is higher than her willingness. This assumption is consistent with most of the academic literature on this topic (Haldane et al. 2002; and Ghosal and Miller 2003). In these models the underlying rationale relates to a moral hazard situation regarding the debtor's incentives for compliance. A debtor only puts maximum costly effort into increasing her economic performance during the aftermath of a crisis if she at least partially benefits from the proceeds. In contrast, in the model

This political path bears direct costs for legal action and political campaigning, denoted by L , ($L > 0$), which are largely fixed. If both investors reject the offer they both get the potential increase of the new exchange-offer but share the costs. In the two-player game situation this would be indicated by $q=0.5$. Finding political support may actually become easier the more players are involved, suggesting that q might even be smaller than 0.5.³³ A value for $q=0.25 < 0.5$ thus denotes economies of scale in organizing political campaigns, that is, gains from coordination in the game outlined.

We assume that the fixed amount of legal cost against a sovereign country is larger than the potential gain from an increased offer ($L > (\Omega - \omega)$), but the expected value is lower when many creditors reject ($qL < (\Omega - \omega)$). Assuming perfect information, it is preferable for Player I to accept when Player II accepts and to reject when Player II rejects. There are two Nash equilibria in pure strategies and an additional equilibrium in mixed strategies. Let a_1 (respectively b_1) denote the probability for Player I (II) to accept.³⁴ A mixed strategy requires that Player I and Player II are indifferent between rejecting and accepting, so that they may render their decision to a random mechanism. This indifference for Player I is given when $b_1 \omega + b_2 \omega = b_1(\Omega - L) + b_2(\Omega - qL) \Leftrightarrow$

$$b_1^* = \frac{\frac{\Omega - \omega}{L} - q}{(1 - q)} .$$

presented the difference arises due to the costs of political campaigning. Therefore one can interpret Ω as the highest payment still leaving ample incentives to the debtor to pursue costly effort for an economic recovery.

³³ Haldane et al. (2005) also show a theoretical analysis of the decision process in the case of New York Law bonds. However, in their model the legal costs are independent of the overall acceptance rate. This is the main difference between their and the current analysis since the latter one tries to endogenize the political pressure on the debtor country if a large enough fraction of debtors reject the offer.

³⁴ Hence a_2 (b_2) denotes the probability to reject, $b_1 = 1 - b_2$.

The mixed strategy equilibrium can also be interpreted as the watershed, suggesting which pure strategy to prefer when being uncertain about the other player's behavior. In this perspective the finding is more intuitive. With an increasing $(\Omega - \omega)$, that is, higher gains from rejection, b_1^* increases, suggesting that for Player I to accept he requires a higher prior probability of Player II to accept also. Likewise, b_1^* decreases in L , the costs of mobilizing political pressure. This implies that Player I would prefer to accept, unless there is a high prior likelihood for Player II to reject. Take the following values as an example: $\omega = 100$, $\Omega = 125$, $L = 50$, $q = 0.25$

		Player II	
		accept	reject
Player I	accept	100	75
	reject	100	112.5
		75	112.5

In this example $b_1 = 1/3$.

Given the multiple equilibria, which will actually be played? One approach for finding a unique solution would be to focus on pure strategies (that is, to disregard the mixed equilibrium) and use risk dominance as the criterion employed by the players in deciding which of the two pure equilibria to prefer, (Harsanyi and Selten 1988).³⁵ The concept of risk dominance recommends selecting the equilibrium containing the highest product measured by the deviation payoffs. A deviation payoff is the loss one player must bear if he does not choose

³⁵ Risk-dominance competes with different selection concepts. But it tends to be the most popular concept for equilibrium selection, justifying the current focus on this criterion. For an overview see Carlsson and van Damme (1993).

the best reply against his opponent's action. The intuition is that the players try to minimize the risk of losses.³⁶

Applied to the current context, there is no risk involved if player I accepts; irrespective of player II's choice the payoff is ω . Conversely, joint rejection provides a higher payoff. But this choice is risky for player I if player II accepts. The risk dominance concept compares these risks and opportunities for players I and II jointly by determining a Nash-product of deviation-payoffs for each Nash equilibrium. When both accept (payoff 100) each player avoids the lower payoff obtained when rejecting alone (payoff 75). But when rejecting (payoff 112.5), each player increases the income compared to acceptance. In general terms, the deviation-payoff product when both accept (payoff ω) is the product of the difference obtained for player I choosing to reject (payoff $\Omega-L$) multiplied with the same difference for player II due to symmetry: $(\omega-(\Omega-L))(\omega-(\Omega-L))$. This value depicts the avoided risk when choosing acceptance. The deviation-payoff product, in case of rejection (payoff $\Omega-qL$), would be the product of the difference obtained for player I when accepting (payoff ω) multiplied with the same term for player II due to symmetry: $(\Omega-qL-\omega)(\Omega-qL-\omega)$. This term depicts the potential increase in income resulting from rejection.

Accepting the exchange-offer would be risk dominant if both player's deviation-payoff product $(\omega-(\Omega-L))(\omega-(\Omega-L))$ were larger than that in the case of rejection, $(\Omega-qL-\omega)(\Omega-qL-\omega)$.

Rearranging yields that accept risk is preferred if

$$(1) \quad \omega > \Omega - (1+q)L/2 ;$$

³⁶ The concept of risk dominance might not be pareto-optimal as it may conflict with the payoff-dominant equilibrium that both creditors reject (Harsanyi and Selten 1988: 88-90). See Fudenberg and Tirole (1991: 20-23) for the role of pre-play communication and trust in the selection process when payoff-dominance and risk-dominance conflict.

that is, if gains from rejection are small, legal costs are high, and gains from collective action are limited such that q is large. In the numerical example, acceptance would be risk dominant if $\omega > 125 - (1+0.25) \cdot 50/2 = 93.75$.

Increases in legal costs, L , and reduced gains from coordination (increasing q), would provide the debtor with slack according to equation (1). This would allow for a reduced exchange-offer, ω .

The debtor country profits from the strategic uncertainty among the creditors. If these were instead able to coordinate their actions, they could determine the pure Nash-equilibrium that provides them with the highest payoff. An exchange-offer would only be accepted if $\omega > \Omega - qL$. Hence, the debtor benefits from individual creditor's fears that other creditors may accept, thus lowering his chances of a successful political campaign. This in turn makes acceptance preferable even where collective action among creditors would allow squeezing out higher payoffs. In the example, collectively choosing to accept would be the dominant strategy only if $\omega > 125 - 0.25 \cdot 50 = 112.5$. So by the stag-hunt game the debtor gets additional slack for a reduced offer of $112.5 - 93.75 = 18.75$.

It is noteworthy that as, apart from the legal costs, all payments arise in the future the sovereign debtor might fail to fully commit to these payments. However, as this uncertainty due to commitment problems would concern all future payments equally, the structure of the game outlined and the resulting coordination failures among creditors are not affected. The only exception to this is the case of a most favored creditor clause, where – as will be shown – the degree of commitment is a decisive element for its effect on creditor coordination.

II.5. Effects of a Most Favored Creditor Clause (MFC)

A most favored creditor clause provides another opportunity to the debtor to exploit the

creditors. Such a clause ensures creditors who accept the offer in the first place to participate in any later improvement of the offer presented to creditors that initially did not accept the offer. In the case of Argentina the inclusion of these clauses was controversially discussed. Most legal comments on the exchange-offer pointed out that the clause was not waterproof.³⁷ Thus, the probability (as expected by creditors) that Argentina will share any improvements with those who already accepted is depicted by $p < 1$. Assuming risk neutrality, the payoff from acceptance while others reject increases by $p(\Omega - \omega)$. Considering this we get the following extension of the game situation:

		Player II	
		accept	reject
Player I	accept	ω	$\Omega - L$
	reject	$\omega + p(\Omega - \omega)$	$\Omega - qL$

A trivial situation with dominance of acceptance is obtained if $\omega + p(\Omega - \omega) > \Omega - qL \Leftrightarrow 1 - qL / (\Omega - \omega) < p^*$. This implies that for acceptance to be preferred $p^* < 1$ would already suffice. A debtor country does not have to integrate a waterproof most favored creditor clause in its offer. There is a certain probability (p^*) below unity that is sufficient to make acceptance the only Nash equilibrium. Any further increase of p above that necessary level (p^*) would potentially bear additional costs without any benefit for the debtor country since accepting is already the

³⁷ This clause, for example, refers to the Republic of Argentina but not to the institutions it controls; e.g., the Banco Nacion. These institutions can negotiate with holdout creditors and buy back old securities at a higher price on the secondary market. Such a purchase would not be covered by the MFC, providing a loophole for the Argentinean government to circumvent the MFC (DekaBank 2005).

dominant strategy.³⁸ Assuming $p < 1 - qL/(\Omega - \omega)$, again two pure Nash-equilibria and one Nash-equilibrium in mixed strategies are obtained. Focusing on the question of which pure Nash equilibrium is to be preferred, the risk dominance concept implies that acceptance is preferred if $(\omega - (\Omega - L))(\omega - (\Omega - L)) > (\Omega - qL - \omega - p(\Omega - \omega))(\Omega - qL - \omega - p(\Omega - \omega))$. Simplification yields:

$$(2) \quad \omega > \Omega - (1+q)L/(2-p).$$

Equation (2) shows that the higher the probability for the MFC to hold (p), the lower a debtor country can set the exchange-offer and still keep accepting preferable. In equilibrium there are no actual costs involved for Argentina in arranging a MFC, because joint acceptance is the equilibrium played. Thus, a MFC is clearly a method in favor of the debtor.

II.6. Effects of a Bonus Payment

Another way of altering the necessary minimum offer would be a bonus payment – called a sweetener - given to creditors if a certain participation level is reached. In the two-player game, such a payment (γ) is made when both players accept:

³⁸ In a situation of a sovereign debt restructuring there tend to be vulture creditors, specialized in legal processes against countries that have reached a restructuring agreement with the majority of its creditors. In some of these cases debtor countries lost the fight against these rogue creditors and cashed them out (e.g., Peru vs. Elliott Associates, Mandeng 2004). Since the so-called Collective Action Clauses, which aim to bind in these holdout-creditors, were not yet included in the bonds eligible to the Argentinean debt swap offer, the country still faces the threat of legal action from remaining creditors. A probability for the effectiveness of the MFC (p) below unity enables the debtor to cash out these creditors in case of a legal defeat without having to improve the terms for all other creditors. Hence, reducing this ability by increasing the probability (p) can be interpreted as costs to the debtor. For a more detailed discussion of the MFC in the Argentinean bonds see Gelpern (2005).

		Player II	
		accept	reject
Player I	accept	$\omega + \gamma$	$\Omega - L$
	reject	$\omega + \gamma$	ω
		accept	reject
		$\Omega - L$	$\Omega - qL$

We obtain the usual two Nash equilibria in pure and one in mixed strategies. Acceptance is risk preferred if

$$(3) \quad \omega > \Omega - [\gamma + (1+q)L]/2.$$

A bonus payment γ would thus allow a reduction in the offer by $\gamma/2$ while still preserving acceptance as the risk dominant strategy. However, this time this advantage is more than offset by the costs involved in paying the bonus, because this payment is precisely made in the selected Nash equilibrium. The advantage of $\gamma/2$ is thus more than offset by the costs γ .

In the Argentinean exchange-offer the par bonds were the most favored bond type among creditors. Therefore, enlarging the amount of issued par bonds once a participation of over 70% is reached can be interpreted as a bonus payment for accepting. But the total amount of par bonds was limited to USD 15 billion and the amount each individual creditor could tender was USD 50,000. However, this bonus payment is different to the general bonus payment described above. The main difference is that the value of this bonus payment for each accepting creditor is, by itself, contingent on how the other creditors decide. Once the necessary benchmark acceptance of 70% is reached the amount of par bonds increases by a certain amount (USD 5 billion) independent of whether 71% or 99% of the creditors accepted the offer. The only effect of a further increase above the benchmark level is that the share of the bonus payment for the single accepting bondholder diminishes. The higher the overall participation is the less likely it

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is that the individual creditor will receive the amount of par bonds he was entitled to tender for.³⁹

Let a debtor country offer such a contingent bonus payment (z) to the creditors, like the additional par bonds in the case of Argentina. In this game each single bondholder would receive z if he accepts while his opponent rejects and just $z/2$ if both accept since each gets a minor share. The game would be the following:

		Player II	
		accept	reject
Player I	accept	$\omega+z/2$	$\Omega-L$
	reject	$\omega+z$	$\Omega-qL$

Then the country could set its offer according to

$$(4) \quad \omega > \Omega - (1+q)L/2 - 3/4z.$$

This demonstrates that the debtor can lower her costs of the exchange-offer by $3/4z$ compared to additional payments in equilibrium of $z/2$. An even stronger effect could be achieved if a bonus is paid to the creditor contingent on the rejection of the other creditor. Hence, such contingent bonus payments are an advantageous tool for an exchange-offer, and possibly stronger if used in future debt exchange-offers.

³⁹ Under the assumption that the amount of par bonds each creditor receives in the allocation is the minimum of his pro rata share and the tender limit of USD 50,000.

II.7. Differences between Collective Action Clauses and Exit Consents

Applying the above developed framework the crucial difference between the effects of Collective Action Clauses (CACs) and Exit Consents (ECs) can be shown. These two instruments – contrary to their recognition in the literature (Buchheit and Gulati 2000; Choi and Gulati 2003) – have substantially different effects on the decision process of the individual creditor in a debt exchange-offer.

Majority voting clauses are the crucial element of the Collective Action Clauses that become increasingly popular in order to mitigate holdout behavior, a behavior that is sometimes exploited by vulture funds (IMF 2005). Although Argentinean bonds under New York law did not include these clauses it is interesting to see how the rejecting creditors could have benefited. In contrast to a bond exchange, these clauses allow a qualified majority via a bond amendment to restructure the debt by changing the financial terms of the bonds which are then effectual to all bonds in the respective bond category.⁴⁰ In this context Collective Action Clauses are modeled as simple majority voting clauses, allowing a majority owning 75% of the bonds to change the repayment terms for all bonds. In the example creditors holding 50% of the bond's principle amount already accepted the exchange-offer with two creditors left, each holding 25%. This results in the following game:

⁴⁰ The alternative way to achieve a debt restructuring via an exchange-offer – as in the case of Argentina - is an amendment of the financial terms of the bond. Necessary is that all creditors, in the case of U.S. law bonds or a supermajority of creditors in the case of UK law, accept the change at a bondholders meeting. Majority action clauses aim to make a supermajority sufficient for this amendment in the case of U.S. law.

		Player II	
		accept	reject
Player I	accept	ω	ω
	reject	ω	$\Omega - qL$

The worst each creditor can get now is the present value (ω) of the exchange-offer. Therefore, the single creditor can decide independently of his fellow creditors and would accept the exchange-offer only if $\omega > \Omega - qL$. Hence, the collective action clause would ensure collective power to reject an unsatisfactory offer and consequently reduce the risk of being left alone as the only one exerting expenses for a political campaign.

In contrast, ECs worsen the situation to the holdout creditors. ECs target the non-financial terms of a bond. Each creditor that accepts the bond exchange agrees, as his last act as bondholder, to change these non-financial terms in order to make the old bond less attractive for the holdout creditors (Roubini and Setser 2004: 168).⁴¹ But making a bond less attractive to the remaining bondholders by e.g., reducing its liquidity through a delisting from the secondary market is nothing less than imposing a loss to the rejecting creditors once a necessary majority accepts the offer. In the theoretical framework this situation seems familiar from the earlier analysis. The loss by changing the non-financial terms of the bond is denoted by Θ :

⁴¹ Argentina integrated exit consents in its exchange-offer. In its prospectus of the exchange-offer, Argentina points out several times that a potential risk factor for not tendering is that it might delist the old securities from the secondary markets, thereby strongly reducing the liquidity of these bonds. However, up to now this delisting of the remaining bonds has not taken place yet.

