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Sovereign Debt Restructuring: Problems and Prospects

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ABSTRACT

This paper reviews the history of sovereign debt restructuring operations with private sector creditors with a view to diagnosing the factors that lead to inferior outcomes. The paper also attempts to forecast potential problems that may arise in sovereign debt restructuring negotiations in the future, and reviews possible modifcations of existing institutions. The future potential problems identified include: the role of credit default swaps in discouraging creditor participation in voluntary exchange offers; the potential for manipulation of aggregation clauses; the possibility of *de facto* sovereign default on state contingent debts through statistical manipulation; more widespread use of appeals to the notion of odious or illegitimate debts; and, the extent to which recent regulatory changes aimed at restricting litigation against sovereigns in default might reduce the incentive for sovereigns to repay their debts in the future.

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1 Introduction

At the time of writing, Europe is in the early stages of a sovereign debt crisis. Greece has already announced plans to restructure its stock of sovereign debt, while the price of credit default swaps indicates that financial markets increasingly expect a number of other European sovereign countries to follow in the near future. What is the likely outcome of these European debt restructuring operations? Can history act as a guide as to what to expect of these operations? Is there room to improve upon the outcomes of the past? And what new problems are likely to arise in the future? In this paper, we review the history of sovereign debt restructuring operations with a view to diagnosing the factors that lead to inferior outcomes, proposing possible solutions to debt restructuring problems, and anticipating future problems that may arise with the continued evolution of the market for sovereign lending.

After reviewing a number of important preliminary matters in Section 2 including possible criteria that might be applied in the design of an *optimal* process for restructuring debts, Section 3 surveys some of the recent evidence on the outcomes of sovereign debt restructuring. As the European crisis predominantly involves sovereign bonds, our focus will be on the experience of sovereign debt restructuring operations with private sector creditors (including both bondholders and commercial banks) with an emphasis on the lessons drawn from the experience of the *emerging markets* of Latin American for the *submerging markets* of Europe. We show that outcomes have typically been poor, taking on average the better part of a decade to complete, resulting in creditor losses on the order of forty per-cent of the value of their claims, and leaving the debtor countries as or more indebted as they were when they entered default. Although restructuring outcomes are poor for almost all countries, they appear to be especially poor for the low income countries of sub-Saharan Africa.

Section 4 then reviews possible explanations for these outcomes. The fact that the history of sovereign lending is associated with repeated attempts by creditors to form institutions to promote coordinated action suggests that *collective action problems* may be an important determinant of these outcomes. We review some recent theoretical research on this topic that suggests that mechanisms such as the introduction of collective action clauses into debt contracts have the potential to both reduce the costs of restructuring and improve the terms on which sovereigns will be able to borrow in the future. Importantly, this literature

also suggests that such mechanisms are not a panacea, and may lead to worse restructuring outcomes when applied to countries with poor debt management systems for which it is very costly to manage a restructuring operation. We also review a number of other potential explanations for poor restructuring outcomes.

Section 5 then draws a much longer bow and attempts to forecast potential problems that may arise in sovereign debt restructuring negotiations in the future. Amongst the topics considered, we: explore the extent to which the increased availability of derivative securities such as credit default swaps has the potential discourage creditors from participating in a proposed debt restructuring operation and, in the event that they do participate, from exerting the appropriate resources to ensure an efficient restructuring outcome; conjecture that increased issuance of state contingent debt securities will lead to the occurrence of a form of *de facto* sovereign default in which sovereigns manipulate their own statistical data to reduce payments on their own bonds; review the practical problems that are likely to arise with more widespread appeals to the notion of odious or illegitimate debts as a justification for imposing larger losses on creditors; and, consider the extent to which recent regulatory changes aimed at restricting litigation against sovereigns in default might reduce the incentive for sovereigns to repay their debts in the future. Section 6 concludes.

2 Preliminaries

In this section, we outline some of the issues that arise when thinking about sovereign default and sovereign debt restructuring. We begin with a discussion of the factors that make sovereign debt restructuring different from debt restructuring operations between private parties before turning to the criteria by which sovereign debt restructuring outcomes can be judged. We then discuss some concepts that arise when attempting to quantify the extent of sovereign default and sovereign debt restructuring throughout history. Finally, we provide a brief history of sovereign debt restructuring and describe the institutional environment within which restructuring negotiations have taken place throughout history.

2.A What is Special about *Sovereign* Debt Restructuring?

The debts issued by sovereign governments differ from the debts of private entities in at least two important respects. The first difference arises from the special legal status of a sovereign arising from the *doctrine of sovereign immunity*, which precludes a law suit against a sovereign without that sovereigns consent. As applied to law suits within the sovereign's own legal system, this doctrine is based on the intuitive idea, extending back at least to Hobbes's *Leviathan*, that the agent that makes the laws is not bound by those laws. As a practical matter, this limits the ability of the sovereign's creditors to seek enforcement of a contract through the courts of the sovereign country itself. With regard to foreign borrowing, this right has typically been extended to foreign governments on the basis of international comity among nations, which as a consequence has limited the ability of foreign creditors to seek redress through their own and other countries' courts.

Over time, this absolute doctrine of sovereign immunity has been weakened. In response to increased government participation in commercial activities in the post war period, driven in part by the rise of socialist and communist countries, a more restrictive doctrine of sovereign immunity emerged. Codified in the United States with the passage of the *Foreign Sovereign Immunity Act* of 1976, and in the United Kingdom by the *State Immunity Act* of 1978, the restrictive doctrine recognizes the immunity of a sovereign with regard to acts of state, but not with respect to its private acts including its commercial activities, nor in situations where it has expressly waived its immunity. Such waivers are now common in international bonds. For example, on page 12 of the prospectus for Turkey's 6.00% Notes due January 14, 2041 it states that

> Turkey will irrevocably waive, to the fullest extent permitted by law, any immunity, including foreign sovereign immunity, from jurisdiction to which it might otherwise be entitled in any action arising out of or based on the debt securities which may be instituted by the holder of any debt securities in any state or federal court in the City of New York or in any competent court in Turkey. [1]

[1] http://www.sec.gov/Archives/edgar/data/869687/000095012311001256/y87020b5e424b5.htm#608

In other countries, the waiver is more limited. For example, on pages 13-14 of the prospectus for Brazil's 10.25% Global BRL Bonds due 2028 it is stated that

> Under Brazilian law, Brazil is prohibited from submitting to the jurisdiction of a foreign court for the purposes of adjudication on the merits in any dispute, controversy or claim against Brazil arising out of or relating to the securities. Brazil has agreed, however, that any dispute, controversy or claim arising out of or relating to the securities (other than any action arising out of or based on United States federal or state securities laws), including the performance, interpretation, construction, breach, termination or invalidity of the securities, shall be finally settled by arbitration in New York, New York.[2]

In practice, variations in the form of waivers such as in the Turkish and Brazilian examples are of limited importance since, as debt issuance is a commercial act, foreign creditors now have the ability to bring suit against a sovereign in default on its debts in the main foreign jurisdictions.

The second difference between sovereign and private debts, however, arises from the relatively limited scope for the attachment of the assets of the sovereign. A number of recent court cases have suggested that it is difficult to seize the small stocks of assets held abroad by the average debtor nation. A particularly well known case concerns the mostly unsuccessful efforts of the Swiss company Noga to enforce contracts with Russia by seizing embassy bank accounts, Russian properties in France, naval ships, fighter jets, uranium shipments, and fine art exhibitions (see the discussion in Wright 2001 and Doemeland et al 2008).[3]

The difficulty of enforcing sovereign debt contracts is the *fundamental problem of sovereign debt*. This problem also limits many potential changes to the processes for restructuring sovereign debt that rely on being able to bind the sovereign to accept a specific restructuring agreement. Even when it *is* possible to bind the sovereign to accept an agreement, to the extent that the agreement includes new debt issues there may be little that can be done to stop the sovereign from immediately defaulting again.

[2] http://www.sec.gov/Archives/edgar/data/205317/000119312510234571/d424b5.htm

[3] The author understands that, following this experience, Russia now refuses to include an explicit waiver of sovereign immunity in its sovereign bonds.