		Player II	
		accept	reject
Player I	accept	ω	$\Omega-L-\Theta$
	reject	ω	$\Omega-qL$

This yields that accepting is preferred if

$$(5) \quad \omega > \Omega - [\Theta + (1+q)L]/2.$$

Comparing this equation with (3) it becomes clear that the potential loss imposed through the threat of Exit Consents has the same effect on the decision process as a general bonus payment. But contrary to the bonus payment, this is without the side effect of additional costs for the debtor. Hence, this instrument clearly favors the debtor.

II.8. Conclusion

The creditor coordination game in this analysis is part of a restructuring game between the debtor and its creditors about sharing the burden of a particular financial crisis, where conflict induces further costs. In this game the debtor faces a trade-off between making a lower exchange-offer (ω) and risking the acceptance of the creditors. Therefore, it is optimal for the debtor to choose the lowest level of ω with accepting still being the preferred action by creditors. The current analysis shows that creditors in the latest Argentinean bond restructuring were stuck in a stag-hunt game due to a loss imposed on the rejecting creditors once – although not clearly determined – a benchmark acceptance was reached. Applying the concept of risk-dominance to this situation enables the defaulted debtor to use certain contractual elements of the exchange-offer for her own benefit. In sum, one can solve for the exchange-offer that is optimal for the debtor with:

$$(6) \quad \omega^* = \Omega - \frac{(1+q)L - (\frac{z}{2} + \Theta)}{(2-p)}$$

In the case of Argentina the most favored creditor clause (MFC), which would hold with probability p , was such a contractual element that allowed those accepting the offer to free ride on the efforts by holdout creditors to improve future offers. Furthermore, the debtor country used a contingent bonus payment $z/2$ – an additional amount of par bonds – in its own favor. From a debtor’s point of view these contingent sweeteners are superior to general bonus payments since the costs involved for paying these bonuses exceed their overall benefit. However, the advantageous effect of general bonus payments for the debtor can be replicated by the use of Exit Consents imposing a potential loss on the holdout minority. Exit Consents are often mentioned to be equal to CACs, hence making a further introduction of CACs into emerging market bonds redundant. But as was demonstrated, the effects of the two mechanisms on creditor coordination are not equal. Exit Consents provide debtors with the opportunity to sanction a holdout creditor, imposing the cost Θ . Conversely, CACs mitigate the coordination failures among creditors. The MFC as well as the Exit Consents are attractive to the debtor as these instruments bear no costs for the debtor when the creditor accepts.

In conclusion, the Argentinean debt exchange-offer consisted of several contractual elements – familiar as well as unfamiliar – that clearly benefited the debtor in the restructuring game. Therefore, it is highly possible that these elements will play an important role in any future exchange-offer from an insolvent sovereign debtor.

II.9. Appendix

A.1. The case of n-Players

Since all variables are normalized to percentages of the value of the debtor's exchange-offer the only influence of a broadening of the creditor base is on the share of legal costs that the single creditor has to bear in case of rejection.

As has been pointed out in the two-creditor case, if all $n-1$ creditors accept the offer then the single rejecting creditor must bear the highest costs of legal action and political campaigning (L). Contrary, if all $n-1$ creditors reject the single creditor benefits from economies of scale in organizing political campaigns against the debtor so that his legal costs reduce to qL with $q < 0.5$, this leads to the following payoff function for a single rejecting creditor with x denoting the amount of fellow rejecting creditors and $n > 1$:⁴²

$$(1') \quad \Omega - \left(1 - \frac{x}{n-1}\right)(1-q)L$$

⁴² An alternative version of the costs of going to court in the case of $n > 2$ might involve fixed costs \bar{L} , for example, as a result of collective lawsuits. Such costs would be fixed for all rejecting creditors, but they would naturally decrease with the amount of fellow creditors who reject: $\frac{\bar{L}}{x}$. Once introducing such a term into the game, it can swiftly be shown that an increase in the number of players, n , favours accepting as the risk dominant equilibrium. The reason is that being the only creditor rejecting induces the fixed costs \bar{L} (and thus a high risk) while being the only one accepting avoids only a minor cost of $\frac{\bar{L}}{n}$.

We obtain the following payoff matrix:

		x players out of n-1 reject			
		x = 0	x = 1	...	x = n-1
Player I	accept	ω	ω	ω	ω
	reject	$\Omega - L$	$\Omega - (1 - \frac{1}{n-1}(1-q))L$	$\Omega - (1 - \frac{x}{n-1}(1-q))L$	$\Omega - qL$

Symmetric mixed strategy equilibrium requires indifference between acceptance and rejection; that is, acceptance to yield a payoff equal to that resulting from rejection:

$$(2') \quad \begin{aligned} \omega &= \Omega - (1 - \frac{x}{n-1}(1-q))L \\ \Leftrightarrow \frac{x}{n-1} &= \frac{1}{1-q} (1 - \frac{\Omega - \omega}{L}) \end{aligned}$$

The term $\frac{x}{n-1}$ now denotes the share of fellow creditors that must reject in order to induce indifference in the choice of ones strategy. Another interpretation would be to regard this as the probability of rejection for each of the fellow creditors. Thus, the probability of acceptance (b_1^*) in a symmetric mixed strategy equilibrium turns out to be:

$$b_1^* = 1 - \frac{x}{n-1} = 1 - \frac{1}{1-q} (1 - \frac{\Omega - \omega}{L}) = \frac{\frac{\Omega - \omega}{L} - q}{1-q}$$

When (2') holds then x (out of n-1) other creditors reject the offer so that the single creditor is indifferent between accepting and rejecting. The resulting symmetric equilibrium in mixed strategies is unique because the payoff function (1') is increasing in x. Observe that this solution is identical to the one obtained in the 2-player case. For a more formal derivation of

the symmetric mixed strategy equilibrium, and also for cases with collective action clauses, see Ghosal and Miller (2003).

According to Harsanyi and Selten (1988: 207-209) the concept of risk dominance can be applied to the n-creditor case in the form that the single creditor compares the deviation payoff for the Nash equilibria. For this purpose the single creditor observes the drop in payoff (depicting the risk) that arises when being the only creditor who erred in his choice of the equilibrium. When all n-1 fellow creditors accept (respectively reject) the exchange-offer and he chose reject (respectively accept) his payoff drops and reveals the risk of erring. As can be seen from above these corner payoffs for the single creditor do not change in comparison to the case of n=2. If all accept the single creditor gets the safe value of the exchange-offer (ω) and avoids the low payoff as a single rejecting creditor, $(\Omega - L)$. If all reject they obtain the higher payoff $(\Omega - qL)$ and avoid the lower value of the exchange-offer (ω) that results when being a single accepting creditor. Therefore, acceptance of the offer in the presented symmetric coordination game is risk dominant if:

$$\begin{aligned}(\omega - \Omega + L) &> (\Omega - qL - \omega) \\ \Leftrightarrow \omega &> \Omega - (1 + q)\frac{L}{2}\end{aligned}$$

So due to the symmetry of the game the calculus of all other players is identical to that of a single player and thus do not add to the logic risk dominance. This shows that the choice of equilibrium determined by the concept of risk dominance is not affected by the number of creditors involved in the restructuring.

III. Social Preferences in Sovereign Debt Restructuring⁴³

III.1. Introduction

Avoiding conflict of interest among creditors has always been a central aspect in the debate regarding an institutionalized restructuring process for an insolvent sovereign debtor (see Bank of England 2005 as well as Roubini and Setser 2004). Currently, this debate focuses on a contractual approach that centers on the inclusion of so called Collective Action Clauses (CACs) in emerging market bonds. These clauses would allow a supermajority of creditors to overrule a holdout minority in a proposed restructuring of defaulted debt. The goal is to secure inter-creditor equity by eliminating the incentives for free-riding. However, according to the nature of majority voting, the bound minority loses its bargaining power in the negotiation process. CACs thereby implicitly reduce the collective negotiation process to a bilateral agreement between the debtor government and the pivotal creditor whose acceptance will complete the necessary supermajority. Therefore, the majority voting might cause conflicts of interest among heterogeneous creditors (Bratton and Gulati 2003).

How do some creditors differ from others? As demonstrated by the Argentinean debt swap in 2005, this question seems to be more complex than some comments regarding the merit of the contractual approach without any third party moderation or coordination would suggest, (e.g., Kletzer 2003). In the course of this largest debt restructuring in history, different creditor groups, e.g., institutional investors, retail investors, vulture funds, proved to embrace substantially different views regarding both how to handle the negotiation process and what an

⁴³ The content of this chapter is drawn largely from Engelen and Graf Lambsdorff (2007).

acceptable exchange-offer should look like.⁴⁴ Ultimately, 24% of the creditors, especially the groups of vulture funds and foreign retail investors, rejected the offer made by the Argentinean government.⁴⁵ As this paper suggests, these two groups possessed totally different reasons to reject the offered repayment terms. While the vulture funds specialize in free-riding, the retail investors might have regarded the offer as unfair. This suggests that fairness considerations can be an additional source of potential heterogeneity among creditors. Findings from experimental game theory support the argument that heterogeneity in economic decision-making can be related to fairness considerations. For example, in the classical ultimatum game, a proposer makes a suggestion regarding how to divide a joint payoff, and a responder either accepts or rejects the proposal. A rejection of the proposal results in zero payoff for both players. Some responders accept small amounts, while others depart from the perfect payoff maximization by rejecting shares even larger than 20 percent (Camerer 2003: 49).

Taking this into consideration, this paper shows that an exchange-offer proposed by the debtor leads to reservations that might be influenced by fairness. Defining fairness as the aversion of inequality, this essay concludes that inequality of payoffs between debtor and creditors and also among different creditors or creditor groups can impact the outcome of the restructuring process. It's main contribution is to identify a potential source of heterogeneity among different creditors or creditor groups and the impact that this heterogeneity might have on the effectiveness of intra-creditor coordination in the course of different voting procedures. It begins with the bargaining framework surrounding the renegotiation process between a debtor

⁴⁴ For a survey on the Argentinean default and its restructuring see Blustein (2005) and Damill et al. (2005).

⁴⁵ Vulture funds usually buy defaulted sovereign debt on the secondary market far below face value and initiate litigation for full repayment. As this might threaten the success of the whole restructuring process, some examples of settlement payments to these funds have occurred. Retail investors, in contrast, consist mostly of individuals who invested their pension savings in Argentinean bonds shortly before the default.

government and its private bondholders (III.2.). Based on the experiences regarding heterogeneity from the Argentinean debt restructuring (III.3.), the analysis introduces inequality aversion as an additional cause of heterogeneity (III.4.). This will lead to an analysis of the resulting creditor payoffs in an exchange-offer with inequality among accepting and rejecting creditors (III.5.) and the employment of majority voting (III.6.) as compared to a bondholder meeting (III.7.).

III.2. Restructuring as an Ultimatum Game

Sovereign debtors receive credit from the international capital markets in order to finance governmental investments that are intended to foster the economic development of the economy. The repayment of the debt is guaranteed by tax revenues, which are expected to grow in the future. However, sometimes expectations are too high, or reality is unfavorable, which might result in the debtor traveling on a debt path that is not sustainable. A characteristic of this type of unsustainable development is that the present value of future repayment obligations is higher than the present value of future repayments that can still be regarded as sustainable in both economic and political terms. The debtor country is in a state of insolvency that necessitates restructuring the debt including a haircut that the private creditors must take on their claims. The goal is to bring the debtor back to a sustainable debt path and thereby back to solvency.

The main difference for sovereign debtors from the insolvency of a private company is that the future repayments do not represent the maximum payment capability but rather the debtor's maximum payment willingness, which is strongly influenced by political sentiments. The reason for this is that sovereign debtors are not liable to any legal jurisdiction, which has led to

very few cases of successful legal enforcement of contractual claims.⁴⁶ Therefore, besides the threat of litigation, the incentive to avoid measures of economic punishment from creditors – like the temporal exclusion from the international financial markets – encourages the fulfillment of these obligations (Eaton and Gersovitz 1981). Political pressure can also act as an incentive for contractual conformity. Such pressure might come from multinational financial institutions or governments of countries that host the leading international financial centers.

This shows that the barrier to the insolvency of a sovereign debtor is at least partially determined by debtor government discretion. For example, in the case of the latest Argentinean debt restructuring, the debtor government under president Nestor Kirchner signaled its willingness to aim at an average primary budget surplus for the subsequent 25 years of 2.6% Gross Domestic Product (GDP) (GCAB 2004). However, the Global Committee of Argentina Bondholder (GCAB), which operated as an umbrella representation body for various committees of private creditors, based their valuation on a primary budget surplus projection of 3.3% GDP for the same time period.⁴⁷ Based on the estimates of the committee, this difference in the primary surplus projections would have had an impact on the present value of future repayments equivalent to USD 17 billion. This shows that the process of sovereign debt restructuring includes the bargaining of a specific future repayment plan in a range between “minimum payment willingness” and “maximum payment capability”.⁴⁸ The difference can be regarded as a “pie” that must be divided between the debtor and the creditors. Various models

⁴⁶ See Sturzenegger and Zettelmeyer (2006: 72-73) for a list of such cases.

⁴⁷ This figure is calculated using identical assumptions for GDP growth.

⁴⁸ Most of the models on sovereign debt restructuring recognize this difference between payment capacity and willingness (Haldane et al. 2002, 2005 and Ghosal and Miller 2003). The most prominent argument in favor of this difference is to provide an incentive for the debtor to undertake costly economic reforms because a positive difference would mean that the debtor country would participate in any improvement of the economic conditions of the country.

in bargaining theory reveal that the bargaining framework is the key to the division of the pie. Which side is allowed to make the first proposal? Who makes a second or even third proposal? How costly are rejections? Will an opportunity be provided for communication prior to making proposals? Is an independent third party involved for arbitration? These are the crucial issues that are organized by the bargaining framework, and they are essential to determine the bargaining power between the debtor and creditors (Camerer 2003: ca. 151-194).

How is bargaining currently structured? Different versions are suggested in the literature. Actually, this is the most crucial aspect of the discussion regarding an institutionalized mechanism for an orderly restructuring process of sovereign debt. The reason for this dispute is that the structure of bargaining has been changing as the debt profile of sovereign debtors evolves, particularly from bank loans to bonds as the primary source of external financial resources.

Motivated by the Latin-American debt crises of the 1980s, the advocates of a pure market-based (contractual) approach – which means no third party intervention into the crises resolution – are on one side, like Kletzer and Wright (2000) and Kletzer (2003).⁴⁹ They assume

⁴⁹ In a sense, the case of the Argentinean debt restructuring should have been the first resolution process without major (third party) official sector intervention, e.g., by the IMF or other multinational institutions, and, therefore, should have been an example of this still evolving pure market-based (contractual) restructuring process. However, due to commitment tactics, the case of the Argentinean debt exchange-offer introduced a caveat to this. The Argentinean exchange-offer received a participation rate of 76%. Since the bonds that were included in the restructuring did not provide the possibility for majority voting, the Argentinean government must receive all old bonds to resolve the default. Hence, continuing to launch further (possibly higher) exchange-offers until all bonds in default are exchanged would be a common procedure. However, through the inclusion of a “most favored creditor clause” in the new bonds and the passage of a law that prohibits the government from making a higher offer, Argentina generally committed itself to not making higher offers. This causes opacity with regard to the future of the rejecting creditors and thereby to the development of the pure market-based restructuring process (Porzecanski 2005, Scott 2006, and Miller and Thomas 2006).

that the bargaining power is one-sided and located with the creditors since they would propose the terms of any revised repayment schedule to the debtor.⁵⁰ However, the experience with sovereign debt restructuring over the last decade tells a different story. Accompanied by the rise of bond markets as the major source for emerging market financing, the restructuring procedure has changed substantially toward a process of exchange-offers proposed by the debtor to its creditors (Roubini and Setser 2004). This offer mostly comprises the swap of old bonds for new ones containing revised financial terms for repayment. The creditors then can solely choose between acceptance and rejection.

Miller and Garcia-Fronti (2003) and Dhillon et al. (2006) seized this topic and analyzed the Argentinean debt restructuring of February 2005 in the tradition of Bulow and Rogoff (1989) by applying the concept of a Rubinstein Game with alternating offers. In this game, the creditor can also solely decide between acceptance and rejection of the offer made from the countervailing party. However, if he rejects the proposal in the current period, he becomes the one to propose in the next period. So, both parties, proposer and responder, know that if the game moves to the next round of bargaining, they will switch positions.

When applied to the case of the Argentinean debt restructuring, the authors interpreted the reaction from the GCAB after the debtor made its first offer in Dubai (2004) to be such an alternating offer.⁵¹ However, the final result of the Argentinean debt restructuring questions the interpretation of a Rubinstein Game. The committees recommended its members to reject the second offer made by the debtor and tried to get involved in a bilateral dialogue by offering what they regarded as acceptable terms. However, the Argentinean government simply ignored

⁵⁰ Actually, this is also a necessary assumption to sustain their renegotiation-proof reputation equilibrium.

⁵¹ The GCAB, as the representation body of private creditors at that time in line with the credit markets, strongly dismissed this repayment offer and demanded more than double the size of the proposal.

these proposals and continued with its unilateral approach. Ultimately, a large majority of creditors accepted the Argentinean proposal despite the lack of dialogue between the debtor and the creditors (“A victory by default? - The successful restructuring of Argentina's debts has set a painful new benchmark for creditors”, *The Economist*, 5. March 2005). This means that, although the committees might have had a different perception of their role, they simply did not have the power to become a bargaining participant in such a Rubinstein Game.⁵² Apparently, the debtor government did not care about the representation bodies as long as the majority of creditors would accept their offer. However, this does not mean that a debt restructuring can never become a Rubinstein Game, but it would require a high degree of effective coordination among different creditor groups. The representation body is a serious player in the bargaining process only if it can make a credible threat to impose sanctions, such as advancing to the next renegotiation round in case the offer is too low. An example of a representation body of private creditors that exhibited this type of credibility is the Bank Advisory Committees from the 1980s. They guaranteed a high degree of coordination among the creditor banks during the restructuring process (Rieffel 2003).

So, what kind of bargaining framework was used in the case of Argentina? The Argentinean government refused to participate in a clearly structured negotiation process but rather unilaterally proposed the following two repayment offers: the Dubai and the Buenos Aires proposal.⁵³ The former proposal was merely a public announcement of the key details for a possible exchange-offer and was presented in 2004 at the IMF/Worldbank meeting in Dubai.

⁵² Dhillon et al. (2005) suggested that this disempowerment was at least partially caused by New York investment funds that took over as a negotiating counterparty at considerable cost to the average creditor as they admit.

⁵³ Other examples of unilaterally proposed exchange-offers are the debt restructurings in Pakistan (1999), Ukraine (1998-2000), Ecuador (1999-2000), Russia (1998-2000), Moldova (2002), Uruguay (2003), and the Dominican Republic (2005). For a detailed description of the restructuring terms offered see chapter V.

These details were strongly rejected by the creditors. The second, slightly improved proposal was made at the beginning of 2005 with a six-week tender period, during which 76% of the creditors exchanged their old bonds for new ones, thereby accepting an implicit haircut on the nominal value, including past due interest, of around 70%. With regards to the bargaining framework, these facts suggest the repetition of an ultimatum game framework between the debtor government and the creditor side, at least for the creditors lacking a powerful representation. In contrast to a Rubinstein Game, the positions of proposer and responder remain the same in case of rejection in a repeated ultimatum game when negotiation rounds advance. Therefore, total bargaining power in the next stage will again be on the side of the current proposer. The decisive difference between a Rubinstein Game and a repeated ultimatum game is that in the latter case only one side makes proposals for the division of the pie. Apart from rejection, the receiving side, therefore, has no influence on the shares offered. Actually, the GCAB admits this lack of influence in the approach to the second and final offer. In its last investor road-show presentation, it stated, “Argentina has not engaged in constructive dialogue with leading creditor groups. The current proposal does not reflect any input from GCAB.” GCAB (2005).

III.3. Heterogeneity among Creditors

In bargaining theory, the subgame perfect Nash equilibrium in an ultimatum game is quite unspectacular. In such a game, the proposing side exhibits the whole bargaining power and can, therefore, secure virtually the whole pie. However, why did a majority of creditors accept the offer while a minority rejected it? This would imply heterogeneous reservation values among creditors. Apparently, the groups of foreign retail investors and vulture funds must have possessed higher reservation values than the other creditor groups since they mostly rejected the offer (Sgard 2005 and Gelpern 2005).

Haldane et al. (2005) presented a model containing different holdout costs among creditors caused by different investment horizons, compensation structures, or different degrees of risk aversion. Although not explicitly stated by the authors, the same rationale would also be valid for differences in litigation costs (e.g., due to judicial experience) among creditors. These different holdout-costs translate into heterogeneous outside options, e.g., net proceeds in the case of litigation.⁵⁴ However, as each creditor accepts an exchange-offer only if it is higher than his outside option, different reservation values with the lowest holdout cost comprising the highest reservation value result. When applied to the case of the Argentinean debt restructuring, this argument might be convincing to justify the behavior of vulture funds and other so-called bottom-fishers as these investors are highly specialized in the handling of distressed debt. However, it is not truly convincing in the case of the retail investors. Actually, retail investors tend to have relatively higher holdout-costs as compared to institutional investors due to a higher degree of risk aversion or less experience in litigation. Therefore, according to Haldane et al. (2005), this creditor group should have an even lower reservation value than the institutional investors.

Therefore, some commentators suggest that the retail investors lacked the ability for sophisticated information processing of the economic data (Gelpern 2005 and Salmon 2004). This would lead retail investors to a wrong supposition regarding the maximum that could be achieved in this type of negotiation process. This uncertainty would be amplified when creditors prefer to follow the choice of the majority of creditors but are uncertain about what others will do (Engelen and Graf Lambsdorff 2005). Understandably, households often do not

⁵⁴ Since legal enforcement of debt claims by a sovereign entity is limited, very few cases of successful holdout litigation in recent sovereign debt restructurings have occurred (Sturzenegger and Zettelmeyer 2006 and Miller and Thomas 2006). Furthermore, as these cases involved complex legal strategies to achieve the resulting enforcement, different litigation costs might be essential in explaining heterogeneity among creditors.

have the ability and knowledge to realistically assess these issues. Nevertheless, this argument is not completely sound because badly informed retail investors may also erroneously accept a low offer. Whether an average lack of information increases rejection or not remains indeterminate.

Finally, some sources also argued that the side deals that were offered to some creditor groups would have been a decisive element in this restructuring, thereby leading to heterogeneous behavior.⁵⁵ Although such deals are hard to judge and are not typically publicly announced, such elements surely occurred between the government and the Argentinean pension funds. Unquestionably, these deals have influenced the pension funds' early decision to accept the second offer. However, this logically was not solely responsible for a participation rate of 76% since this would imply that all but the rejecting creditors would have benefited from such side deals; this is an argument that is not truly convincing.

III.4. Fairness and Reservation Values⁵⁶

An alternative argument for the decision by the retail investors to reject the offer made by the Argentinean government is that this offer was considered unfair. Experimental game theory shows that such considerations influence the economic decisions that people make. Especially in the ultimatum game framework, the theoretical equilibrium has become a rare result. Many experiments have illustrated that on average a 60/40 offer characterizes the results in contrast to

⁵⁵ E.g., Sturzenegger and Zettelmeyer (2005: 40) noted the following in their assessment of the quasi-par bond that was offered in the Argentinean debt restructuring: "This bond was issued in indexed pesos only and targeted specifically to local pension funds, which were coaxed into an agreement under which they received the quasi par bond along with regulatory benefits."

⁵⁶ Although somewhat limiting, the terms fairness and social preferences are used interchangeably in the course of this analysis.

99/1 (Berninghaus et al. 2006: 221-224). An unfair offer of 80/20 is rejected in about 25% of all cases. This relation can further change due to factors like gender, academic major, race, testosterone level, or cultural background (Camerer 2003: 64-74). Based on these findings, some models from the field of behavioral game theory have evolved aiming to capture preferences for equity as opposed to pure income maximization. Precisely these considerations can impact the renegotiation of sovereign debt.

In order to analyze this impact of fairness considerations on the creditor decision, the model of Fehr and Schmidt (1999) is applied, which achieved great success in explaining experimental results. This model is based on a consideration of inequality aversion — envy in case of disadvantageous inequality and guilt in case of advantageous inequality. Further, a repeated ultimatum game is assumed, which, due to a high discount on future payments, boils down to a simple decision by the creditor to accept some unfairness now or see the pie shrink. Apparently, this decision is similar to a one-shot ultimatum game.⁵⁷

A pie of value 1 is to be divided between a debtor and each of his $n+1$ creditors. The debtor offers $\omega \in (0,1)$ of the pie to each creditor.⁵⁸ In case the creditor rejects the offer, the debtor will make a new offer, $\hat{\omega} > \omega$, in the next period. However, since the continuation of bargaining incurs costs to both parties, the future bargaining results are discounted by $\delta \leq 1$.⁵⁹

⁵⁷ Experimental studies have shown that, due to a reputation argument, the average behavior is more competitive and that conflict rates are higher when subjects play against the same opponent repeatedly (Slembeck 1999). For simplicity, however, we disregard these reputation effects.

⁵⁸ The debtor in default is unlikely to offer more than half of the pie, which is a result that is seldom observed in experimental ultimatum games.

⁵⁹ A discount rate below unity indicates that the pie is decreasing over time so that an efficient outcome requires an immediate settlement. However, as Dhillon et al. (2006) showed in their analysis, the pie is possibly increasing over time as the debtor experiences a substantial economic recovery. In this situation, waiting would be value

Assuming that the discount rate is rather large, so that $\omega > \delta\hat{\omega}$. This leads to the following value function for creditor i if he accepts the exchange-offer:

$$(1) \quad V_i^a(\omega) = \omega - \alpha_i(1 - 2\omega) - \beta_i(1 - a')(\omega - \delta\hat{\omega})$$

This value function consists of three components. The first describes the pure monetary value of the exchange-offer. Concerning the three subsequent terms, some working assumptions were necessary. In laboratory experiments, players observe the income of other players and view their own payoffs in comparison to these. In reality, such a reference group of other players is more difficult to determine. Therefore, it is posited that each player (creditor) compares his own income to the income that the debtor obtains from him but feels indifferent about how much money the debtor obtains from others.⁶⁰ Thus, if a creditor is given an unequal share, i.e., less than $\omega = 0.5$, he envies the debtor by $\alpha_i(1 - 2\omega)$. The parameter $\alpha_i > 0$ captures the aversion of the creditor for disadvantageous inequality (envy). This parameter is multiplied with the difference of the debtor's income from bargaining ($1 - \omega$) and that of the creditor (ω).

Each player (creditor) also compares his own income to that of his fellow creditors. The logic could be that all creditors' actions help to discipline the debtor. Therefore, free-riding on the joint goal of sanctioning the debtor might induce sentiments of guilt, which is captured by $\beta_i(1 - a')(\omega - \delta\hat{\omega})$. The parameter β_i depicts the aversion to advantageous inequality vis-à-vis other creditors (guilt). Standard assumptions are $0 \leq \beta_i < 1$ and $\beta_i \leq \alpha_i$. Guilt is felt toward those creditors that reject the offer, leaving them the reduced income $\delta\hat{\omega}$. The absolute share

enhancing so that efficiency requires a settlement in the future.

⁶⁰ This judgment seems firmly based on experimental findings that third party income has little impact on the outcome in ultimatum games (Camerer 2003: 80-81).

of accepting creditors is denoted by $0 \leq a \leq n$, but, for the sake of convenience, the relative share is written $a' = a/n$ with $0 \leq a' \leq 1$. Introducing the working assumption that the representative creditor cares as much about comparisons of his own income to that of all other creditors as comparisons with the debtor. This is an arbitrary assumption. While empirical research would have to determine its adequacy, it seems to be not totally at odds with intuition. Due to the working assumption, the last term is multiplied by a' . Obviously, if $a' = 1$, fairness has an influence on the value for the creditor, except when $\omega = 0.5$, which indicates that the debtor offers an equal sharing. For the sake of simplicity, exchange-offers $\omega > 0.5$ are disregarded. Theoretically, such offers might induce creditors' feelings of guilt vis-à-vis the debtor, but little relevance exists for such concerns.

In contrast, if the representative creditor rejects the offer, he obtains:

$$(2) \quad V_i^r(\omega) = \delta\hat{\omega} - \alpha_i(\delta - 2\delta\hat{\omega}) - \alpha_i a'(\omega - \delta\hat{\omega})$$

Comparable to the value for acceptance, this term includes the monetary value of the (higher) offer in the next period and the envy that the creditor will bear vis-à-vis the debtor. However, as the present value of this future offer is below the current offer, the creditors that reject the offer in the current period will also envy the accepting fellow creditors. This is depicted in the third term and depends on the share of fellow creditors that accepted the current offer. Comparing the value function in (1) and (2), the decision that is taken by the fellow creditors clearly influences the payoffs of acceptance or rejection.

The creditor will accept the exchange-offer made by the debtor if:

$$\omega - \alpha_i(1 - 2\omega) - \beta_i(1 - a')(\omega - \delta\hat{\omega}) \geq \delta\hat{\omega} - \alpha_i(\delta - 2\delta\hat{\omega}) - \alpha_i a'(\omega - \delta\hat{\omega})$$

$$(3) \quad \omega \geq \delta\hat{\omega} + \frac{\alpha_i(1 - \delta)}{[1 + (2 + a')\alpha_i - \beta_i(1 - a')]}$$

Proposition 1: As a creditor's concern for envy increases, that is, the higher α_i , the offer by the debtor needed for inducing acceptance also increases. The proof follows directly from equation (2).

Proposition 2: Creditors will base their decision whether to accept the exchange-offer on the behavior of their colleague creditors. Acceptance by others may induce acceptance by the representative creditor.

Proof: If $a' = 1$, the expression simplifies to:

$$(3') \quad \omega \geq \delta\hat{\omega} + \frac{\alpha_i(1-\delta)}{[1+3\alpha_i]}$$

In contrast, if $a' = 0$, the second term in (2') increases due to the decreasing denominator:

$$(3'') \quad \omega \geq \delta\hat{\omega} + \frac{\alpha_i(1-\delta)}{[1+2\alpha_i - \beta_i]}$$

For a given offer ω with $\frac{\alpha_i(1-\delta)}{[1+2\alpha_i - \beta_i]} \geq \omega - \delta\hat{\omega} \geq \frac{\alpha_i(1-\delta)}{[1+3\alpha_i]}$, the representative creditor bases

his decision on that of other creditors. He will follow the herd. This effect relates to his dislike for a difference in his income as compared to that of his fellow creditors. He dislikes rejecting if others obtain higher income by accepting. However, he also dislikes accepting while the others engage in jointly penalizing an unfair debtor. The following alternative explanation for why creditors “run with the herd“ has been suggested by Engelen and Graf Lambsdorff (2005): The fixed costs of lawsuit and political campaigns can be shared among creditors, reducing individual costs and increasing the willingness to joint as more colleague reject an offer by the debtor.

We note in passing that the more diverse the creditors are with respect to the aversion to

inequality, the more heterogeneous are their reservation values. As retail investors are in general perceived to react more emotionally than institutional investors, this might suggest a possible explanation for their behavior.

III.5. Herding and Intra-Creditor Fairness

When the debtor extends an exchange-offer, he can use certain contractual elements in order to support acceptance among creditors. For example, in the Argentinean debt restructuring, the debtor employed a most favored creditor clause, contingent bonus payments and exit consents with the goal to achieve a more favorable outcome.