In the absence of the usual processes for enforcing contracts, what are the costs of default that serve to encourage repayment? Market participants commonly refer to the loss of normal financial market access as the primary consequence of a country's decision to default. There are at least three reasons why access to financial markets might be lost or restricted after a default. One approach emphasizes the role of legal sanctions in blocking credit market access. As noted above, the ability to seize the assets of a sovereign is limited by the fact that most of these assets are not held in creditor jurisdictions. However, one asset that can be seized are the funds associated with servicing new loans to the country, which inevitably flow through creditor country jurisdictions. This approach has been adopted in recent litigation concerning sovereign default, including the well known case of *Elliott Associates vs Peru*[4] (see Pitchford and Wright 2010 for details). If the funds servicing new loans can be seized, creditors will be deterred from making new loans and hence the country will be effectively cut off from credit markets. A second possibility, emphasized in early work by Eaton and Gersovitz (1981), focused on threats by creditors to *retaliate* against a country in default by denying them access to new credit. A third possibility is that the decision to default reveals something about the country's credit worthiness leading creditors to reduce or cut-off lending to them.

A default may also impose direct costs of the economy of the defaulting country. For example, if default damages the domestic financial system by inducing a domestic banking crisis, domestic output will fall. Another mechanism through which the domestic economy may be affected by a default is through its effects on international trade. There is some empirical evidence (Rose 2005) that countries in default experience a significant decline in foreign trade, which may indicate the imposition of trade sanctions, either explicitly or *sub rosa,* or the loss of access to trade credit facilities. Once again, this view remains controversial: other authors have argued that these trade declines are unrelated to the pattern of debt holdings, and hence might be due to forces other than trade sanctions by creditor country governments (Martinez and Sandleris 2006). Some have argued (eg Mitchener and Weidenmeier 2005) that throughout history capital market participants viewed the threat of military intervention by creditor country governments as an effective deterrent against de-

[4] *Elliott Associates, L.P. v. Banco de la Nacion and The Republic of Peru, 194 F.3d (2d Cir. 1999).*

fault by some countries throughout history. However, these findings are controversial. For example, Tomz (2007) in his study of sovereign borrowing across three centuries finds little evidence for the use of threatened military intervention to support repayment of debt, although it might have been used to protect the interests of foreign direct investors. Whether or not such punishments were used in the past, there is widespread agreement that they are not significant today.

2.B Criteria for an "Optimal" Debt Restructuring Process

Much of the debate surrounding possible changes to (or reform of) the institutions governing sovereign debt restructuring has been aimed at reducing the costs (in terms of both time and other resources) associated with reaching agreement as to the terms of that restructuring. While this appears to be in the best interests of a sovereign country that is already in default, it is important to note that reductions in the costs of default will also affect the incentives of the country to borrow appropriately and avoid default in the future. In turn, this will affect the terms on which creditors will lend to the sovereign. That is, it is entirely possible that the country in default may be made worse off through the introduction of a relatively costless debt restructuring process if this process significantly limits their ability to borrow in the future.

Supposing that a relatively costless debt restructuring process is in the best interests of the sovereign in default, the resulting trade-off between the costs of default *ex post* and the costs of borrowing *ex ante* gives rise to a classic *time consistency problem*[5]. That is, a sovereign country that is preparing to borrow would like to be able to bind itself to participate in a particularly costly restructuring process should a default occur, in order to reduce its incentive to default later and thus secure the most favorable borrowing terms up front. However, once a default has occurred, the same country will find it desirable to reduce these costs. If the country is easily able to do so, creditors will offer less favorable terms on the initial loan in expectation of this behavior.

An optimal sovereign debt restructuring mechanism must therefore optimally trade-off

[5] Time inconsistency problems were first studied by Calvo (1978) and Kydland and Prescott (1977). More broadly, the tradeoff between *ex post* and *ex ante* incentives in sovereign debt restructuring has been raised by many authors including, most forcefully, Dooley (2000) and Shleifer (2003).

between the costs of default *ex post*, and their costs *ex ante*. To understand this trade-off, it is necessary to understand the nature of the costs and benefits of default. Given that it is practically impossible to craft the language of a debt contract in such a way as to specify a precise course of action for every possible future eventuality, situations will arise in which it is not socially optimal for a country to repay all of its debts. For example, in the event of a natural catastrophe, like and earthquake or tsunami, it seems reasonable to think that the debt repayments of a country should be altered and possibly also reduced. However, it is in general not possible to specify the full range of natural catastrophes, and the appropriate adjustment in repayment terms, in a readily quantifiable and enforceable manner in the terms of the debt contract. In such cases, the possibility of restructuring that country's debt offers a form of insurance against such outcomes. As a result, some amount of debt restructuring (and possibly also default) is desirable.

The problem lies in identifying the right *amount* of sovereign debt restructuring, and hence the right incentives to avoid a debt restructuring. The incentive for the country to avoid default and restructuring depends on the expected outcome of the debt restructuring process; if the expected outcome is too generous to the sovereign, they default too often. The design of the debt restructuring process affects these incentives in two ways. First, to the extent that the process is time consuming or requires large expenditures, the debt restructuring is costly to both the sovereign debtor and to creditors as a whole. Second, these incentives are also affected by the extent to which the process favors debtors over creditors; a process that favors creditors over the sovereign debtor will give the sovereign a strong incentive to avoid default, although if it is inflexible it will also provide very little insurance against the adverse outcomes discussed above. An optimal debt restructuring mechanism should minimize the first type of costs (that is, the social costs), since they do not benefit either creditors or the sovereign debtor, and should focus on appropriately setting the relative outcomes of the process (that is, the private costs).

Any change in the outcomes expected from debt restructuring will also have *ex ante* consequences. For a given creditor recovery rate, the more likely is a sovereign default or restructuring, the less profitable is sovereign lending and the higher the cost of borrowing faced by sovereign debtors. And the higher the cost of borrowing, the less sovereign borrowing

will occur. Indeed, much of the policy debate as to the desirability of more widespread use of collective action clauses in sovereign bond contracts focused on its anticipated effect on borrowing costs and the resulting amount of sovereign borrowing this would produce. A small and somewhat controversial literature testing for differences in the costs of borrowing between contracts with and without collective action clauses has not generated a consensus as to whether such clauses increase the cost of borrowing (see Eichengreen and Mody 2000 and 2004, Richards and Gugiatti 2003 and 2004 and Becker, Richards and Thaicharoen 2003). This may indicate that such clauses do not substantially change the incentive of a sovereign to default and/or restructure its debts. Alternatively, it may also indicate that any increase in the probability of a default or restructuring is offset by an increase in the recovery rate creditors expect[6].

The time inconsistency problem has other implications for the design of alternative debt restructuring processes. One is that if participation in a particular restructuring process is voluntary, and is determined *ex ante* the initial debt contract, sovereigns will have an incentive not to participate in order to attract more favorable borrowing terms. This is particularly likely to the extent that a sovereigns borrowing decisions are made by term-limited politicians who value the lower cost of borrowing today and anticipate that any costs from a future restructuring will be borne by the successor government. The second is that, even if a new process is imposed upon sovereigns, they will have an incentive to undermine the process so as to make restructuring more costly. This might be done by issuing debts with different levels of seniority (so as to generate conflict amongst creditors in restructuring negotiations), or by targeting the debt to retail investors who are typically more difficult to contact and organize in the event of a debt restructuring negotiation.

2.C Sovereign Debt Restructuring and Sovereign Default

There exists no comprehensive database of sovereign debt restructuring negotiations. This is not surprising given the conceptual and practical difficulties associated with collecting such information. For example, given the complexity of the typical sovereign's portfolio

[6] Pitchford and Wright (2009) present an theoretical model of sovereign debt restructuring and argue that this is the most likely outcome from the introduction of collective action clauses, with the reduction in social costs appropriated by creditors as a higher recovery rate.

of debts the restructuring of country's debt portfolio necessarily involves negotiations with many different parties, and it is not obvious whether one should count these negotiations as one restructuring or as many. As another example, in a number of cases there have been many rounds of negotiation each resulting in an agreement that is not implemented, only to be followed by new rounds of negotiation. In such cases, it is not obvious whether we should count all rounds, or only the final successful round, when quantifying the extent of restructuring negotiations. Finally, in many cases negotiations are not public and hence no publicly available source of information on these negotiations exists.