The most favored creditor clause should guarantee to every creditor that accepted the offer in the first place participation in any potential improvement that would be offered to the remaining creditors. So the accepting creditors would receive an additional payment in the case that some holdouts continued to successfully negotiate with the debtor. However, this clause was not flawless as it includes ways to circumvent this contractual commitment. In addition, the Argentinean government announced the extension of the volume of the most preferred par bonds that can be interpreted as a contingent bonus arrangement. Because the par bonds offered were distributed among the accepting creditors, this was an incentive to favor a participation rate just above the threshold for the larger amount but not higher as this would reduce their personal share of par bonds. Finally, the debtor used exit consents to support the acceptance of his exchange-offer by threatening to change the non-financial terms of the bonds. As control of a super-majority of the bonds is usually sufficient, even under U.S. law, to change the non-financial terms of the bond (e.g., the listing on a secondary market), this is a threat to a rejecting minority. A debtor may fail to bind in this minority in the change of the financial terms. However, he can threaten to modify non-financial terms and reduce the value of their bonds. Therefore, the question of how much influence can fairness in the form of inequality

aversion have on the effect of those contractual elements is interesting.

All these additional contractual arrangements employed in the Argentinean debt restructuring had one common element, which is that all would increase the difference of nominal payoffs to creditors that fail to vote collectively. Hence, all of these clauses aim at increasing the inequality of payments between accepting and rejecting creditors. Consequently, fairness considerations in the form of intra-creditor inequality aversion alter the reservation value of the respective creditor and foster herding behavior:

$$\omega - \alpha_i(1 - 2\omega) - \beta_i(1 - a')(\omega + \varepsilon - \delta\bar{\omega}) \geq \delta\bar{\omega} - \alpha_i(\delta - 2\delta\bar{\omega}) - a'\varepsilon - \alpha_i a'(\omega + \varepsilon - \delta\bar{\omega}) \Leftrightarrow$$

$$(4) \quad \omega \geq \delta\bar{\omega} + \frac{(1 - \delta)\alpha_i}{(1 + (2 + a')\alpha_i - \beta_i(1 - a'))} - \frac{((1 + \alpha_i)a' - \beta_i(1 - a'))\varepsilon}{(1 + (2 + a')\alpha_i - \beta_i(1 - a'))}$$

In this case, the term ε captures the effect of contractual elements that aim to increase the inequality in payments if creditors can not coordinate on a collective vote. As all of these contractual elements have the same impact, this ε can be interpreted either as a bonus payment to the accepting creditor due to the effect of a most favored creditor clause or as a loss to the rejecting creditors due to the effect of exit consents. Thereby, if ε is interpreted as a bonus payment for the accepting creditors, the first two terms on the left hand side would be altered as the bonus payment would increase the monetary value of the current offer. This would make accepting even more favorable. However, for simplicity, the analysis abstains from this detailed differentiation between certain contractual elements. As for the herding effect, only the difference in payoffs between accepting and rejecting creditors is decisive. This shows that once acceptance is sufficiently high, $(a' > \frac{\beta}{\alpha_i + \beta})$, the effect of herding is amplified so that the reservation value decreases, which benefits the debtor.

Proposition 3: If the debtor employs contractual elements that increase the difference in payoff

between accepting and rejecting creditors, then these elements will foster herding behavior.

Proof: If $a' = 1$, the expression (3) gives:

$$(4') \quad \omega \geq \delta\hat{\omega} + \frac{\alpha_i(1-\delta) - (1+\alpha_i)\varepsilon}{[1+3\alpha_i]}$$

In contrast, if $a' = 0$, the term increases to:

$$(4'') \quad \omega \geq \delta\hat{\omega} + \frac{\alpha_i(1-\delta) + \beta_i\varepsilon}{[1+2\alpha_i - \beta_i]}$$

A comparison of the above terms with (3') and (3'') shows that, as long as $\varepsilon > 0$, the herding effect among creditors is amplified. The reason for this is that, in the case that all fellow creditors accept the offer ($a'=1$), rejecting becomes even less favorable for the single creditor than in (3') due to the disadvantageous effect of the additional contractual elements. Therefore, the single creditors will accept an even lower current exchange-offer if he believes that all fellow creditors will join. In contrast, for the case that all creditors reject the current offer, the single creditor will need a higher exchange-offer to induce him to diverge from his fellow creditors. The amplification of this herding results from the fact that deviation from the majority of the fellow creditors is more costly as the additional contractual elements widen the payoff difference between accepting and rejecting creditors.

III.6. Fairness and Majority Voting

After years of intensive debate, experts agree that the employment of majority voting is a crucial element to avoid conflict of interests among creditors or creditor groups. The concept of majority voting is based on the desire to protect the restructuring from the potentially disruptive influence of vulture funds. This should be achieved by the coercive inclusion of the holdout creditor in the debt swap as long as a sufficient majority of creditors accepted the restructuring

terms. Motivation for this is based on the fact that, as long as the legal claims are at least theoretically enforceable, every creditor can veto the restructuring and demand the full repayment. So if the group of vetoing creditors is small enough, the debtor may find that paying these holdouts in full is advantageous and then finishes the restructuring with the other creditors. However, since this free-riding by a minority contradicts the concept of intra-creditor equity, the inclusion of CACs – and thereby a majority voting – should help to mitigate a potential conflict of interests among creditors.⁶¹ Therefore these CACS are the key element of the contractual approach of crises resolution.

CACs usually allow a certain supermajority to change the financial terms and thereby reduce the contractually agreed debt repayments. So, if there are CACs included in the bond contracts, the debtor targets the supermajority threshold to achieve success with his exchange-offer. As has been demonstrated, the debtor, therefore, needs to offer at least the reservation value of the pivotal creditor who is necessary to fulfill this supermajority. Following from equation (3), as the remaining creditors are bound once the necessary acceptance rate is reached, the pivotal creditor's decision becomes:

$$\omega - \alpha_p(1 - 2\omega) \geq \delta\bar{\omega} - \alpha_p(\delta - 2\delta\bar{\omega}) - \alpha_p a'(\omega - \delta\bar{\omega})$$

(5)

$$\omega \geq \delta\bar{\omega} + \frac{\alpha_p(1 - \delta)}{[1 + (2 + a')\alpha_p]}$$

The decisive difference for equation (3) is that the pivotal creditor implicitly votes for the rest of the rejecting creditors because if he accepts the financial terms as offered he at the same time

⁶¹ Some scholars question whether CACs increase the efficiency of the renegotiation process. For example, Haldane et al. (2005) presented a model of bilateral bargaining with two-sided information asymmetries. In this context, the inclusion of CACs reduces the probability of reaching an agreement in the first period, thereby increasing the inefficiency of the bargaining process.

overrules all rejecting creditors. In contrast, if he rejects, the debtor can not gain the necessary support so that the financial terms of the bond remain unchanged. Therefore, the pivotal creditor can never feel guilt for the rejecting creditors, so the term on the left side lacks this influence, which reduces his reservation value.

Proposition 4: When CACs are employed, intra-creditor inequality aversion reduces the pivotal creditor's reservation values. The proof follows directly from the difference between equations (3) and (5).

So, the employment of majority voting clauses reduces the nominal amount that is necessary to make the pivotal creditor indifferent between accepting and rejecting as compared to a situation without such clauses.

III.7. Fairness in a Bondholder Meeting

However, the exchange-offer is not the only possible structure for a bilateral restructuring process. Alternatively, the voting can take place in a bondholder meeting. The main difference between an exchange-offer and such a meeting is that, in a bondholder meeting, creditors can conditionally accept an offer based on the decisions of other creditors. Therefore, the set of feasible strategies is increased. Acceptance would be conditioned commonly on a supermajority also accepting. Therefore, the choice of the pivotal creditor affects the payoffs to all fellow creditors regardless of their acceptance or rejection of the offer. If majority voting is employed, this pivotal creditor is the one that completes the threshold level.⁶²

⁶² If no majority voting is employed, then the creditor with the highest reservation value is the pivotal creditor as unanimity among creditors is required to change the financial terms of the bond.

The pivotal creditor, therefore, determines collective behavior because an acceptance rate below the voting threshold is not sufficient to change the financial terms of the bond. The other accepting creditors get the new terms proposed only if the pivotal creditor accepts. In contrast, in an exchange-offer, the creditors who accepted receive the new bonds independent of the pivotal creditor's decision. So, in an exchange-offer, the acceptance rate can become a variety of values. In a bondholder meeting, however, the overall acceptance can only be either zero or one. This means that, as the pivotal creditor's decision applies to all fellow creditors, acceptance becomes favorable when:

$$\omega - \alpha_p(1 - 2\omega) \geq \delta\hat{\omega} - \alpha_p(\delta - 2\delta\hat{\omega})$$

(6)

$$\omega \geq \delta\hat{\omega} + \frac{\alpha_p(1 - \delta)}{[1 + 2\alpha_p]}$$

Proposition 5: If creditors vote in a bondholder meeting, the pivotal creditor's reservation value is not affected by herding among creditors. The proof follows directly from the difference between (5) and (6).

The lack of herding is caused by the fact that the pivotal creditor's decision is binding for all fellow creditors irrespective of whether he accepts or rejects the terms proposed. As revealed by (6), this increases the reservation value demanded by the pivotal creditor and, thus, the overall offer that a debtor must make. The reason rests with the fact that a rejecting pivotal creditor can not experience envy towards accepting colleagues, as his decision forced them equally into rejection.

III.8. Conclusion

Up to now, the debate about an institutionalized process for restructuring sovereign debt has generally remained vague regarding the question about the specific structure of the negotiation

processes between a debtor and its private creditors. However, the most prominent common element of all restructuring processes over the last few decades between a sovereign debtor and its private creditors has been that the debtor launches an exchange-offer that can be either accepted or rejected by the creditors.⁶³ This suggests that the bargaining framework takes the form of an ultimatum game with only minor outside options since third party enforcement seems to be limited. As commonly found in an ultimatum game, the equilibrium strategy for the single creditor is characterized by a reservation so that the creditor accepts any exchange-offer above that threshold level. Furthermore, taking into consideration the experiences from the most recent Argentinean restructuring process, these reservations might be heterogeneous among different types of creditors.

Following the arguments made in this essay, heterogeneity concerning fairness consideration might be a possible influence that can lead to different reservation values. The more the creditor envies the debtor in an unequal sharing of the surplus from the resolution of the debt dispute, the higher his reservation value becomes. Additionally, the more he dislikes the unequal treatment as compared to his fellow creditors who accept the current offer, the lower his reservation value becomes. This implies that his incentive to run with the herd is higher. The application of additional contractual elements (e.g., most favored creditor clause, contingent bonus payments, or exit consents) enables the debtor to lower his restructuring costs by fostering the herding effect among creditors.

Further, this herding can have an effect on the results of different voting procedures because the prevailing concept of a contractual approach allows the debtor to decide which way he prefers to approach his creditors for restructuring unsustainable sovereign debt. He can propose

⁶³ See chapter V for a summary of the restructuring details.

his demanded changes of the financial terms of the bond either by making an exchange-offer to swap old for new bonds or calling for a bondholder meeting. As has been indicated, only the latter process is free of herding as the bondholder meeting does not allow for an unequal treatment of creditors irrespective of their voting behavior. This might suggest why debtor countries seem to have a clear preference for exchange-offers since a bondholder meeting supports coordination among different creditors or creditor groups.

IV. Inter-temporal Discrimination among Creditors

IV.1. Introduction

In the past, mitigating intra-creditor coordination failures has always been a core intention of any proposal for an orderly process of restructuring sovereign bonds. However, the discussion about such coordination failures has been limited to the problem of some holdout-creditors seeking a free ride on the restructuring efforts of their fellow creditors. Further fuelled by sporadic cases of vulture funds (e.g., *Elliott Associates v. Peru* in 2000), which gained high settlement payments from debtors while being involved in restructuring processes, this single-edge deployment of the term intra-creditor coordination failures has become increasingly popular.⁶⁴ This conveys the impression that the sole limitation of free-riding – e.g., by the use of majority voting among creditors at a bondholder meeting – would be sufficient to result in effective coordination among creditors.

Besides the free-riding motive, there might also be additional intra-creditor coordination failures among creditors. As the term suggests, a coordination failure is a failure to effectively coordinate creditors in the restructuring process. Broadly speaking, coordination means the regulation of diverse elements into an integrated and harmonious operation. Thus, translated into the context of the restructuring of sovereign bonds, intra-creditor coordination describes the reconciliations of diverse creditor interests in order to gain integration and harmony in

⁶⁴ Vulture funds are investors that buy bonds of troubled debtors at a high discount on the secondary market and start litigation for full repayment. This might even lead to a disruptive effect on the overall restructuring process. The goal is to free-ride on the restructuring effort of the fellow creditors and to receive a higher debt repayment. The most popular example of such a vulture strategy is the case of Elliott Associates in 2000. The small fund bought Peruvian debt and tried to sabotage the whole restructuring process. In the end, this strategy succeeded, and Elliott received a settlement payment about five times its initial investment.

creditor behavior, which is creditor voting on restructuring terms. However, by this argumentation, any diversity of creditor interests is a potential source of coordination failure, as it might impede the unanimity of creditor voting. In the latest major debt restructuring in Argentina, for instance, about one out of every four creditors did not accept the restructuring terms proposed by the debtor. But rejection was not simply due to free-riding motives. Whereas most vulture funds started aggressive litigation immediately, the rejecting retail investors (the majority of the holdouts) took a different route and have waited for negotiations that could lead to an improved repayment offer ever since (Miller and Thomas 2006).

Therefore, it is necessary to broaden the discussion about effective creditor coordination by asking what the potential reasons are for a diversity of creditors' interest and, consequently, to what extent the currently applied restructuring process (especially the possibility to launch an exchange-offer) gives the debtor the opportunity to benefit by exploiting this diversity. Heterogeneity among creditors, such as due to differences in risk aversion, compensation, or investment horizons, has already been explored by Haldane, et al. (2005). Based on this heterogeneity among creditors, these authors show that negotiation between debtor and heterogeneous creditors will never reach an efficient solution based on two-sided asymmetric information. Moreover, Engelen and Graf Lambsdorff (2007) have demonstrated that social preferences among creditors can also lead to heterogeneous reservation values on the creditor side.⁶⁵

To tie up to this previous work, this essay focuses on the second question and analyses the impact of creditor heterogeneity on the bargaining process between the debtor country and bondholders regarding the repayment of defaulted bonds. It will show in a more generalized

⁶⁵ See chapter III.

model that with different reservation values the debtor has an incentive to employ the heterogeneity in an exchange-offer for an inter-temporal discrimination among creditors. This would foreclose effective creditor coordination in an exchange-offer. Thus, any institutionalized restructuring process aiming at securing intra-creditor coordination should take this additional cause of failure into consideration.

As it is the currently prevailing process for sovereign debt restructuring, this paper analyses the evolution of the contractual approach (V.2.) and highlights a major deficiency that facilitates the inter-temporal discrimination among creditors (V.3.) mentioned above. Based on this analysis, the formation of a Creditor Trust is suggested (V.4.) that would not only mitigate this failure but would further support an effective creditor representation vis-à-vis the debtor country during the restructuring negotiations.

IV.2. From Private Sector Involvement to Private Sector Ownership

After the structure of net financial flows to the emerging markets transformed over the 1990s (mostly initiated by the Brady Plan), the prevailing approaches to sovereign debt restructuring, notably the Paris Club and the London Club, needed adapting.⁶⁶ Because over the last fifteen years sovereign debtors received large parts of their external capital by selling bonds rather than by asking for bank loans, the creditor side has substantially changed from a limited number of commercial banks towards numerous bondholders. This initiated an intensive debate

⁶⁶ The Paris Club is the permanent representation body of sovereign creditors in charge of restructuring bilateral and multilateral credit exposure towards debtor countries. The London Club, in contrast, denotes the process of ad-hoc representation bodies of commercial bank debt. These two institutions were the two major players of sovereign debt restructuring during the Latin American debt crises in the 1980s. For a detailed description of their functioning, see Rieffel (2003). As the debt profile of most Emerging Markets has evolved, only the Paris Club is still active today.

between the official and private sector institutions on how to adequately involve private bondholders in the resolution process of sovereign debt crisis.⁶⁷ Although somehow misleading, this issue has become the debate on Private Sector Involvement (PSI).⁶⁸

On the side of the official institutions (i.e., G7 and the IMF) this debate centered on two proposals that were titled “contractual approach” and “statutory approach.”⁶⁹ The latter, proposed in different versions by the deputy managing director of the IMF, Anne Krueger, in 2001, tried to establish some kind of permanent machinery comparable to an international bankruptcy court. Krueger’s main argument in favor of such a bankruptcy court, besides several other merits, was that it should shield the process from the disruptive effects of holdout litigation by vulture funds. Supporters of the contractual approach, however, argued that it was not necessary to establish such an institution to protect the process from potential free-riding interests from vulture funds. Including clauses in bond contracts that allow for a majority restructuring and majority enforcement would have a similar effect.⁷⁰ Therefore, competition developed between these two concepts, and in 2003 it became obvious that the statutory approach could not find enough political support. Finally, the statutory approach was shelved, and the official sector solely concentrates on pursuing the inclusion of majority voting clauses

⁶⁷ Several authors provide a thorough overview of the different institutions and concepts involved in that debate: Roubini and Setser (2004), Rieffel (2003), Eichengreen (2002), and Kenen (2001).

⁶⁸ The term involvement is misleading, as it suggests that the private sector has been excluded from the negative effects of financial crises. But private investors have taken substantial losses in asset values in all major financial crises since the late 1990s. Thus, the debate on PSI in the last decade is not primarily on the issue of whether involvement should be achieved or not but rather how the involvement should be organized.

⁶⁹ Since the contractual approach tries to avoid any third-party intervention it can be regarded to be purely market-based while the statutory contains elements of market-based and statutory institutions.

⁷⁰ Majority restructuring provisions enable a majority of bondholders to bind in the minority for amendments of the financial terms of an issuance. Majority enforcement clauses support this restructuring, as they enable a majority of bondholders to hinder the minority to enforce their creditor rights. For further details on different types of clauses, see IMF (2002).

in newly issued bond contracts ever since (IMF 2005).

However, competition between the two approaches of PSI was not just about different opinions on the best way of limiting the threat of free-riding. It was even more a competition of different perspectives on which institutions should own the resolution of sovereign debt crises. For obvious reasons, any statutory approach would need the will of all market participants to subordinate to a third party jurisdiction. Thus, this third party would be in control, thereby exhibiting ownership of the crisis resolution process.⁷¹ Under the contractual approach, in contrast, the restructuring would be solely market-driven. Or as U.S. Treasury Undersecretary John Taylor describes it in a testimony before a congressional committee, the core aspect of the contractual approach would be the “debtor and creditor ownership of, and participation in, the process.”⁷² Thus, by opting for the contractual approach, the official sector at the same time agreed to hand over the ownership of restructuring sovereign bonds to the market participants. And, as bondholders will most likely be the largest creditor groups for emerging market countries, this is nearly identical to ownership of the resolution process.

But this was only possible because the private sector, largely represented by the Institute of International Finance, had laid out its own concept for restructuring sovereign debt that seemed to build a bridge between the two competing approaches (IIF 2002).⁷³ In this “Action Plan” the IIF Special Committee on Crisis Prevention and Resolution in Emerging Markets proposed the broader use of Collective Action Clauses and other legal elements preventing vulture funds

⁷¹ Usually, there is additional sovereign debt owed to official creditors with specific conditions for an equal treatment among official and private creditors. Therefore, any restructuring effort must be embedded in the broader resolution process for the defaulted debtor so that ownership means to take over a greater responsibility (with a macroeconomic as well as political dimension) than just to seek enforcement of debt claims.

⁷² The text can be found at www.treas.gov/press/releases/po1016.htm.

⁷³ The following quotes without further specification are all taken from this document.

activities in addition to “an international Code of Conduct to be applied in a case-by-case basis.” Further, the IIF Action Plan proposed the establishment of a new Private Sector Advisory Group (PSAG). This consultative body of market participants should “provide a mechanism to sustain investor confidence and, where necessary, facilitate orderly debt restructuring.” In cases where a debt restructuring becomes inevitable, the PSAG could therefore “give way to the formation of country-specific ‘Creditor Groups’ that would engage in consultation with the authorities, coordinate with the official sector, and work towards cooperative resolutions of debt-servicing difficulties.” Therefore, under the currently prevailing contractual approach, such a creditor body should be put in control; hence, it should own the restructuring process. This shows that the debate on sovereign debt restructuring has moved to the next stage. The question is no longer whether the private sector should be involved voluntarily or coercively but rather how the private sector will shape the details of the contractual approach and thereby implement private sector ownership of the restructuring process.

The private sector developments of such a code of conduct led to the “Principles for Stable Capital Flows and Fair Debt Restructuring in Emerging Markets,” which were presented in 2005 and should guide debtor and creditor behavior during the negotiation process (IIF 2005). These Principles were issued by a Principles Consultative Group (PCG) which not only terminologically replaced the idea of a PSAG⁷⁴ but, like the PSAG, suggested the formation of a creditor representation body as a useful vehicle for restructuring. However, in contrast to the Action Plan, the Principles circumvent a clear statement as to who would be in charge of establishing such an institution: “The appropriate format and role of negotiation vehicles such

⁷⁴ In contrast to the PSAG, seven out of seventeen members of the PCG are either finance or central bank officials from debtor countries (IIF 2005: 18).

IV. Inter-temporal Discrimination among Creditors

as a creditor committee or a creditor group [...] should be determined flexibly and on a case-by-case basis. [...] If a creditor committee is formed, both creditors and the debtor should cooperate in its establishment.” (IIF 2005: 13) But the Principles remain silent as to how such a cooperative establishment of a creditor representation body would look like. Therefore, there is a need for further discussion on the topic of how to integrate the debtor country in establishing a creditor representation body once negotiations become unavoidable. Due to this opacity, the concept of a PSAG (only comprising creditor representatives) giving way to the formation of a CG seems to be the most realistic idea on the table up to now.

As outlined in the IIF Action Plan, the private sector prefers a Creditor Group to be at the centre of the negotiation between the debtor country and its private creditors under the contractual approach. The competencies of such a creditor body, however, would be limited to moderate the negotiation. As the IIF describes it: “The purpose of the negotiation process between the debtor country and the Creditor Group is to arrive at an agreement on the terms of the restructuring (which could be in the form of a debt exchange), which would then be recommended or endorsed by the Creditor Group in a communication to all creditors. The Group would be open to seeking the views of all creditors.” (IIF 2002: 64)

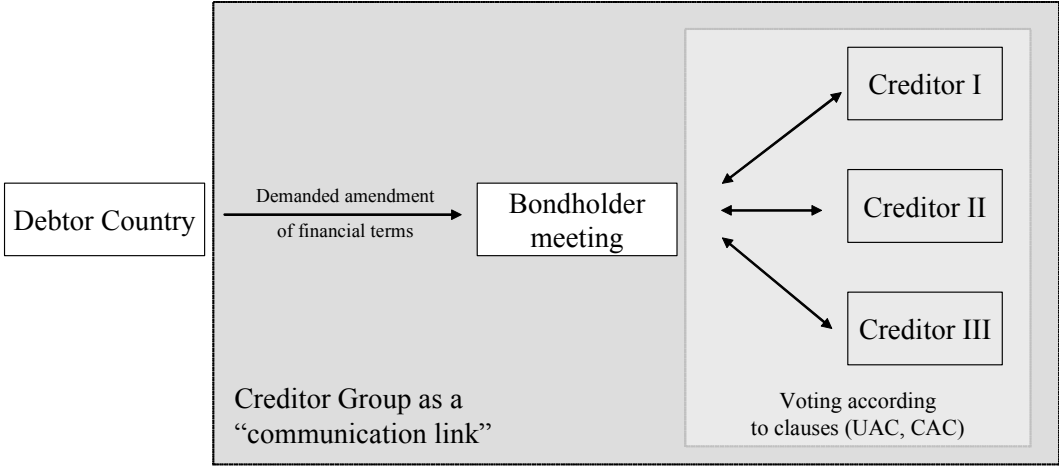
However, due to the limited competence of such a Creditor Group as a “communication link” (IIF 2005: 8), this would leave the debtor country to decide crucial details of the restructuring process. There are usually two ways that a restructuring can be implemented. First, there is the opportunity for the debtor country to present the demanded changes of the financial terms (e.g., a reduction in principal payments) to a bondholder meeting. The creditors then vote on these terms, and if a sufficient majority accepts the financial terms, the bonds could be changed.⁷⁵ If,

⁷⁵ Currently, the threshold for the majority is determined by jurisdiction. Bonds that were issued under U.S. law,

IV. Inter-temporal Discrimination among Creditors

in contrast, the necessary majority is not reached, the financial terms remain, and the negotiation continues.

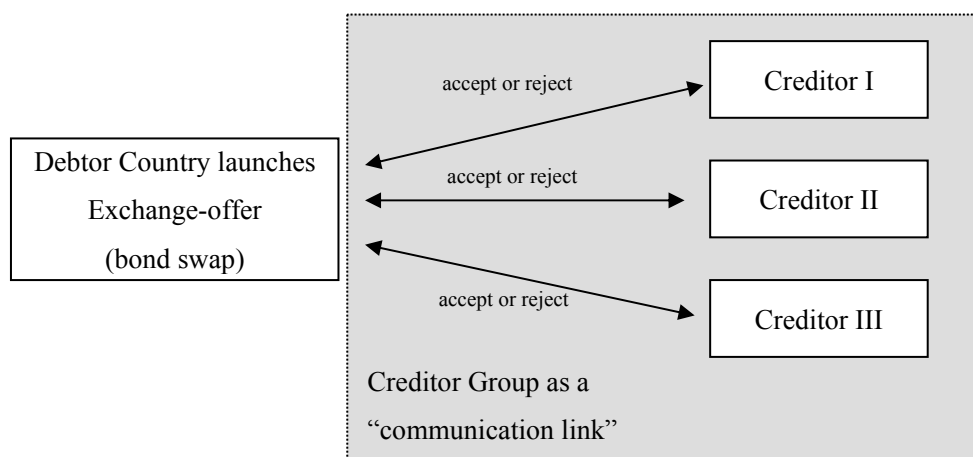
Restructuring via Bondholder Meeting



Second, there is the opportunity to sound out market sentiments and present an exchange-offer to the creditor side. Thereby, the debtor country offers to exchange old bonds for new ones including the demanded financial terms.

for example, request unanimity, whereas bonds issued under UK law usually request a three-fourths majority.

Restructuring via Exchange-Offer



As the IIF notes, this process can be either “negotiated” or “non-negotiated” depending on the degree of consultation between the debtor and a creditor representation body. For obvious reasons, however, the restructuring via a bondholder meeting would also involve a high degree of consultation between the debtor and the creditor side and can therefore be labeled “negotiated” as well.

Concerning the choice of restructuring procedure, the IIF prefers the negotiated versions and puts faith in market discipline to achieve this goal: “In such cases where bondholders hold most of the debt, negotiated debt exchanges may be the appropriate process. Whereas non-negotiated debt exchanges have the advantage of being relatively quick, the lack of prior consultations and the ‘take-it-or-leave-it’ nature of some recent exchanges could have an adverse effect on the emerging market asset class generally and may impede the recovery process of countries that adopt a unilateral approach, even if the outcome is reflective of the existing market price” (IIF 2002: 65). The experience of the last market-driven restructurings that included a debt write-down (haircut) for bondholders (e.g., Russia (1998-2000), Ecuador (1999-2000), Moldova (2002), Argentina (2005) and Dominican Republic (2005)), however, tells a different story. In all of these cases the debtor countries opted for a rather non-negotiated exchange-offer so that in the last decade there has not been an effective creditor representation body or a bondholder

meeting related to sovereign emerging market debt.⁷⁶ And this is not solely justified by a lack of majority voting provisions by the bonds involved. In Pakistan, for example, bond clauses allowed for a majority voting, but the debtor decided not to call for a negotiated process, as it feared that this would foster coordination among creditors and potentially lead to a more unfavorable result (ECB 2005: 15). However, up to now, there have been no disadvantages in the treatment of Pakistani bonds that can be related to this choice of the restructuring process. And in the case of the Argentinean debt exchange-offer, the debtor simply ignored the request by several representation bodies to engage in constructive consultation and presented an extremely painful take-it-or-leave-it offer solely in cooperation with its financial advisers. But, despite this harsh treatment of its creditors and the still unresolved issue of the creditors who did not accept the exchange-offer, Argentinean debt currently trades at spreads lower than Turkey and only slightly higher than Brazil. Thus, the argument that market discipline will implement negotiations lacks credibility.

Why should the debtor country prefer a non-negotiated exchange-offer? An exchange-offer exhibits intra-creditor coordination failures that benefit the debtor and lead to an unfavorable result for the creditors in comparison to a bondholder meeting. One of these failures is that due to the heterogeneity of creditors, an exchange-offer enables the debtor to inter-temporally discriminate among different creditors. In order to support this argument, it is helpful to show in a simple bargaining model that, taking the optimal behavior of creditors into consideration, the debtor favors discrimination among creditor types with different reservation values in the exchange-offer unless negotiation is costless to both sides.

⁷⁶ Although there have been some creditor representation bodies in the Argentinean debt restructuring, their influence was rather limited as the debtor country did not engage in negotiations with these institutions (Sturzenegger and Zettelmeyer (2006: 165-201).

IV.3. Heterogeneity and Inter-temporal Discrimination

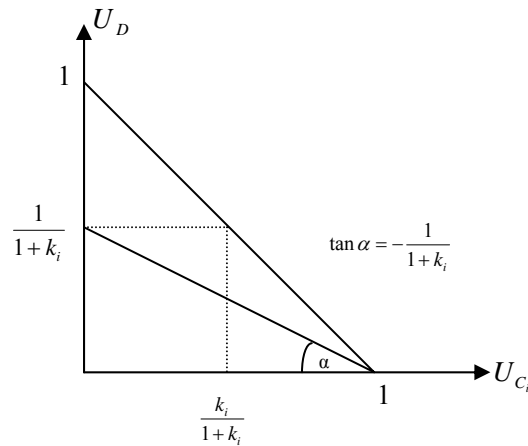
In a simple bargaining model the debtor makes an exchange-offer (ω_t), e.g., as a percentage of repayment per one dollar debt, in a repeated ultimatum game.⁷⁷ Each creditor $i \in N$ can just decide whether to accept the offer or reject it, which would yield a payoff of zero to both the debtor and the creditor (at least until the next round of bargaining). If the offer contains a debt write-down, which is usually necessary to end solvency crises, then each creditor faces impairment costs related to the write-down of k_i .⁷⁸ In order to keep the model simple, following linear utility functions for the debtor and the representative creditor i are assumed:

$$(1) \quad U_D(\omega_t) = 1 - \omega_t \quad \text{and} \quad U_{C_i}(\omega_t, k_i) = \max[\omega_t - k_i(1 - \omega_t), 0]$$

Thus, due to the opportunity for creditor i to reject any exchange-offer that would result in a negative utility, there is a reservation value $\omega^i(k_i)$ for acceptance.

⁷⁷ In this game we assume that contract enforcement is solely determined by the bargaining process so that no third-party enforcement is available. Further, we assume that the maximum payment capability of the debtor is normalized to one so that the exchange-offer can be regarded as a percentage of this maximum amount.

⁷⁸ Impairment costs might, e.g., be caused by a lack of mark to market valuation of financial assets or a lack of portfolio diversification. In addition, Engelen and Graf Lambsdorff (2007) have shown that fairness considerations in the form of inequality aversion can also have an influence on reservation values.