It is, however, possible to construct a database of the occurrence of default and its final resolution. To do so, it is necessary to clarify a number of other technical issues including such elementary questions as precisely what is meant by the terms "default" and "resolution". It will turn out that differences in these definitions may also play a role in determining the outcomes of sovereign debt restructuring negotiations below.

Defaults and "credit events"

Defined narrowly, a default on a debt contract occurs when a debtor has not met its legal obligations according to the debt contract. The precise terms under which a default occurs are defined in the debt contract, and can typically be divided into two types. The first type of default is often referred to as a debt service default and occurs when the borrower fails to make a payment of interest or principal within the specified grace period. The second type of default, referred to as a technical default, occurs when the sovereign violates a covenant or condition of the debt contract.

As an example, consider the 10.25% Global BRL Bonds due 2028 issued by Brazil in May 2007. Pages 4-5 of the prospectus define a default as follows:

> Any of the following events will be an event of default with respect to any series of debt securities:
>
> (a) a default by Brazil in any payment of principal of or interest on any debt securities of any series, which continues for 30 days after such payment was due;
>
> (b) a default which is materially prejudicial to the interests of the holders of the debt securities of that series in the performance of any other obligation under

the debt securities of that series, which continues for 30 days after the holder of any debt securities of that series provides to the fiscal agent written notice requiring this default be remedied;

(c) an acceleration of any aggregate principal amount of Public External Indebtedness of Brazil, which exceeds $25,000,000 (or its equivalent in any other currency), by reason of an event of default arising from Brazil's failure to make any payment of principal or interest under this Public External Indebtedness when due;

(d) a failure of Brazil to make any payment in respect of the Public External Indebtedness of Brazil in an aggregate principal amount in excess of $25,000,000 (or its equivalent in any other currency) when due (as such date may be extended by virtue of any applicable grace period or waiver), which continues for 30 days after the holder of any debt securities of that series provides to the fiscal agent written notice requiring this default be remedied;

(e) a declaration by Brazil of a moratorium with respect to the payment of principal of or interest on Public External Indebtedness of Brazil which does not expressly exclude the debt securities of that series and which is materially prejudicial to the interests of the holders of the debt securities of that series; or

(f) a denial or repudiation by Brazil of its obligations under the debt securities of that series.

There are a number of problems associated with the use of this definition as the basis for the investigation of sovereign debt restructuring occurrences and outcomes. As one example, from the perspective of a creditor the sovereign may undertake a number of actions that do not constitute a default as defined above but which nonetheless reduce the market value of their claim. Hence, it may be desirable for the creditor to purchase insurance against a wider range of actions by the sovereign. This desire is reflected in the contractual terms of marketed credit default swaps (CDSs) which are triggered by what is known as a *credit event*.

The set of credit events insured by a CDS are negotiated by the parties and may vary from contract to contract. For many CDS contracts, sovereign and private, the definition of

a credit event follows the guidelines of the International Swaps and Derivatives Association (ISDA) 2003 Credit Derivative definitions. In such contracts, credit events can typically be grouped into a small number of types, including the *repudiation or moratorium* of a debt by a country, a *failure to pay* in which payments of interest and/or principal are not made within the specified grace period, or the *restructuring* of a debt in which the terms of future payments on the debt are altered directly (such as a reduction of principal or interest) or indirectly (such as through contractual subordination or a change in currency). Note that a restructuring can occur without a failure to repay.

The precise definition of a restructuring credit event has been a central issue in recent discussions concerning the restructuring of Greek sovereign debt, where it has been argued that a restructuring in which creditors *voluntarily* exchange their debts for new debts with different payments should *not* constitute a restructuring credit event; we return to this issue below when we discuss the effect of CDSs on sovereign debt restructuring negotiations.

For our current purposes, a limitation of both the narrow definition of default, and the interpretation of a restructuring credit events, is that they need not correspond very closely to the presence of sovereign debt restructuring negotiations. Indeed, there are numerous instances in the historical record of sovereigns opening such negotiations with creditors without the debt being in default. Reflecting this fact, credit ratings agencies like Standard and Poors (Beers and Chambers 2006) define a default as having begun when a payment is not made within any grace period specified in the contract, or when the sovereign "tenders an exchange offer of new debt with less-favorable terms than the original issue." S&P defines the end of a default as occurring when a settlement occurs, typically in the form of an exchange of new debt for old debt, and when they conclude that "no further near-term resolution of creditors claims is likely" (page 22). As a result, the S&P definition of a default is probably closest to a measure of sovereign debt restructuring. S&P has stated that it will treat the voluntary Greek restructuring, that does not trigger a credit event under a CDS, as a default[7].

When it comes to examining data on default below, we must deal with one last technical matter. It is often observed in the data that a country defaults, restructures its debts with a new debt issue, and then defaults again in the same or following year. Alternatively,

[7] "Greek debt restructuring likely a default -S&P" *Reuters* 20th June 2011.

a sovereign may default on one contract, settle, and then default on another. S&P treats such events as being part of the same default episode within classes of debts (such as bonds, or bank loans). For our purposes below we will say that a sovereign is in default if they are in default on any type of debt contract.

The above definitions make no distinction between the occurrence of a default (in the legal or ratings agency sense) and an outright repudiation of a debt by a country. The absence of this distinction is probably innocuous; in practice many repudiated debts are eventually restructured through negotiations albeit often several decades after the repudiation event itself[8]. Likewise, we will not draw a distinction between defaults that cover only a part of a sovereigns debts and those that cover all debts, between defaults on interest and defaults on principal or on both. We will restrict attention to national level debts or debts guaranteed at national level, over debts that are provincial or municipal.

2.D Institutions Governing Restructuring in History

The modern history of sovereign debt restructuring institutions begins at the end of the Napoleonic wars with the opening of European capital markets to, amongst others, the newly independent Latin American republics. These republics rapidly accumulated debts and defaulted shortly thereafter leading to a prolonged debt restructuring process that in some cases lasted the better part of the rest of the nineteenth Century. Initially, the creditors of these nations organized themselves into *ad hoc* committees typically staffed by the creditors themselves. An early problem was the proliferation of such committees. This was a problem for the sovereign debtor, which was required to negotiate with multiple creditor groups without any assurance that an agreement struck with one group could be more generally enforced.

It was also a problem in the context of the operation of European financial markets. In the early part of the nineteenth Century, the London Stock Exchange adopted a rule that it would not list newly issued securities by a country in default. This meant that sovereigns in default were deprived of normal credit market access, being forced to turn to over-the-counter

[8]For example, in 1996 the French and Russian governments signed a bilateral agreement under which Russia would pay France $400 million as a settlement of the tsarist debt repudiated in 1917; this agreement was subsequently challenged. See Stolyarova (2003).

markets for selling securities that (presumably) resulted in worse loan terms. In the event of a default, the Stock Exchange relied on creditor groups to inform it of the existence of a default, as well as the time at which the debts were restructured and the default was settled. With the existence of multiple competing bondholder groups, with competing positions on acceptable settlements, there was often no clear statement as to the end of a default for listing purposes.

Motivated by this and other problems, the Council of Foreign Bondholders began operations in 1868 with the intention of setting up a permanent body which could bring expertise to different restructuring negotiations and that would unify competing creditor groups. Later incorporated in 1873, it was the Corporation of Foreign Bondholders to which the stock exchange turned when seeking a declaration of the end of a default. Similar bodies formed throughout Europe and, in the early twentieth century the Foreign Bondholders Protective Council was established in the USA. These institutions remained in operation until the 1970s when, with the decline of international financial markets and sovereign bond issuance following the second World War and Bretton-Woods, the importance of these institutions declined.

At the same time that bond lending was declining, the middle of the twentieth century saw the rise of official lending, both from other governments as well as from multilateral institutions. There are very few defaults on loans issued by multilateral organizations such as the International Monetary Fund or the World Bank (Beers and Chambers 2006). Loans from other governments, however, are restructured frequently and typically under the auspices of the permanent body known as the Paris Club. The terms of Paris Club restructuring agreements have tended to be transparent and consistently applied, with the result that many of these restructuring agreements are concluded quite quickly, which also motivates our focus on debts owed to private creditors.

By the 1970s, the rise in official lending began to be paralleled by the rise in commercial bank lending to sovereign countries. With the onset of the debt crisis of the 1980s, commercial bank debt was restructured under the so-called London Club, which in actuality consisted of a series of *ad hoc* country specific Bank Advisory Committees (BACs) convened amongst the largest bank holders of that sovereign's debts. Unlike the early bondholder committees, the fact that some banks were exposed to multiple defaulting sovereigns during this period

meant that expertise in negotiations could be built up as the same staff served on successive BACs through the crisis.

With the resolution of the 1980s debt crisis (which included a swap of existing bank debt for new bond debt under the Brady plan) and the resulting decline in commercial bank lending to sovereigns, the market saw a resurgence in bond lending. The result is a situation that in many respects resembles the early part of the nineteenth century experience with *ad hoc* bondholder committees. These new committees share many of the same flaws as those of old. Being in existence only for the duration of the default, they do not have any capacity for building expertise over time. Moreover, there are typically multiple competing committees who disagree on plans of action in negotiations and as to whether or not a given offer from the sovereign should be accepted.

The increasingly widespread use of collective action clauses in sovereign bonds, which typically also include clauses governing the formation of a creditor committee, holds the promise of being able to eliminate the existence of multiple competing creditor groups. However, it does little to correct the lack of expertise engendered by the existence of transitory committees. It is, therefore, not unreasonable to expect that a future sovereign debt restructuring process will involve some form of return to a permanent debt restructuring organization, whether in the form of new bondholder representative bodies, or through the development of an expert group of judges and arbitrators that deal repeatedly with successive sovereign defaults.

3 Sovereign Debt Restructuring Outcomes

In this section we review the evidence on sovereign debt restructuring outcomes.

3.A Data Sources

We restrict attention to defaults on sovereign debts owed to private sector creditors, like banks and bondholders; such defaults seem most difficult to resolve in practice, as measured by the duration of the default.[9] We define sovereign debts to include debts owed either

[9] With regard to debts owed to official creditors, we typically only observe the dates at which the Paris Club agreed to a deal with the country, and not when negotiations began. Anecdotal evidence suggests that such deals are usually concluded quite quickly.

directly by a country's national government, or owed indirectly by virtue of that government's guarantee. The most comprehensive and widely used source of data on the dates of defaults on sovereign debts owed to private sector creditors, as well as the dates of settlements of these defaults, is published by the ratings agency Standard and Poors (Beers and Chambers 2006), and makes use of the criteria described above.

Our data on creditor losses is drawn from Benjamin and Wright (2009) who use a method based on earlier estimates by Cline (1995). Both of these studies base their measures on the World Bank's estimates of debt stock reduction, interest and principal forgiven, and debt buybacks, as published in *Global Development Finance* (GDF) in order to obtain the largest sample possible, and to ensure consistency of treatment across default episodes. However, this has the drawback of not perfectly capturing the effect of any extension of maturities on creditor losses. Benjamin and Wright (2009) combine the World Bank's estimates of the reduction in the face value of the debt with estimates of the forgiveness of arrears on interest and principle. As the World Bank data do not make any distinction between forgiveness of debts by private creditors and forgiveness by official creditors, they scale the amount of forgiveness using estimates of the total amount of debt renegotiated, and on the proportion owed to private creditors, from both GDF and Institute for International Finance (2001). Both of these issues are important caveats on their findings.

The resulting series on private creditor haircuts covers ninety defaults and renegotiations by seventy-three separate countries that were completed after GDF data on debt forgiveness first became available in 1989 and that ended prior to 2006. These data were combined with data on various indicators of economic activity taken from the World Bank's *World Development Indicators* publication, and with data on the stock of long term sovereign debt outstanding and owed to private creditors from GDF. Short term debt (that is, debt issued with an original maturity of less than one year) is not included because it is not available disaggregated by type of creditor.

As a result of these data constraints, it is important to note that the sample may not be entirely representative. First, the data on creditor losses ("haircuts") was constructed from the World Bank data on debt forgiveness, which is not available for all episodes. Second, not all defaults began and ended within the period 1989 to 2004 for which these data are

available. This means that the sample is both left and right censored. However, it appears that our sample contains the vast majority of all defaults on private sector debts during this period: whereas our sample contains 90 defaults, Tomz and Wright (2007) report that there were 121 defaults in the years after 1970 and 110 since 1980, implying that the dataset covers more than three-quarters of the defaults that have occurred. Third, the sample does not include debt restructuring operations that were conducted solely with official creditors under the auspices of the Paris Club. Morais and Wright (2008) report that there were 297 reschedulings of official debt in the post war period, compared to 130 reschedulings of private debts.

We organize our discussion of sovereign debt restructuring outcomes in four subsections.

3.B Delays in reaching agreement

Looking across all countries in our sample of defaults, delays in restructuring averaged 7.4 years according to the S&P measures. The distribution is highly skewed, with the median default taking around 6 years to be resolved. These figures for delay are slightly less than the average length of default recorded in a census of defaults over the past two centuries, where Pitchford and Wright (2007) report an average delay of 8.8 years, but is slightly more than the 6.5 year estimate of delays for defaults ending after 1976. There are three instances of defaults being contiguous in time, in the sense that S&P dates a default by a country as ending in the same year, or year before, another default begins. This seems inconsistent with S&Ps practice of merging contiguous default events. However, if we treat these defaults as a single default episode, estimated delays rise only slightly to an average of 7.6 years.

There is also considerable variation in delays across groups of countries. Wright (2010) reports data on differences in delays across countries at different levels of development, and in different regions, as classified by the World Bank. He finds that the average low income country experienced delays in excess of nine years, while the average upper middle income country was able to restructure its debts in just over five and one-half years. Driven by the concentration of low income countries in sub-Saharan Africa, there is a tendency for delays to be longer in Sub Saharan Africa, at 8.5 years, than in Latin America and the Caribbean,

at about 7.5 years, and than in Europe and Central Asia, at 4.5 years.

3.C Creditor Losses

Using the same sample of debt restructuring episodes as in this paper, Benjamin and Wright (2009) found that mean creditor losses, also referred to as "haircuts", weighted by the level of outstanding debt, were 38%; equivalently, the average recovery rate for creditors was 62%. The median haircut was slightly higher at 42%. Like delays in restructuring, there was also considerable variation in the size of haircuts across countries, with some groups of creditors not losing at all from a restructuring, and others losing as much as 90% of the value of their claim.

Wright (2010) reports on the variation in creditor losses by income level and by region. He finds that there is a tendency for haircuts to decline with the income level of a country. Haircuts were largest in low income countries, where they exceeded 50% on average, and were lowest in the upper middle income countries at around 38%. The lower middle income countries were at the sample mean at thirty nine per-cent. Somewhat less dispersion is found when data are disaggregated by region. The largest haircuts were in Sub Saharan Africa where they averaged just below 50%, with the small sample of East Asian and Pacific defaults recording haircuts of 38%. The average haircuts across the European and Central Asian, Latin American and Caribbean, and Middle East and North African regions were roughly constant at 30%.

3.D Debt Relief

As stressed by Benjamin and Wright (2009), a restructuring that imposes a large haircut on private sector creditors need not result in a significant lowering of the debt burden facing a country, at least when the debt burden is defined as the ratio of debt to GDP for that country (focusing exclusively, of course, on debts owed to private sector creditors). Most obviously, if a country's debt is written down but its GDP falls further, debt to GDP ratios will rise. Somewhat less obviously, when restructuring take time, calculations of haircuts will reflect the time cost of waiting for the settlement, but this will not be reflected in the relative debt to GDP ratios of the country. Moreover, broader measures of debt, including

official debts, might behave quite differently as the debtor substitutes between different forms of finance. Finally, as our data are measured annually, if a country issues new debt in the same year as the settlement, this will be captured as a rise in indebtedness unrelated to the settlement terms received by creditors.