This shows that the reservation value for creditor i is determined by the impairment costs for this creditor and is independent of time:

$$(2) \quad \omega^i(k_i) = \frac{k_i}{1+k_i}$$

Further, it demonstrates that if the creditor has already written off the debt before the restructuring so that the costs of making concessions approaches zero ($k_i \rightarrow 0$), then this creditor will accept any non-negative exchange-offer ($\omega^i \rightarrow 0$). In contrast, if it is extremely painful for the creditor to accept any reduction in the net present value of debt claims ($k_i \rightarrow \infty$), then this creditor will not accept any exchange-offer below unity ($\omega^i \rightarrow 1$), as it would result in a negative utility for him or her.

In order to keep it simple, creditors can be either of just two types, “low type” with $k_l = 0$ or of “high type” with $k_h > 0$. As has been demonstrated above, these different concession costs will

lead to type-specific reservation values, where $\omega^l = 0$ and $\omega^h = \frac{k_h}{1+k_h}$.⁷⁹ The reservation

⁷⁹ Hence, the stationary equilibrium strategy for each creditor is determined by his nominal reservation value.

values indicate that a high type creditor only accepts exchange-offers that have a nominal value above ω^h , whereas the low type creditor would accept any non-negative offer as long as it is not preferable to reject for strategic reasons.⁸⁰

Debtor's value is normalized to one, and debtor and creditors have identical bargaining costs, which are captured by a discount factor $\delta < 1$. Creditors are heterogeneous, with the low type creditors being more favorable for the debtor, as these creditors would be satisfied with lower repayments than the high type creditors. Let the share of low type creditors be denoted by μ and the share of high type creditors by $1 - \mu$. Since the debtor cannot make different exchange-offers simultaneously, she might therefore be tempted to delay settlement with some creditors, as this enables her to inter-temporally discriminate among different types.⁸¹ This would mean that exchange-offers would be low in the beginning and rise over time until she eventually solves the dispute by offering the highest reservation value (ω^h).⁸² However, she must take into consideration that low type creditors can act strategically so that accepting must be incentive-compatible for them. This limits the set of potential exchange-offers, as all of them must lie on the equilibrium offer path that makes the low type creditors indifferent, Gul et al. (1986) and Fudenberg and Tirole (1991: 408-410).

Therefore the equilibrium exchange-offer path can be determined: When bargaining has $n + 1$ rounds – where n is the number of cut-off shares which will be derived later – than the

⁸⁰ However, in this example there are gains of trade for both types of creditors so that bargaining will end in finite time, whereas in a case when the bargaining lacks gains of trade for at least one type of creditors, the bargaining will end in infinite time only. See appendix for the case of infinite bargaining.

⁸¹ In order to distinguish the debtor from the creditor side we refer to the debtor as she.

⁸² For obvious reasons the debtor will never launch an exchange-offer that is higher than the highest reservation value among creditors.

equilibrium offer for period $t \in [1, \dots, n + 1]$ is determined by

$$(3) \quad \omega_t = \delta^{n+1-t} \omega^h$$

In order to get an impression of this equilibrium offer path, a simple example is given. Let us assume that there are only two rounds of bargaining ($n = 1$). The low type creditors know that the debtor will offer the high type reservation value in the second period so that $\omega_2 = \omega^h$. Hence, the lowest possible offer in period $t = 1$ which induces all low type creditors to accept in the first period is $\omega_1 = \delta \omega^h$. It becomes clear that this is the only optimal offer in the first period, as the debtor could reduce any offer above that level and thereby increase his payoff and still guarantee acceptance by the low type creditors. In contrast, any offer below this level would result in all creditors' rejecting the offer so that the debtor is not able to discriminate among different types of creditors.

Conclusively, when potential exchange-offers are prescribed by this determined equilibrium path, the only choice variable left for the debtor is how many rounds the bargaining will have. As will be shown, the resulting debtor behavior is characterized by certain cut-off levels for the share of low types creditors (μ_n) because the higher the share of (more favorable) low type creditors, the higher the potential gain from discrimination. Hence, the higher the share μ , the more attractive it becomes for the debtor to delay the settlement. Labeling the number of cut-off-levels by n than the negotiation between debtor and creditors will include $n + 1$ rounds of exchange-offers ($\omega_1, \dots, \omega_{n+1}$).

Now let us determine the first cut-off-level μ_1 . For any share equal to or above this cut-off level, it is favorable for the debtor to spread a settlement over two periods of bargaining rather than one:

$$(4) \quad \mu(1 - \delta\omega^h) + (1 - \mu)\delta(1 - \omega^h) \geq (1 - \omega^h)$$

Therefore, the first cut-off level is when this equation holds with equality so that

$$(5) \quad \mu \geq \alpha \equiv (1 - \omega^h)$$

This shows that whenever $\mu > \alpha$, there is more than one round of bargaining, as the debtor can increase her payoffs by inter-temporally discriminating among creditor types.⁸³ Low type creditors accept the first exchange-offer ω_1 with probability one.

Moreover, when the share of low type creditors is above a second cut-off level β , the debtor has an incentive to spread the bargaining process with its creditors over more than two periods. It is important to notice that when bargaining has more rounds than types (two in this example), the debtor inter-temporally discriminates not only among different types but also among creditors of the same type. But this is only possible when at least some creditors apply a mixed strategy to their voting so that acceptance of this type of creditors is strictly below unity. For the debtor it becomes preferable to have at least three rounds if the share of low type creditors exceeds the second cut-off level. Thus, equation (4) becomes

$$(6) \quad \frac{(\mu - \alpha)}{(1 - \alpha)}(1 - \delta^2\omega^h) + (1 - \frac{(\mu - \alpha)}{(1 - \alpha)})\delta V(\alpha) \geq \mu(1 - \delta\omega^h) + (1 - \mu)\delta(1 - \omega^h)$$

Where $V(\alpha)$ is the continuation value for the debtor when the current share of low type creditors is α . From the arguments above we know that $V(\alpha) = (1 - \omega^h)$. The decisive difference in the term for the second cut-off level is that in order to have more than two rounds

⁸³ Eq. (5) further shows that when there are no gains of trade for the highest type ($\omega^h \geq 1$), bargaining would not end in finite time. The debtor would always have an incentive to postpone the settlement with the highest type for one more period into the future.

of bargaining, low type creditors must play a mixed strategy. As can be seen from (4) for the first cut-off level, low type creditors had a pure strategy which was either to accept or reject with certainty. When bargaining has more than two rounds, this changes because it would not be optimal for the debtor to delay settlement to the third round when low type creditors vote unanimously. Thus, the sequence of exchange-offers made by the debtor induces the low type creditors to accept with a probability $\frac{\mu - \alpha}{\mu(1 - \alpha)}$, which is strictly below unity as long as there is at least one high-type creditor ($\mu < 1$).

In order to get a better impression of creditors' voting behavior, let us assume that the debtor has made an exchange-offer in time $t=1$ with a value of $\omega_1 = \delta^2 \omega^h$. Now, if the creditors believe that the debtor will make an exchange-offer $\omega_2 = \delta \omega^h$ in the next round, they are indifferent, which by assumption induces them to accept the current offer. But if they would accept this exchange-offer with certainty, the share of low type creditors in the next period would be below the first cut-off level α . Consequently, in the next period the debtor would have an incentive to settle with all remaining creditors by offering the high type reservation value ω^h , contradicting their initial beliefs of $\omega_2 = \delta \omega^h$. Therefore, with altered beliefs the low type creditors would accept the current exchange-offer with probability zero as $\omega_1 = \delta^2 \omega^h < \delta \omega^h$. However, this would result in a share of low type creditors above α in the second period, which induces the debtor to discriminate in the next period by offering less than the high type reservation value. Hence, the only probability of acceptance sustainable in an equilibrium is the mixed strategy described above, as this renders a share of low type creditors equal to α .

Taking these arguments, one can determine the second cut-off level, which is reached when equation (6) holds with equality:

$$(7) \quad \mu \geq \beta \equiv \frac{\alpha[(1 - \delta^2 \omega^h) - \delta(1 - \omega^h)]}{(1 - \delta^2 \omega^h) - (1 - \alpha)(1 - \delta \omega^h) - \alpha \delta(1 - \omega^h)}$$

This leads directly to the following proposition, which summarizes the previous results:

Proposition 1: There is a sequence of cut-off shares ($\mu_0 = 0 < \mu_1 = \alpha < \mu_2 = \beta < \dots < 1$) that determines the optimal number of bargaining rounds $n + 1$, so if $\mu \in [\mu_n, \mu_{n+1})$, there are $n + 1$ rounds with exchange-offers determined by $\omega_t = \delta^{n+1-t} \omega^h$ for $t \in [1, \dots, n+1]$. Proof: Follows from the arguments made on the previous pages.

As the bargaining in this model is a zero-sum-game, the advantage for the debtor is mirrored in lower total payments to the creditors and an efficiency loss, as there is no immediate settlement and bargaining costs ($\delta < 1$). It is noteworthy that the coordination failures in this model result from the fact that each creditor votes independently, lacking the possibility to pre-commit on a voting procedure that would only allow for unanimous acceptance. Thus, an exchange-offer will provide the opportunity for the debtor country to use this coordination failure for its benefit. This would also likely be true in the case of a negotiated exchange-offer, since the opinion of a creditor representation body's lacking sufficient competencies (e.g., a Creditor Group described by the IIF) would not have a major impact on this result. This is because, even in the presence of consultation, each creditor primarily decides according to his reservation value and not according to an external recommendation. The ignorance during the Argentinean restructuring of both the Argentinean government and the majority of creditors towards the recommendation of different representation bodies is a good example of the ineffectiveness of sole moderation. Only a representation body that is able to effectively bind in all creditors (e.g., the restructuring via a bondholder meeting) could mitigate this failure in the coordination of diverting creditor interests. Therefore, the current prevailing contractual approach exhibits a major deficiency by allowing the debtor to opt for the preferred negotiation procedure.

IV.4. Pre-Commitment via a Creditor Trust

Although a Creditor Group as proposed by the IIF Action Plan would lack this competence, it might be possible to create a creditor representation body with sufficient power to consolidate divergent creditor interests so that the debtor country would voluntarily engage in negotiation. This institution would then not only function as a moderator between the debtor and its numerous creditors but would also take the position of a trustee of creditors' rights.⁸⁴ Hence, this essay proposes to improve the contractual approach for sovereign restructuring by making the Creditor Group a Creditor Trust (CT).⁸⁵

This would make the CG the trustee of private sector creditors so that bargaining power will be centered in one institution, which will guarantee the highest degree of assertiveness vis-à-vis the debtor country.⁸⁶ However, as this might limit individual creditor rights, it is important that the members of the CG are elected solely by the creditor side in accordance to the structure of different types of creditors (e.g., retails vs. institutional investors, foreign vs. domestic investors). This is due to the fact that only if creditors feel adequately represented in the CT they would voluntarily pre-commit on certain majority voting procedures that might be necessary to foster unanimity among bondholders. The main goal of this CT is therefore to reach the consolidation of diverting creditor interests as voluntarily and consensually as

⁸⁴ An example of a potential representation clause institutionalizing the relationship between the Creditor Trust and the bondholders can be found in the appendix.

⁸⁵ For a detailed description of trust within a sovereign debt restructuring and its differentiation with respect to a fiscal agent, see Buchheit (1998).

⁸⁶ Additionally, the CT would have to represent the interests of private creditors towards the official institutions that are involved in the restructuring process. A representation body that exhibits a strong bargaining power could also have an influence, such as in the example of the decision by the IMF in order to prevent lending into arrears if it is not in the best interest for private creditors. This would benefit the creditors' position in the bargaining with the debtor.

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possible. Already in the 19th century, bondholders realized that without an effective consolidation the representation of possibly diverting creditor interests in negotiation with a sovereign debtor would be weak, which led to the foundation of the Corporation of Foreign Bondholders (Mauro and Yafeh 2003).

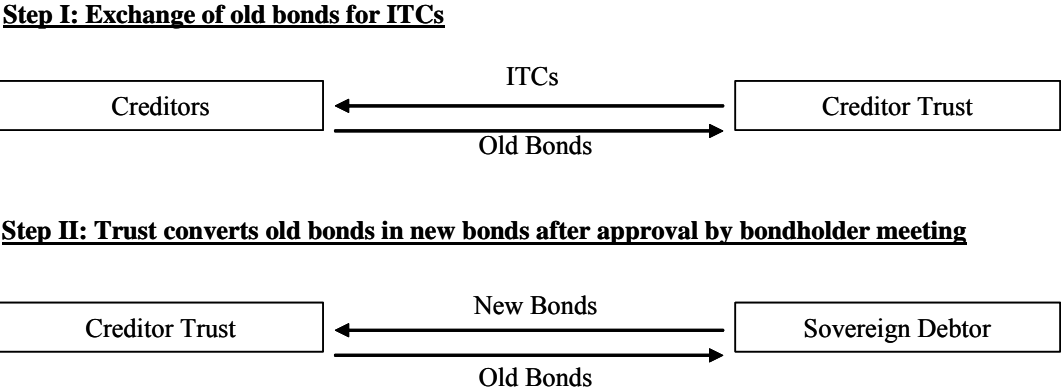
Comparable to the restructurings over the last decade most negotiations between the 1820s and the 1870s involved ad hoc creditor committees achieving only a poor performance from a creditor's point of view. The reasons were a lack of specialization and experience as well as heterogeneity among creditors which led to a weak coordination among creditors and sometimes even competing creditor committees. This changed with the establishment of an institutionalized creditor representation body, the Corporation of Foreign Bondholders (CFB), in 1868 which was able to increase the effectiveness of creditor coordination significantly. This success, however, was achieved not until a reconstitution through an act of parliament in 1898 which replaced a somewhat biased through a more balanced membership to represent all different groups of bondholders. The CFB had two main functions: First, to provide information about debtor countries to the bondholders and, second, to negotiate settlements with debtors and coordinate the different groups of bondholders. But the corporation did not have the legal authority to accept any restructuring terms. The negotiated restructuring agreement would only become valid after the CFB had asked the bondholder to vote on it. This institution still provides some valuable insights on how to reach collectiveness among creditors, as their mode of operation was guided by the idea that "the advantages of co-operation are so great that there can seldom be sufficient ground for separate action," (CFB Report 1873: 56).⁸⁷

⁸⁷ The annual reports of the CFB are available at <http://collections.stanford.edu>.

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At the same time, the proposed procedure would provide a way to implement the recommended engagement clauses (G-10 Working Group 2002). These clauses seek a permanent creditor representation that would elect a representative in the negotiation with the debtor country if restructuring becomes unavoidable. Therefore, the PSAG or any of its consecutive institutions would be a permanent body for consultation that would initiate the formation of a CT for negotiation. And, as it is laid out in the Principles, the debtor would bear the costs of such a creditor engagement up to an amount jointly agreed on “based on generally accepted practices” (IIF 2006: 17).

Comparable to the concept presented in Bartholomew, et al. (2004), a pragmatic way for the creation of such a Creditor Trust could be an exchange of bonds for Interim Trust Claims (ITC) that would represent a single creditor’s share in the trust.⁸⁸



For aggregation of bonds with different financial terms, it might be necessary to issue more

⁸⁸ Bartholomew, et al. (2004) initially proposed this two-step exchange process as an effective vehicle to overcome aggregation problems stemming from differences of jurisdictions, currencies, or financial terms of the original bonds involved in the restructuring. Using this process for the establishment of a Creditor Trust should, therefore, not cause major aggregation problems.

than one type of ITC so that combining different ITCs can replicate the original terms of the bond. The advantage of this situational approach is that both the composition of the board of the Creditor Trust as well as the terms of ITCs could be shaped on a case-by-case basis. This would guarantee the highest degree of flexibility, for example, with respect to differences in the creditor groups involved.⁸⁹ In order to leave the creditors an exit strategy during the restructuring, the ITC could be traded on the secondary market instead of the original bonds.