Bearing these caveats in mind, Benjamin and Wright (2009) found that while creditor haircuts averaged around 40%, the median country exited default with as much, if not a little more, debt relative to the size of their economy as when they entered default. This does not imply that the average country received no debt relief – a country may benefit from a delay in repayment even if the debt stock is unchanged – but it does emphasize that debt restructuring do not always successfully reduce the long term debt burden of the country.

Wright (2010) reports on the variation in debt relief across different groupings of countries. As a measure of debt relief, he examined the difference between the debt to GDP ratio in the year following the end of a default and that same ratio in the year prior to the default. He found that there was a marked tendency for both lower and lower middle income countries to exit default more highly indebted than when they entered default. In both cases, the increase was substantial: in low income countries, debt to GDP ratios rise by almost 60% while in lower middle income countries the increase is in excess of 70%. Upper middle income countries fare relatively better, but still receive less than a 10% reduction in debt to GDP ratios.

A similar picture is observed by region. In South Asia indebtedness levels fell almost ten per-cent, and in the Middle East and North Africa indebtedness fell 5%, but in every other region indebtedness levels rose. The increases were especially large in Sub Saharan Africa where debt restructuring left countries almost twice as indebted to private sector creditors as before they entered default.

3.E Costs of restructuring

The available evidence suggests that many sovereign debt restructuring operations are quite costly, in terms of the expenses required to administer the restructuring. Pitchford and Wright (2011) review the available evidence and conclude that there is considerable variation in the size of these costs, ranging from as little as 0.5% of the value of the restructured debt

in some relatively straightforward restructuring operations, and rising to 3.5% or more of the value of the restructured debt in more complicated operations. These costs result from various activities that are a necessary part of a debt restructuring operation. Holley (1987) documents that there is typically a *lead creditor* who bears both the mundane costs of travel, printing, legal fees, arranging presentations, document preparation, and arranging signatures, as well as the more substantial costs of reconciling the claims of all creditors and the sovereign, contacting and consulting with the creditor body, and establishing criteria for the inclusion of loans within a restructuring deal. The latter can be very large in restructurings where debt monitoring has been poor (e.g. Mexico: Milojevic 1985), the sovereign's debts are numerous and complicated (e.g. Mexico: Holley 1987, Kraft 1984; Argentina and Brazil: Reiffel 2003), or when the sovereign assumes responsibility for foreign debts owed by numerous private creditors within the country (e.g. Venezuela: Holley 1987).

Some of these costs, like legal fees and printing expenses, are easy to verify and share between creditors, while others are not. This is important because to the extent that costs cannot be verified, they are difficult to reimburse. And given the size of these costs, this creates an incentive for some creditors to free ride on the efforts of other creditors. We return to this issue below.

3.F Summary

The evidence indicates that the process of restructuring sovereign debts, or at least those debts owed to private sector creditors, is time consuming, expensive, and largely ineffective at preserving the value of creditor claims or reducing the long term indebtedness of the sovereign debtor. These outcomes also tend to be worse for the poorer countries of sub-Saharan Africa, although this conclusion must be tempered by the fact that lending from private sector creditors is far less important for these countries as compared to official lending. In the next section we discuss some of the possible reasons for these outcomes, and begin our discussion of possible mechanisms for obtaining more desirable outcomes.

4 Explaining Sovereign Debt Restructuring Outcomes

The history of sovereign debt restructuring reviewed above is dominated by various efforts at coordinating creditors into various institutional structures. As a consequence, we begin our discussion with some of the forces that motivate creditors to coordinate, before turning to some other issues that may be important in explaining outcomes.

4.A Creditor Coordination and Cooperation

In many cases, debts are owed to a large number of private sector creditors. In the case of the bank loans that were restructured following the 1980s debt crisis, many countries had to negotiate with dozens of banks; in the case of bond issues, it is not uncommon for there to be many thousands of individual bondholders. Negotiating a debt restructuring is therefore difficult both mechanically – it is costly to both catalogue and communicate with a dispersed group of creditors – and because of a number of "collective action problems" associated with debt restructuring.

There are three main collective action problems that have been identified. The first collective action problem, which was emphasized during the 1980s debt crisis, concerns the *public good* nature of debt relief. In particular, if any one creditor agrees to offer debt relief by reducing their claims on a country, the value of all other creditors claims may increase. Thus there is a classic free rider problem in which some creditors do not offer debt relief in the hope that they can free ride on the debt relief offered by other creditors.

A variety of informal mechanisms between creditors arose to deal with this problem, albeit imperfectly. Bank advisory committees were set up in which representatives of the major bank creditors were responsible, among other things, for convincing smaller banks to participate in the restructuring process. A number of different methods were used. Devlin (1989, fn 203), for example, argues that larger banks used their contact with these smaller banks in other markets as an inducement to participate. Milivojevic (p.94) refers to such incentives as working through the "network of influence" large banks have on small banks which includes threats to exclude free riders from future syndicates, to terminate correspondent banking facilities, or cut inter-bank lines. In addition, although it is difficult in general to explicitly discriminate, in some cases debtors appear to have also discriminated against

free riding banks during a restructuring (Cline p.80; more generally, see the discussion in Lipson 1981 and 1985). All of these informal methods are imperfect, and a challenge for any future debt restructuring process is to ensure full participation to remove this free riding incentive.

The second collective action problem concerns the role of litigious creditors engaging in holdout, and has become more important over the past few decades with the development of innovative legal strategies for encouraging repayment. As noted above, although the doctrine of sovereign immunity has been weakened by the passage of the Foreign Sovereign Immunity Act in the US 1973 and by similar legislation in other countries, the attachment of assets remains difficult. The main difficulty lies in the fact that debtor countries typically hold few assets in creditor country jurisdictions. One asset that may be attached, however, are the funds associated with new loans, as well as the funds associated with the service of new loans. Regardless of whether these funds can be seized, some creditors have had success pursuing court action that blocks the disbursal of these funds. In the highly publicized case of *Elliott Associates vs Peru*, funds that were to have been used to pay interest on newly rescheduled debt under the Brady plan were frozen, with the result that Peru was forced to settle with Elliott Associates in full in order to avoid default on the Brady bonds.

The result of this and other successful legal actions against sovereigns has led to a substantial increase in such legal action, with more than fifty cases filed by commercial creditors over the past decade against highly indebted poor countries (IMF and World Bank 2008). With such holdout creditors earning very high returns (see Singh 2003) this has led to a greater incentive to holdout from the regular restructuring process. To see why this is the case, consider a country that has defaulted on debts as large or larger than its capacity to repay. As a result, creditors as a whole must accept some reduction in the value of their claims. However, because any one creditor acting alone has the ability to hold up repayment of new debt issues using these legal tactics, new creditors will be reluctant to lend to a country until every last creditor has settled. Thus individual creditors have an incentive to delay agreeing to any restructuring proposal involving a reduction in the value of their claim in the hope that other creditors will agree first and allow the holdouts to extract full repayment later on. Models of this phenomenon have been constructed by Pitchford and Wright (2007,

2009) who show that such incentives are strong enough to explain the substantial delays in restructuring that are observed in practice.

A number of policy proposals have been advanced to deal with this problem, most notable amongst them the introduction of *collective action clauses* that allow a super-majority of creditors to impose common restructuring terms on minority holdouts. Collective action clauses have now become standard in bonds issued under New York law. Pitchford and Wright (2009) examine the likely effect of such clauses within the context of their calibrated model and find that such clauses will likely reduce, although not eliminate, delays in restructuring. Moreover, they show that although collective action clauses will increase the incentive for debtor countries to default, the cost of borrowing by these countries will likely not increase as the increased default risk is offset by larger and more timely settlement payments.

A third collective action problem – the potential for free riding on negotiation costs – is at the heart of why Pitchford and Wright (2007) found that collective action clauses might actually increase delays in sovereign debt restructuring. In particular, when collective action clauses are used to impose common settlement terms on creditors, they also reduce the latitude of discriminatory settlements being used to compensate creditors who take the lead in negotiations and by consequence bear the brunt of these costs. Pitchford and Wright (2011) provide evidence that these costs are very large (in excess of three per-cent of the value of a restructuring in some complicated restructuring cases) and are in many cases hard to verify and thus difficult to compensate directly through reimbursement of expenses. Thus collective action clauses may work to remove the ability of creditors to holdout for full repayment, but also exacerbate the incentive for creditors to free ride on negotiation costs.