However, one caveat remains. Should the original bonds not allow for majority voting (e.g., bonds issued under New York law), there is still a potential incentive for some vulture funds not to swap their bonds for ITCs because even if the CT would combine a supermajority of the amount outstanding, he still could not change the financial terms of the bond. But the CT could amend the non-financial terms of the bonds so that holding out would become less attractive. This strategy is comparable to the threat of exit consents in current exchange-offers (Buchheit and Gulati 2002). But as long as clauses for majority restructuring and enforcement are not integrated in all bonds outstanding, there will not be full protection against single vulture funds trying to find judicial ground for litigation. Nevertheless, in the transition period to a common employment of these clauses, vulture litigation might discipline the debtor and thereby at least partially support the restructuring effort (Miller and Thomas 2006).

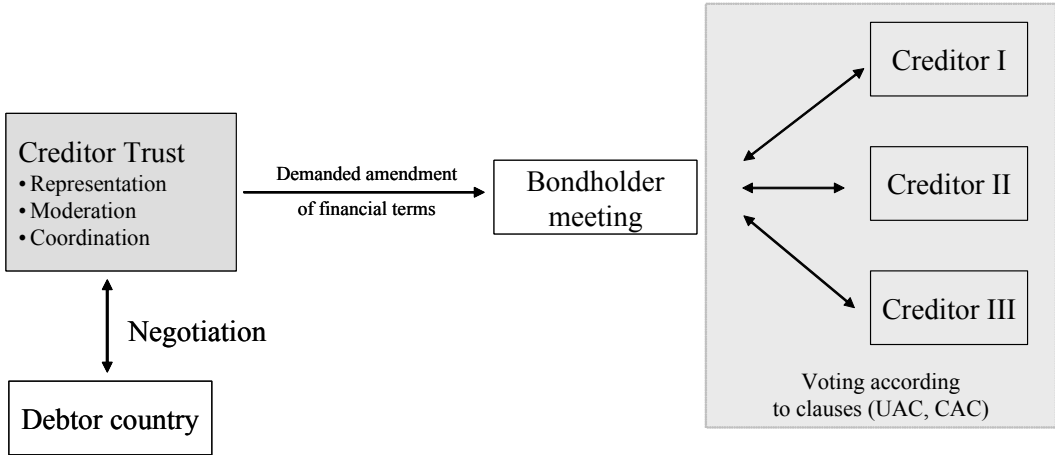
Although negotiation is done by the CT, the voting power on any change of the financial terms of the original bonds would remain with the original bondholders (then the holders of ITCs). This is because if the CT regards the negotiated restructuring terms as a fair and sustainable

⁸⁹ Creating incentives for creditors with low reservation values to participate in the CT would require that the terms offered under collective bargaining be higher than the receipts in the sequential structure. Setting thresholds for majority voting in the ITCs would have to take that into consideration.

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result, it will call for a bondholder meeting to vote on these terms. The details of the voting procedure, e.g., the thresholds, could be specified by the PSAG when establishing the CT on a case-by-case evaluation. This would guarantee that the formulation of certain clauses in these ITCs could improve from time to time, as each restructuring would provide its own lesson for effective creditor coordination. Further, any limitation of creditor rights would be realized by an institution of creditors so that the negative effects of a potential third party intervention would be minimized (Shleifer 2003).

Restructuring via Creditor Trust



The idea of a trustee’s acting on behalf of the creditors is not new, as it is a valid option to ensure majority enforcement. Usually, the main purpose of a trust is to limit free-riding behavior by single creditors. Under the trust structure, litigation can only be undertaken by the trustee after it is requested by a prerequisite percentage of bondholders. Further, any proceed resulting from litigation is to be shared by the trustee among bondholders on a pro-rata basis. Therefore, the G-10 Working Group on Contractual Clauses and some private sector institutions (e.g., the International Primary Market Association) recommend this structure to be included in standard bond contract clauses. In spite of these recommendations, there is a substantial amount of skepticism within the private sector towards such a limitation of creditor

rights. But, according to Gray (2004), this is mainly due to the negative experiences of passive trustees in the U.S. sticking closely to the word of the indenture. However, this is not an argument against trustees in general but rather against tight mandates leaving little room for discretion. Thus, combining a well designed indenture of a trustee with the assignment of a creditor representation in the negotiation about the restructuring terms could result in an active trustee that would provide effective creditor coordination and a useful channel for communication.

But, important for the credibility of the CT, the debtor country has no chance to present an exchange-offer that would be accepted only by some creditors. Therefore, it would be necessary that if the debtor country or any institution under its control buys ITCs on the market or launches an exchange-offer and receives ITCs, the voting rights associated with these claims would automatically migrate to the board of the CT.⁹⁰ This would protect the process from the intra-creditor coordination failure of inter-temporal discrimination, as it would only allow for a vote that would be binding for all creditors.

IV.5. Conclusion

After years of intensive debate, the private sector has gained ownership of the resolution of sovereign debt crises that involve a large number of bondholders. The details of an institutionalized negotiation process, however, have not been finalized yet. Therefore, it is

⁹⁰ The IIF principles ask for “fair voting” that would mean that any voting right owned by or under the control of the sovereign should have no influence on the voting. This is equal to a cancellation of these voting rights possessed by the sovereign because a debtor should not be given the right to vote on its own restructuring terms. However, this would increase the veto power of the remaining rights so that it might become more attractive for vulture funds to sabotage the restructuring. Therefore, in the presented CT proposal it is necessary that these rights are exercised, e.g., in favor of the recommendation made by the CT.

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necessary to improve the contractual approach to sovereign debt restructuring. From the creditors' perspective, the current state of this process still exhibits a major caveat, as it leaves an option for the debtor country to launch an exchange-offer. The debtor will prefer this option in comparison to a bondholder meeting, as the latter one might facilitate coordination among heterogeneous creditors. In an exchange-offer, the debtor enjoys the possibility to inter-temporally discriminate among different creditors or creditor groups. This causes a lower total payoff to creditors and leads to an inefficient solution. Therefore, it should be in the creditors' best interest to find ground for an effective representation that is able to consolidate diverting creditor interests and thereby mitigate this coordination failure.

As this essay proposes the formation of a Creditor Trust initiated by a permanent creditor, a representation body (e.g., a Private Sector Advisory Group) could guarantee such mitigation because such an institution would secure that creditor voting on restructuring terms takes place only in a bondholder meeting so that the debtor has no chance of benefiting from the discrimination among creditors. A pragmatic way for the establishment of this Creditor Trust could be an exchange of old bonds for Interim Trust Claims that would, on the one hand, guarantee pre-commitment by the creditors and, on the other hand, provide the Creditor Trust with the necessary bargaining power for an effective creditor representation vis-à-vis the debtor country.

Further, this would preserve the highest degree of flexibility to adjust both the composition of the Trust as well as voting or enforcement clauses carried by the Interim Trust Claims on a case-by-case basis. Therefore, such an approach would support creditor coordination and at the same time fulfill the requirements for restructuring techniques desired by the private sector as outlined in the IIF Action Plan: country-based, consultation-friendly, and market-based.

IV.6. Appendix

A.1. The “No Gap Case” with Infinite Bargaining

The ineffectiveness of intra-creditor coordination can even lead to a process of infinite bargaining. In order to show this it is helpful to slightly change the assumptions of the model. For simplicity impairment costs are assumed to widely differ among creditors so that reservation values are equally distributed over the interval $\omega_i \in (0,1)$. Isolating the incentive to discriminate, the interdependence of reservation values is disregarded; hence there is no potential herding effect among creditors. Because of the assumption that there is at least one creditor who’s impairment costs approach infinity so his reservation value is equal to one, gains of trade exist for all creditors except for the one with the highest reservation value. This is called the “no gap case” as the highest reservation value equals the debtor’s value. In this setting, the bargaining game will end only in infinite time.

Since bargaining costs the pie decreases each round by $(1 - \delta)$ with $0 < \delta \leq 1$ so that rejection imposes costs to the holdout creditors and leads to an inefficient solution.⁹¹ This causes strategic behavior which results in the debtor and creditor exhibiting the following strategies:

$$\omega_t(\lambda_t) = \varphi + (1 - \varphi)\lambda_t \quad \text{and} \quad \omega_t \geq \psi + (1 - \psi)r_i$$

The debtor offers a share $\omega_t(\lambda_t) = \varphi + (1 - \varphi)\lambda_t$ of the pie to the creditor where λ_t describes the lowest reservation value of the creditors that rejected the offer at the beginning of period t . Updating causes λ_t to increase in case some creditors accept the current offer, the creditor i

⁹¹ Efficiency would require an immediate settlement.

accepts every offer that guarantees $\omega_i \geq \psi + (1 - \psi)r_i$.⁹²

In order to better understand the strategies played in such a game, it is helpful to take a closer look at the parameters φ and ψ . From the creditor's strategy we know that $\psi > 0$ would increase the debtor's reservation value. The reason is that ψ is an indicator of the bargaining power that any creditor $j \in N$ with $r_j < 1$ has vis-à-vis the debtor as she can not *simultaneously* discriminate among creditors. Thereby it shows, what part of the debtor's share $(1 - r_j)$ creditor j can claim in addition to his reservation value. Transforming the creditor's strategy gives thereby $\omega_i \geq r_i + (1 - r_i)\psi$. The debtor will eventually have to pay the highest reservation value sometime in the future. So, if the costs of waiting are sufficiently low, it is preferable for the creditor to reject the current offer and wait for a better future one. The debtor, however, knows this strategic behavior by the creditors and adjusts her offer.

Muthoo (1999: 275) shows that in an incentive-compatible equilibrium, it will hold that $\psi = \delta\varphi$.

The argument behind this equilibrium goes as follows: From the creditor's strategy, we know that he accepts if $\frac{\omega_t - r_i}{1 - r_i} \geq \psi$ and from the debtor's strategy we know that she offers

$\frac{\omega_t(\lambda_t) - \lambda_t}{1 - \lambda_t} = \varphi$. As the equilibrium strategy is stationary, which means independent of time,

updating the debtor's offer yields $\frac{\omega_{t+1}(r_i) - r_i}{1 - r_i} = \varphi$. As in equilibrium the representative creditor

i is indifferent between acceptance and rejection his reservation value (r_i) will also determine

⁹² It is important to notice that since the creditor sets its reservation value independent of time this causes the single creditor to be concerned only about the nominal value of the exchange-offer. But as this nominal value will probably not be reached until somewhere in the future he accepts a lower present value. So the creditor's stationary equilibrium strategy might not be profit maximizing.

the value of the exchange-offer in the next period. Now, if $\psi > \delta\varphi$ ($\psi < \delta\varphi$) then this would mean that $\delta(\omega_{t+1} - r_i) < \omega_t - r_i$ ($\delta(\omega_{t+1} - r_i) > \omega_t - r_i$) which would contradict the debtor's (creditor's) incentives. So, the only incentive-compatible equilibrium with stationary strategies is when $\psi = \delta\varphi$.

In order to derive the equilibrium behavior the debtor knows from the representative creditor's strategy that if she offers a share ω_t , then the highest "type" of creditor that will accept this offer will be

$$r_i(\omega_t) = \frac{\omega_t - \psi}{1 - \psi}$$

Moreover she knows that the relative share of creditor with a reservation value of r_i or lower is

$G(r_i) = \frac{r_i - \lambda_t}{1 - \lambda_t}$.⁹³ This enables her to compare the current profit of an offer with its impact on the

potential offer in the next period. In each period reservation values of the remaining creditors are uniform on $[\lambda_t, 1]$. So, applying dynamic programming, the Bellmann equation with λ_t as the state variable and ω_t as the control variable states:

$$V(\lambda_t) = \max_{1 > \omega_t > \psi + (1-\psi)\lambda_t} \{(1 - \omega_t)(r_i(\omega_t) - \lambda_t) + \delta V(r_i(\omega_t))\}.$$

First-order condition is:

$$(1 - \lambda_t)(1 - 2\varphi + \psi) + \delta V'(r_i(\omega_t)) = 0$$

⁹³ The equilibrium of the inter-temporal discrimination among creditors is equal to a repeated ultimatum bargaining game with one-sided incomplete information. The detailed derivation of this equilibrium can be found in Muthoo (1999: 273-285) and Fudenberg and Tirole (1991: 405-407). The crucial difference to the case presented here is that $G(r_i)$ does not determine a relative share but a probability distribution for the different types of creditors.

With the evolution of the co-state variable:

$$V'(r_t(\omega_t)) = -\frac{(1-\varphi)^2(1-\lambda_t)}{(1-\psi)}$$

Combining FOC and evolution of the co-state variable yields the Euler Equation:

$$(1-\psi)(1-2\varphi+\psi) = \delta(1-\varphi)^2$$

Further we know that it must hold that $\psi = \delta\varphi$ which results the two stationary equilibrium strategies:

$$\psi = 1 - \sqrt{1-\delta} \quad \text{and} \quad \varphi = \frac{1 - \sqrt{1-\delta}}{\delta}$$

For proof that this Equilibrium satisfies the Coase Conjecture, see Muthoo (1999) and Fudenberg and Tirole (1991). This conjecture states that (i) if the interval between rounds goes to zero, all potential gains from trade are realized without any delay, and (ii) the proposing side in the repeated ultimatum game loses all her bargaining power.

This shows that unless bargaining is costless ($\delta \rightarrow 1$), it is always optimal for the debtor to inter-temporally discriminate among heterogeneous creditors or creditor groups and thereby lower her costs of restructuring. Hence the bargaining will not end in finite time.

A.2. A Representation Clause

An Example of a representation clause taken from Buchheit (1998) that would authorize the Creditor Trust (as the Trustee or Fiscal Agent) to moderate and coordinate the negotiation process but would keep the final decision about accepting or rejecting certain restructuring terms rested with the bondholders.

IV. Inter-temporal Discrimination among Creditors

Coordination with other creditors

(a) In the event that the [Trustee] [Fiscal Agent] receives written notice from the Issuer that the Issuer intends to seek a restructuring of the obligations evidenced by the Bonds in the context of a general restructuring of obligations owed to certain other creditors of the Issuer, the [Trustee] [Fiscal Agent] is authorized, without the need to convene a meeting of Bondholders or to seek the prior instructions of the Bondholders, to meet with the Issuer, other interested parties and representatives of such other creditors to discuss the circumstances giving rise to the restructuring request, the terms of any proposed restructuring of the Bonds and the proposed treatment of the obligations held by other creditors of the Issuer; provided that the [Trustee] [Fiscal Agent] shall have no authority in any such discussions to accept on behalf of any Bondholder, or to bind any Bondholder to, any modification of the terms of the Bonds falling within the proviso to Section [the provision requiring unanimous or super-majority consent to modifications of the payment terms of the Bonds].

(b) In its sole discretion, the [Trustee] [Fiscal Agent] may delegate the authority given to it by this Section to participate in such discussions to another entity selected by it, including a committee representing bondholders generally or an entity that acts as a trustee in connection with other bonds of the Issuer. Prior to entering into any such discussions, the [Trustee] [Fiscal Agent], or any such delegate, shall advise each other participant in those discussions of the limitation set out in the proviso to clause (a) above. All expenses of the [Trustee][Fiscal Agent], or its delegate, incurred in connection with such discussions shall be for the account of the Issuer.

(c) The authority given to the [Trustee][Fiscal Agent] by this Section shall automatically terminate as of the first meeting of Bondholders to occur following the date on which the [Trustee][Fiscal Agent] receives the written notice from the Issuer referred to in clause (a)

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above unless the Bondholders shall have passed a resolution at that meeting (or at any adjournment thereof) authorizing the [Trustee][Fiscal Agent] to continue to act in this capacity.