A number of policy options are available to both debtor and creditor governments as well as to supranational institutions to deal with collective action problems. From the perspective of debtor governments, the results of Pitchford and Wright (2007) suggest that by issuing debts that are easier to restructure they may actually reduce the cost of their borrowing. This may be extended beyond the introduction of collective action clauses – by now widespread – to include arbitration procedures, and perhaps even the Most Favored Creditor clause discussed, but only imperfectly implemented, in the restructuring of Argentina's debts in 2004 (we return to these clauses below).

In keeping with the focus of the paper, we have so far considered only collective action problems between private sector creditors. Another problem of this type that may arise concerns the coordination between official sector and private sector in granting debt relief. Traditionally, debts owed to other governments have been restructured before private sector debts, under the condition that private sector creditors receive terms no more generous than those agreed to by official creditors. The contractual differences between official and private sector debts make it difficult to assess whether both have been comparably treated, and so this constraint may not bind in practice. To the extent that it does bind, this is both a powerful tool for the official sector to affect private debt restructuring outcomes, but also an indicator of potential benefits to more coordination between official and private sector creditor groups.

4.B Coordinating Debtors

The above discussion assumed that the debtor country could be regarded as a single decision maker. That is, it assumed that agents within the country can perfectly coordinate. In practice, some part of the delay in restructuring observed in practice may be due to factors that are internal to the debtor country. In particular, and analogously to the above case of creditor coordination, if the costs of a restructuring cannot be equally shared amongst all groups within a country then there may be delay as these different groups hold out for a smaller share of the costs.

It is precisely this intuition that underlies Alesina and Drazen's (1991) model of delays in the adoption of a stabilization policy, which is most easily discussed in term of an example. Consider a country that is in default and that is made up of two separate provinces. For as long as a restructuring is not reached, government spending is reduced, and both provinces lose as a result of higher taxes and reductions in investments in infrastructure. As a debt restructuring involves a country agreeing to make a series of payments to international creditors at various points in the future, this, in turn, requires that the country further reduce spending and/or increase taxation in order to generate a fiscal surplus.

For simplicity, suppose that the fiscal surplus can only be generated by reducing transfers to one or both of the provinces, and moreover suppose that as a result of political and/or

constitutional considerations there is no way to force an equal reduction on both provinces. In such a world, the residents and representatives of both provinces have an incentive to delay reaching agreement at the cost of incurring greater short term costs in the hope that the other province concedes first and accepts the biggest share of the reduction in transfers.

In principle it may be possible to circumvent problems associated with an uncoordinated debtor by attempting to include all such parties in the process. In practice, it may not be possible to correctly identify all of the relevant parties, nor bind them to accept the terms of an agreement.

5 Looking Forward

In this section we draw a somewhat longer bow and attempt to identify factors that are likely to complicate sovereign debt restructuring operations in the future. The costs and benefits of various approaches to these problems are discussed.

5.A Alternative Mechanisms to Promote Creditor Coordination

As described above, the past two Centuries have seen a series of attempts to coordinate creditors for the purposes of negotiating the terms of a settlement with a sovereign debtor in default. The most recent attempt has emphasized changes in sovereign lending contracts to promote the formation of creditor representative groups (engagement clauses) and to bind minority holdout creditors (collective action clauses).

To date, the use of collective actions clauses remains largely untested and so doubts must remain as to their likely effectiveness in solving collective action problems in the future. These doubts are driven by a number of theoretical and practical issues. First, as noted above, the use of collective action clauses to impose common settlement terms in restructuring negotiations that are complicated and costly has been shown theoretically to increase the amount of time taken to reach an agreement as the incentives to free ride on these negotiation costs are intensified.

Second, there appears to be scope for the sovereign to undermine the effectiveness of these clauses. In many sovereign debt restructuring operations, entities that are either government owned, or controlled, or simply subject to various forms of government influence

(such as domestic banks) are often major creditors to the government. Although these clauses can be written to exclude government owned bonds from the voting process, this can be difficult to enforce (see the discussion of trust structures and Ecuador's recent debt restructuring below) and does not address the problem of broader government influence on creditors. In such cases, it may be possible for these government influenced creditors to affect the outcome of negotiations and its imposition on minority creditors. Third, and as we will argue in more detail below, the presence of insurance against default, such as through credit default swaps, has the potential to distort the incentives of creditors when negotiating with the sovereign.

In the light of these and other concerns, alternative mechanisms for promoting creditor coordination are likely to remain on the table. One possible contractual mechanism is the use of *most favored creditor clauses* in debt restructuring agreements. The idea behind a most favored creditor clause is to remove the incentive of a creditor to holdout or otherwise delay in participating in a debt restructuring agreement by guaranteeing that an early settling creditor, in the event that later settling creditors receive better terms, will receive the same terms as the later settling creditors.

The idea of a most favored creditor clause has a long history, having being first discussed in the context of the Brady restructurings following the 1980s debt crisis (Buchheit 2002). However, with the exception of the recent debt restructuring of Argentina which included a version of the clause (Gelpern 2005), their use has typically been limited. This appears to be because of concerns for litigation risk, and specifically concerns that such clauses, by making it more expensive for the debtor to honor the unrestructured claims in full, could give rise to claims of tortious interference.

Another contractual mechanism that has been floated as a substitute for, or complement to, collective action clauses is the more widespread use of trust deeds for sovereign bonds issued in London, and trust indentures with enforcement powers centralized in the hands of the trustee in sovereign bonds issued in New York. By limiting the ability of creditors to litigate individually, and by sharing the proceeds from any litigation, trustees would appear to solve the problem of holdout creditors. Trust indentures, as often written, also eliminate concerns about government controlled creditors by explicitly excluding them from voting over matters such as whether or not to accelerate payments on the debt instrument.

However, there are also practical problems associated with the effectiveness of trust deeds and indentures. The first is that trustees, as a result of concerns about their own liability, are often cautious and consult very widely before taking action. This may underlie the relatively ineffectual actions of the trustee during Ecuador's recent default (see Buchheit and Gulati 2009). The second is that, given the requirement of information provision to the trustee, debtors are often resistant to issuing bonds with trust structures.

A further contractual mechanism would be for individual debt contracts to include a specific requirement to refer debt restructuring disputes to a centralized body such as an arbitration tribunal. Proposals to involve arbitration in sovereign debt restructuring have a long history, dating back to the use of such tribunals to judge the quality of cotton offered as payment on the Confederate Cotton Loans. Arbitration is commonly used today in disputes governing sovereign debts issued for commercial or project financing purposes where the confidentiality of arbitration prevents the public release of sensitive information about the underlying commercial contract.

For broader sovereign borrowing, the use of arbitration has been more limited. In some cases, arbitration is used as a way to get around constitutional restrictions on the submission of a government to the laws of a foreign jurisdiction (such as in the cases of Brasil or Russia). In others, such as with the former Soviet States, it has been used because local courts are more likely to recognize arbitral awards. In some recent cases such as Argentina, individual creditors have pursued arbitration under the terms of the relevant Bilateral Investment Treaty.

Nonetheless, the use of arbitration appears to be the exception rather than the rule. This may be the case for many reasons. For one, in the absence of a trust structure, individual creditors may prefer to appoint their own arbitrators leading to a protracted arbitration process. Another is that it requires the consent of both parties to the arbitration for the details of the decision to be made public, or for amicus briefs to be filed. Third, the lack of precedent or public availability of decisions also makes the process less transparent and may increase uncertainty in the eyes of many creditors.

Perhaps the greatest problem with all of the above mechanisms is that they are restricted to the restructuring of a single debt. One potential solution to this form of collective debt restructuring would be the construction of a centralized body for determining sovereign

debt restructuring outcomes with the power to aggregate claims. This is the role envisaged by the now abandoned International Monetary Fund proposal for a Sovereign Debt Restructuring Mechanism[10]. An alternative solution is potentially provided by the more widespread use of aggregation clauses, which we discuss in the next subsection.

5.B Aggregation Clauses

There has recently been a great deal of interest in the possibility of including aggregation clauses into sovereign debt contracts which would allow for the imposition of settlement terms on the minority holders of individual bonds in the context of a multi-bond restructuring arrangement. The first example of their use was Uruguay's May 2003 issue of 10.50% Bonds due 2006 which contained a clause allowing the modification of the reserved matters of two or more securities if "the holders of not less than 85% in aggregate principal amount of the outstanding debt securities of all series that would be affected by that modification (taken in aggregate), and ... 66-2/3% in aggregate principal amount of the outstanding debt securities of that series (taken individually)" agree.[11] In Europe, the Eurogroup statement of 28th November 2010 (Eurogroup 2010) commits its members to introduce, starting in 2013, "aggregation clauses allowing all debt securities issued by a Member State to be considered together in negotiations". The widespread adoption of such clauses by European nations could conceivably lead to their adoption more generally by sovereign borrowers.

Aggregation clauses have the potential to aid in the coordination of creditors holding different claims on a sovereign in default. However, there are a number of potential obstacles to their successful application on a widespread basis. The first is that aggregation clauses have the potential to exacerbate concerns about the voting role of sovereign owned or influenced entities. If the application of an aggregation clause requires that a supermajority of creditors of each debt instrument vote in favor of a restructuring, then it would be relatively straightforward for a sovereign to influence the outcomes of debt restructuring negotiations under an aggregation clause by creating a single debt instrument of which it held a supermajority. With such a majority controlled debt security, the sovereign would effectively possess

[10] See Krueger (2001, 2002a,b).

[11] See http://www.sec.gov/Archives/edgar/data/102385/000095012303011424/y90432b5e424b5.htm#026.

veto power over the use of the aggregation clause. Although a sovereign might be unlikely to exercise a veto over the application of an aggregation clause when it is being used in the best interests of the sovereign to limit holdout creditors, the potential exercise of such a veto more generally conveys extra bargaining power upon the sovereign. Likewise, a creditor that was able to acquire a supermajority of any one debt instrument, even if its outstanding value was small relative to the overall size of the sovereign debt being restructured, would be able to block the application of an aggregation clause.

A second concerns the allocation of voting rights across contracts. It is currently the norm for voting rights to be allocated according to the *face value* – defined as the sum of all outstanding principal repayments of a debt – of a creditor's holding. When only one debt is being restructured, this poses no particular problem as all creditors hold identical claims. However, when debts issued on different terms (with different coupon payments, or issued at a different discount) are being collectively restructured, this can cause problems as two debts that are equivalent – in the sense of possessing identical future cash flows – will have different face values and hence confer unequal voting rights on their holders if the cash flows are divided into principal and interest in different ways.

As a practical matter, this could exacerbate the problems identified above. Were a sovereign determined to frustrate the application of an aggregation clause, or otherwise influence the outcome of debt restructuring negotiations through the threatened use of a veto, it would be relatively straightforward for it to construct a class of zero coupon debt contracts that maximize the stated face value of the debt and hence maximize its relative voting (and bargaining) power. Likewise, the allocation of voting rights on the basis of contractual face values will give creditors an incentive to favor the issuance of zero coupon debts.

To ascertain whether or not this would be a significant problem in practice, the following tables present data drawn from Dias, Richmond and Wright (2011) on the face values, and hence voting rights, attached to a sample of outstanding sovereign debts. The data are constructed from an underlying dataset that contains no-loan level information, and so it is not possible to examine the relative voting rights associated with individual bonds. However, it is possible to study the relative voting rights for groups of creditors defined in terms of the

type of debt instrument held.

Table 1: Actual and Hypothetical Voting Rights By Currency of Bond Issue

Country	Year	Currency	Face Value (% of)	ZCE Face Value (% of)
Chile	1982	Yen	49.4	50.6
China	1994	Yen	51.2	48.7
Hungary	1986	US Dollar	48.3	53.0
Tunisia	2000	Yen	54.1	45.7
Turkey	2000	US Dollar	43.0	55.9
Turkey	2001	US Dollar	48.1	59.8
Thailand	1992	US Dollar	43.6	50.8

Table 1 provides a number of examples of countries and years in which the relative voting rights associated with bonds issued in different currencies would have been subject to this kind of manipulation if the voting threshold for application of an aggregation clause had been set at a simple majority. For example, in both 2000 and 2001, holders of US dollar denominated bonds issued by Turkey would have not possessed a simple majority of Turkeys outstanding bond debt. However, this was not an accurate representation of the exposure of these creditors; had voting rights been allocated in proportion to all outstanding future cash flows (equivalently, had all US dollar bonds taken the form of zero coupon bonds), US dollar bondholders would have had a comfortable majority approaching sixty per-cent in 2001. Conversely, holders of Yen denominated Chinese bonds in 1994 constituted a majority when voting occurs in proportion to face values, but would not have constituted a majority if voting rights were allocated in proportion to all future cash flows (that is, all other bonds had taken the form of zero-coupon bonds). In future when we talk of voting in proportion to all cashflows, we follow Dias, Richmond and Wright (2011) in referring to this as the zero-coupon equivalent (ZCE) face value of the outstanding debt.

If the Eurogroup (2010) proposal to include aggregation clauses in all debt instruments is adopted, the potential for reversals of voting power extends to debts issued by banks and commercial private creditors, as well official creditors. Table 2, which is an abbreviated

version of a Table appearing in Dias, Richmond and Wright (2011), provides two examples of countries that in the year 2006 for which a 75% supermajority for bondholders amongst all outstanding sovereign debts owed to private sector creditors would have been subject to this kind of manipulation. In the case of Barbados, voting in proportion to face values would give bondholders a 75% supermajority, while voting in proportion to total exposure would eliminate that supermajority. By contrast, voting in proportion to total exposure would have given bondholders a 75% supermajority for Jordan which they would have been denied with voting in proportion to face values.

Table 2: Actual and Hypothetical Voting Rights By Type of Private Sector Creditor

	Bonds/Total Private	
	Face Value (% of)	ZCE Face Value (% of)
Barbados	77.3	73.3
Jordan	74.1	82.0

Table 3 (which is also an abbreviated version of one in Dias, Richmond and Wright 2011) replicates this analysis of Table 2 for the voting position of official creditors relative to private creditors. For Dominica, voting in proportion to total exposure, as opposed to face values, would remove a 75% supermajority for official creditors. For Turkey, voting in proportion to total exposure would eliminate the ability of the official sector to block a 66% supermajority for the private sector, that they would have possessed with voting in proportion to face value. As private sector creditors typically issue debts at higher interest rates, their exposure to sovereign debtors tends to be relative larger than the face value of their lending as compared to the exposure of official creditors, and moving to a system with voting in proportion to total exposure would benefit private sector creditors. That is, in the event of the widespread adoption of aggregation clauses covering both private and official creditors, private creditors would have an incentive to move towards lower coupon higher face value debts in order to maximize voting power in the event of a restructuring.

Table 3: Actual and Hypothetical Voting Rights For Official Creditors

	Official/Total	
	contractual	ZCE
	75% Threshold	
Dominica	77.5	72.7
	66% Threshold	
Turkey	36.1	28.8

One final issue associated with the Eurogroup proposal concerns the ability of creditors to avoid the imposition of an aggregation clause by constructing the lending instrument in such a way as to avoid being considered a debt instrument *per se*. There are numerous examples of financial transactions that are, to all intents and purposes, debt contracts but which are written in such a way as to avoid classification as a debt instrument. These range from the currency swaps at the heart of Greece's understatement of public debt before European Union accession, to the use of repurchase agreements as a substitute for collateralized lending, to the use of leases, or the development of Sharia compliant securities[12]. Unless the Eurogroup proposals are modified to include such "debt-like" transactions, it will be possible for debtors and creditors to frustrate the intent of the proposal.

5.C Derivative Securities and Debt Restructuring

The past decade has seen a substantial increase in the size and liquidity of markets for derivative securities with payments that depend on the occurrence of a sovereign default. By far the most common such securities are credit default swaps (CDSs). The existence of CDSs has the potential to alter the incentives of creditors to enter sovereign debt restructuring negotiations and, upon entering negotiations, on their incentives to bargain aggressively. To understand how incentives have changed, it is necessary to provide a little detail on the operation of CDSs.