V. Description of Recent Crises

V. Description of recent Crises⁹⁴

V.1. Details of Restructuring Terms

	Pakistan (1999)	Russia (1999-2000)	Ukraine (1998-2000)	Ecuador (1999-2000)	Moldova (2002)	Uruguay (2003)	Argentina (2001-2005)	Dominican Republic (2005)
Initiation and duration of restructuring	The exchange-offer was launched in November 1999 and was completed on 13 December. It was a requirement that the restructuring should take place under the Paris Club's comparability of treatment clause.	Defaulted on its restructured loans (PRINs) in December 1998. Six months later in June 1999, Russia defaulted on its interest arrears notes (IANs). An agreement was reached with the Bank Advisory Committee on 11 February 2000 on a comprehensive debt and debt-service reduction operation. The exchange-offer was launched on 18 July 2000 and completed on 25 August 2000.	After piecemeal attempts at earlier restructurings, Ukraine announced a comprehensive exchange-offer in February 2000. To address inter-creditor Equity concerns, Ukraine decided not to make a principal payment due on one of the bond issues in January 2000 or a coupon payment due on another bond issue in February 2000. As the grace period of both payments expired while the exchange-offer was still open, Ukraine was in default during the exchange. The exchange was completed in April 2000.	Defaulted on discount Brady bonds in September 1999. Later defaulted on other Brady bonds and Eurobonds. Almost eleven months later, announced a comprehensive exchange-offer on 27 July 2000, which was completed on 25 August 2000.	Initiated restructuring in June 2002. The final restructuring agreement was signed on 15 October 2002 and became effective on 30 October.	The exchange-offer was announced on 10 April 2003 and successfully completed on 29 May 2003, after the deadline for offers was extended by one week from 22 May to allow for further participation. During the one week extension participation rose to 93% and USD 5 billion out of USD 5.4 billion of eligible bonds were exchanged.	Initiated restructuring of domestic and foreign debt in late October 2001 under a two-phase approach. Phase 1 was completed in December 2001. Phase 2 eventually launched in January 2005 (closing date of 25 February 2005).	In the course of the resolution of a banking crisis in 2003 debt level increased substantially implying unsustainable future debt payments. After the economy stabilized and growth returned the government decided to restructure the debt before the payments would become due in 2006.

⁹⁴ The tables are drawn from Sturzenegger and Zettelmeyer (2006: 256-261), Roubini and Setser (2004: 383-389), ECB (2005: 40-42) and Porzecanski (2005: 326); Author's presentation.

V. Description of Recent Crises

Details of Restructuring Terms (continued)

	Pakistan (1999)	Russia (1999-2000)	Ukraine (1998-2000)	Ecuador (1999-2000)	Moldova (2002)	Uruguay (2003)	Argentina (2001-2005)	Dominican Republic (2005)
Restructured debt	Three Eurobonds with a face value of USD 608 million, had bullet redemptions in the period December 1999 to February 2002, and coupons ranging from 6 to 11.5%. One Eurobond had a put option exercisable on 26 February 2000.	The exchange covered claims estimated at USD 31.8 billion. The claims were composed of about USD 22.2 billion of PRINS, USD 6.8 billion of IANs and USD 2.8 billion of PDI on PRINs and IANs.	The exchange involved four Eurobonds with a face value of USD 2.3 billion and USD 1 billion of Gazprom bonds. Coupons on the instruments ranged from 8.5 to 16.75%.	The instruments restructured were collateralised discount Brady bonds, uncollateralized past-due interest (PDI), interest equalisation Brady bonds, and Eurobonds with a total face value of USD 6.5 billion.	The exchange covered the only Eurobond issued by Moldova. The 5-year Eurobond, with an outstanding balance of USD 39.7 million, was due to mature on 13 June 2002	The exchange involved nearly all market debt, accounting for about half of total sovereign debt. Eligible securities comprised 46 domestically issued bonds accounting for USD 1.6 billion of principal, 18 international bonds accounting for USD 3.5 billion and one Samurai bond, accounting for USD 250 million.	Under Phase 1, US dollar and Argentine peso bonds were eligible for exchange. The authorities accepted federal bonds with a face value of USD 41 billion and a further USD 9 billion in provincial debt. Under phase 2, the aggregate eligible amount was USD 81.8 billion (comprising USD79.7 billion of principal and USD 2.1 billion of accrued but unpaid interest as at 31 December 2001). Unpaid interest since December 2001 increases the total amount to around USD 104billion.	Authorities decided on a debt strategy that entailed a restructuring of external commercial banks and suppliers debt, a Paris Club rescheduling, the renegotiation of a Standby Arrangement with the IMF, and a restructuring of privately held external bonds.

V. Description of Recent Crises

Details of Restructuring Terms (continued)

	Pakistan (1999)	Russia (1999-2000)	Ukraine (1998-2000)	Ecuador (1999-2000)	Moldova (2002)	Uruguay (2003)	Argentina (2001-2005)	Dominican Republic (2005)
Where payments missed prior to restructuring?	No.	Yes, initially for domestic debt, six months later for restructured Soviet era international debt. No default on Russian era international debt. Debt deal came two years after initial default.	Several debt restructurings, without default prior to 2000 restructuring. One principal payment missed just before 2000 exchange-offer.	Several debt restructurings, without default prior to 2000 restructuring. One principal payment missed just before 2000 exchange-offer.	No. Debt negotiations started at the time of maturity of old bond with an initial restructuring agreement while final deal was negotiated.	No.	No. Debt negotiations started at the time of maturity of old bond with an initial restructuring agreement while final deal was negotiated.	No.
Scope (USD billion)	0.6	31.8	3.3	6.8	0.04	5.4	81.8	1.2
Number of Bonds	3	3	5	5	1	65	152	2
Principal Forgiveness	No	Yes	No	Yes	Yes	No	Yes	Yes
„Haircut“ on Discount Bonds (%)	0	37.5	0	40	10	0	66.3	<3

V. Description of Recent Crises

Details of Restructuring Terms (continued)

	Pakistan (1999)	Russia (1999-2000)	Ukraine (1998-2000)	Ecuador (1999-2000)	Moldova (2002)	Uruguay (2003)	Argentina (2001-2005)	Dominican Republic (2005)
Terms of restructuring	Outstanding Eurobonds were exchanged for a new amortising bond with an overall maturity of six years, including a three year grace period, and a coupon of 10%.	The PRINs and IANs were exchanged for new 30-year Eurobonds, which also featured below market interest coupons, a front-loaded interest rate reduction and a 7-year grace period. The PDIs were exchanged for a special 10-year Eurobond at par, with a 6-year grace period. The amount of PDI exchanged was equal to the outstanding amount minus a cash payment of USD 270 million.	Claims were exchanged for new amortising instruments with maturities of seven years, including a grace period of one year. Investors were offered a choice of a euro-denominated Eurobond bearing a coupon of 10%, and a USD-denominated Eurobond with an 11% coupon.	Bondholders were given the option to swap the defaulted bonds into a single global USD-denominated stepup 30-year bond, with an option to convert the 30-year bond into a USD-denominated 12-year bond for additional debt reduction. The new bond included a principal reinstatement clause to reduce the risk of future default by Ecuador and amortising features.	Under the exchange, creditors received an immediate cash payment of 10% of the outstanding principal (USD 3.97 million) and a new 7-year amortising bond. The amortisation schedule was back-loaded.	Investors were offered a choice between two options. Under the “maturity extension” option, each existing bond could be exchanged for a bond with similar coupon and extended maturity (generally 5 years longer), combined in some cases with a 30-year bond. Under the “benchmark” option investors received one of a smaller number of benchmark bonds, which were long-dated but more liquid than under the maturity extension option, also combined in some cases with a 30-year bond.	Under Phase I all eligible US dollar and Argentine peso bonds were exchanged for new domestic loans with a reduction of interest rates to 70% of the contractual level, a grace period for interest until April 2002, and a three year extension of maturity in the case of bonds maturing up to 2010. Under phase 2 holders can swap into four bonds maturing between 2033 and 2045 including a GDP-linked bond.	A voluntary bond exchange-offer with guaranteed full payment of holdouts.

V. Description of Recent Crises

Details of Restructuring Terms (continued)

	Pakistan (1999)	Russia (1999-2000)	Ukraine (1998-2000)	Ecuador (1999-2000)	Moldova (2002)	Uruguay (2003)	Argentina (2001-2005)	Dominican Republic (2005)
Debt Relief	The exchange resulted in an increase in the face value of the bonds by USD 6 million. However, there was a significant cash-flow relief in the first year of the exchange of USD 539 million.	The exchange resulted in a reduction in the face value of the bonds by USD 13.4 billion (of which PRINs and IANs accounted for USD 10.6 billion, frontloaded interest reduction in Eurobonds accounted for USD 2.5 billion and PDI accounted for USD 270 million) or 42% of the restructured debt. The cashflow relief provided by the exchange averaged about USD 1.7 billion per year (for the first 14 years).	The exchange resulted in no reduction in the face value of the bonds, but yielded cash-flow savings of USD 835 million in the first year and USD 719 million in the second.	The exchange resulted in a reduction in the face value of the bonds by USD 1.8 billion or 27% of the restructured debt. The cashflow relief provided by the exchange equalled about USD 349 million in the first year (100%) and USD 506 million in the second year (71%), or about USD 1.5 billion in the first five years (42%)	The exchange resulted in a reduction in the face value of the bonds by USD 4 million or 10% of the restructured debt. The cash-flow relief provided by the exchange was USD 33 million in the first year.	The exchange resulted in a reduction in the face value of the bonds by USD 49 million. The exchange yielded cash-flow savings of USD 411 million in the first year and USD 192 million in the second year, or about USD 1.6 billion in the first five years. The NPV of future flows on new bonds was about 20% less than the NPV of pre-exchange flows, when discounted at a common factor (16% – the implied yield when the exchange was launched).	Computing haircuts for the phase 1 exchange is complicated by the lack of a secondary market for the new domestic instruments after the exchange. Estimates by Sturzenegger and Zettelmeyer (2004) give upper and lower bound estimates of between 50% and 25%. The phase 2 exchange resulted in a hair cut of around 75%.	Coupon rates were unchanged but with interest payments for 2005 and 2006 partially capitalized. Maturities were extended by five years. Using a yield of about 10 percent results haircuts of 0.14 and 2.67 percent.

V. Description of Recent Crises

V.2. Details of Creditor Coordination

	Pakistan (1999)	Russia (1999-2000)	Ukraine (1998-2000)	Ecuador (1999-2000)	Moldova (2002)	Uruguay (2003)	Argentina (2001-2005)	Dominican Republic (2005)
Investor base	Roughly one third of the restructured bonds were held by domestic residents with the rest held by financial institutions and retail investors from the Middle East. US and European investment firms had only small holdings of the debt.	Of the restructured debt, about 70% was held by domestic banks and the remainder by non-residents.	The three bonds which contained CACs were held by a relatively limited number of investment banks and hedge funds. The remaining issue was widely held in the retail sector in Europe.	Widely held by institutional investors in New York and London who had substantial holdings of emerging market debt.	Collective action problems were minimised by the fact that a single asset management company held 78% of outstanding bonds.	More than half of all bonds were held by domestic investors, which were to a large extent the retail sector. The Samurai and euro-denominated bonds had a large retail investor base in Japan and Europe respectively. International Dollar-denominated bonds were widely held by institutional investors in the United States.	The debt restructured in phase 1 was held by banks, local pension funds and local residents. Of the debt to be restructured in phase 2 about 50% is estimated to be held by domestic financial institutions (roughly equal numbers of banks and pension companies), 20% by European retail investors, 3% by Japanese retail investors, and the remaining 27% is largely held by US institutional investors.	N/A

V. Description of Recent Crises

Details of Creditor Coordination (continued)

	Pakistan (1999)	Russia (1999-2000)	Ukraine (1998-2000)	Ecuador (1999-2000)	Moldova (2002)	Uruguay (2003)	Argentina (2001-2005)	Dominican Republic (2005)
Relations with official creditors and IMF	Eurobond restructuring triggered by Paris Club demand for comparable treatment	Four weeks before the default, the IMF provided a financial package in an attempt to stave off the crisis, but did not provide additional financing when this package failed. A year later, the IMF negotiated a new Standby Arrangement and lent into arrears as the government was negotiating its restructuring	In 1998, new IMF financing was made contingent on a debt restructuring. 2000 restructuring occurred while Ukraine had an IMF supported government (through this was off track for unrelated reasons), and IMF supported exchange	1999 default was related in part to IMF decision not to lend unless Ecuador restructured its debts. IMF lent into arrears prior to 2000 debt exchange, and supported the exchange	Lending from multilaterals had stopped in 2001 for unrelated reasons. Following the decision to restructure, IMF made one more disbursement before program went off track again	Debt restructuring occurred in the context of an IMF-supported program, and the IMF supported the exchange	IMF supported Argentina prior to 2001 default, and the default was partly triggered by the IMF's decision to suspend lending. IMF lent into arrears between January 2003 and March 2004, but suspended its lending in mid-2004, in part because it disagreed with the authorities' approach to the restructuring	Debt restructuring occurred in the context of an IMF-supported program, and the IMF supported the exchange
Where bondholders treated differently?	No. All bondholders face similar NPV haircut	Yes. Some bonds were not defaulted; and haircuts varied both across exchanges and within the GKO exchange. Domestic institutional creditors received better terms in the GKO exchange	In domestic debt restructurings domestic holders obtained better terms but face capital controls. In the 2000 international restructuring NPV haircuts were fairly similar (slightly lower on longer term bonds)	NPV haircuts lower on longer term bonds. Treatment of holders of domestic dollar debt and shorter term international debt broadly similar	No. Only one bond restructured; haircut received by second commercial creditor (Gazprom) about the same	Haircuts were relatively small and similar for externally issued debt and long term domestically issued debt. Short term domestically issued suffered somewhat higher haircuts	Yes, both across exchanges, and within, particularly within the Phase 1 and Pesification exchanges. In 2005 exchange local pension funds obtained a slightly better deal	No. Haircuts were close to zero for both bonds

V. Description of Recent Crises

Details of Creditor Coordination (continued)

	Pakistan (1999)	Russia (1999-2000)	Ukraine (1998-2000)	Ecuador (1999-2000)	Moldova (2002)	Uruguay (2003)	Argentina (2001-2005)	Dominican Republic (2005)
Relation with creditors	No formal negotiations, but communications with small group of bondholders	Negotiations with foreign banks. 2000 restructuring was negotiated with a Bank Advisory Committee (“London Club”)	No formal negotiations	No formal negotiations, but convened a consultative group of institutional creditors	Restructuring negotiated with a single creditor holding 78 percent of the bond that was restructured	No formal negotiations, but government stressed the importance of communication with bondholders and conducted two “road shows”	No formal negotiations, but contact with consultative groups established by the government, and several self declared creditor committees	No formal negotiations but authorities stressed the importance of this being a voluntary exchange
Exit consents	Not used	Not used	Used	Used	Not used (negotiated deal)	Used	Not used	Used
CACs	All three outstanding bonds contained CACs, but not used	Not used	In three bonds that contained CACs, used pre-emptively in conjunction with exit consents to back exchange-offer	Outstanding bonds did not have CACs, new bonds do not have them	Used to bind minority Eurobond holders	Used in the case of one (Samurai) bond. New bonds contain both CACs and an aggregation provision lowering the CAC voting threshold depending on support across bonds	Some outstanding bonds contained CACs, but they were not invoked. New bonds issued in 2005 exchange contain both CACs and an aggregation provision lowering the CAC voting threshold depending on support across bonds	New bonds contain both CACs and an aggregation provision lowering the CAC voting threshold depending on the support across bonds
Holdouts and litigation	No holdouts (few creditors)	1 percent holdouts, paid in full (refers to PRINs/IANS exchange)	2 percent holdouts, paid in full	2 percent holdouts, paid in full	No holdouts (collective action clause invoked)	7 percent holdouts, paid in full	23.85 percent holdouts, which have not been paid nor offered any alternative at time of writing. February 2005 Law prevents government from settling with these creditors	3 percent, paid in full

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