Under a CDS, one party – the *protection seller* – promises, upon the occurrence of a *credit event*, to make a payment to the other party – the *protection buyer*. In return the protection buyer makes periodic payments to the protection seller. On the surface, the

[12]For discussions of the actual use of debt-like contracts, see Piga (2001), and Koen, V. and van den Noord (2005).

contract looks like a standard insurance contract; unlike a standard insurance contract, it is not necessary to own an insurable claim in order to purchase protection. CDS contracts are not listed on an exchange, and there is relatively limited publicly available data on the existence and size of the markets for these claims, or on the identity of market participants.

The applicable credit events are negotiated by the parties to the CDS. As discussed above, they typically come in three types: failure to pay; moratorium or repudiation; and, restructuring. A Determination Committee votes on whether the actions of a sovereign fulfil the requirements for one of these credit events. Both failure to pay and moratoria/repudiation credit events automatically trigger settlement of the CDS once the Determination Committee has found that these events have occurred. By contrast, a restructuring credit event is a voluntary trigger event in the sense that either the protection buyer or seller can choose to trigger the CDS following the decision of the Determination Committee.

Settlement of a CDS can occur in various ways. For Western European sovereigns, it is standard for CDS contracts to be *cash settled*, although *physical settlement* is also possible and is more common for other sovereigns. Upon a credit event under a physically-settled CDS, the protection buyer will deliver the underlying security (the actual sovereign debt) to the protection seller. Under a cash-settled CDS, no delivery will take place. Instead, the protection seller will pay the difference between the par value of the obligations and their market value following the credit event and the protection buyer retains the original security. This market value is determined at auction.

The settlement process can be time consuming. There is typically a 4 week lag between the declaration of a credit event by the Declaration Committee and the holding of an auction to establish the security price for cash settlement. This process can take longer for restructuring credit events where either buyer or seller may elect to trigger their contract and enter into the auction. Even with physical settlement, the protection buyer or seller would have to deliver a credit event notice containing a detailed description of the facts of the credit event, and a notice of publicly available and reputable (internationally recognized public sources) information on the event. All of these actions take time and slow down the act of physical settlement.

With these preliminaries out of the way, it is relatively straightforward to see that the

existence of CDSs will affect the incentives of creditors engaged in sovereign debt restructuring negotiations in several ways. To begin, consider a sovereign that has taken actions that trigger a credit event so that the Declarations Committee has declared a credit event to have occurred. This would most obviously be the case if the sovereign failed to make a payment within the specified grace period. It would probably also be the case if a country used a collective action clause to amend the terms of a bond and lower payments for all outstanding creditors (BNP Paribas 2011).

In such an event, it is the protection seller who is liable for all losses as a result of this credit event. However, the protection seller is not entitled to directly participate in any debt restructuring negotiations. Under past practice, or future practice as envisaged in bonds with engagement and collective action clauses, it is only the holder of the original debt that is allowed to vote on a restructuring offer. When this holder has not purchased protection, their incentives are aligned with those of the protection seller as both seek to recover the most from the sovereign in negotiations as possible. However, if the holder of the original debt security has purchased protection, they are protected against loss, have no incentive to bargain aggressively for a substantial recovery, and thus will likely negotiate a sub-optimal settlement.

The situation is complicated by the details of the settlement process. If physical settlement occurs while negotiations are ongoing, the protection seller will acquire the right to participate in, and vote on, a settlement offer upon receipt of the debt, thus correcting the incentive problem. If a cash settlement occurs while negotiations are ongoing, the protection buyer retains the security, stands to gain from any improvement in recovery terms secured by their own negotiation efforts, and hence has appropriate bargaining incentives. Anticipating this, the price paid at auction for these securities will be higher, and once again the incentive problem is solved. If settlement occurs *after* the conclusion of negotiations, however, the incentive problem in bargaining remains. This is likely to be the case in restructuring credit events where the restructuring, and the change in security terms that result, are announced after negotiations are completed. It also might to be true in repudiation or moratorium credit events which require, in addition to a statement of repudiation or moratorium, a future failure to pay event.

In the design of future debt restructuring procedures, and in the absence of any other remedy for this problem, it is worth considering mechanisms to allow affected parties like protection sellers to participate in the restructuring process. Possibilities for participation are, at the moment, quite limited. Some authors have pointed out that the protection seller can gain a seat at the bargaining table by holding some of the underlying securities themselves. However, their voting rights over any proposed agreement will not reflect their total exposure to losses[13].

A second set of incentive problems arise when the sovereign undertakes actions to restructure its debts that need not meet the requirements of a restructuring credit event. For a restructuring event to be triggered, it is typically necessary for the sovereign to change the terms of a debt for all holders of that debt, and for the change in terms to reduce or defer payments, subordinate that contract, or change the currency of payment to one not belonging to a narrow subset of currencies (typically, the currencies of AAA rated G7 or OCED countries). Many common sovereign debt restructuring operations fail to satisfy this definition. For example, an offer by a sovereign to exchange existing bonds for new bonds with inferior terms would not trigger a credit event as it is voluntary and hence not binding on all creditors[14]. The voluntary Greek restructuring offer of 2011 takes this form, and statements by the ISDA confirm that it will not be treated as a credit event[15]. Likewise, in the only test of these matters so far, the Southern District Court of New York ruled that Argentina's initial voluntary exchange offer in 2001 did not trigger a credit event[16]. It has also been argued[17] that mandatory exchanges of old debts for new debts with reduced terms *might not*

[13] This is sometimes referred to as the "empty creditor hypothesis". For a sceptical review, see Mengle (2009).

[14] The 1999 ISDA definitions governing CDS contracts included mandatory exchanges as credit events. This was removed in 2003 as a result of controversy over the definition of the word 'mandatory'. Under the old definitions, a 'voluntary' exchange offer that reduced the value of the claims of non-participating creditors would have been designated as involuntary. For example, Uruguay's 2002 voluntary exchange used exit consents to remove listing, cross default and accelleration provisions from bonds not tendered in the exchange.

[15] "Bank plan for Greece won't cause CDS payout: ISDA" Reuters, Jul 22, 2011.

[16] In Eternity Global Master Fund Ltd. v. Morgan Guar. Trust Co., 2003 WL 21305355 (S.D.N.Y.), the court found that a voluntary exchange did not satisfy the mandatory exchange credit event under the 1999 ISDA definitions based on a plain language reading of the clause. In Eternity Global Master Fund Ltd. v. Morgan Guar. Trust Co., 375 F.3d 168, 177-78 (2d Cir. 2004) it was ruled that courts should interpret this clause, and other unclear language, in the context of that particular industry.

[17] BNP Paribas 2011 p.9.

trigger a restructuring credit event as they do not directly change the terms of the original debt contract, but rather replace them with a new debt security. This view is controversial, and remains untested.

In such cases, the incentives of creditors to participate in a restructuring are reduced. To see this, consider a voluntary exchange offer to a creditor who has purchased CDS protection. In light of the discussion above, if the creditor participates in the exchange, the CDS contract will not trigger and they will not be compensated for the reduction in value of their claim. If they do not participate, their payoff is probably larger: if most other creditors participate, and the security *does not* contain a collective action clause, then the sovereign may continue to service their debt in full; if most other creditors participate, and the security *does* contain a collective action clause, then the collective action clause will likely be used to impose the restructuring terms and CDS protection will probably be triggered; if most other creditors do not participate, then the sovereign is likely to resort to a more aggressive restructuring strategy, which is more likely to trigger CDS protection.

It is important to stress that the consequences of these various courses of action are untested, and alternative views about the probable functioning of CDS contracts exist in the market. Nonetheless, the above arguments suggest that a creditor might do better by refusing to participate in an exchange offer. Importantly, if voluntary participation in an exchange offer does not trigger a credit event, but the later use of collective action clauses to bind holdout creditors does trigger a credit event for those hold out creditors alone, then the effectiveness of collective action clauses will be substantially reduced as it will become very difficult to achieve the required supermajority of creditors.

5.D State Contingent Sovereign Debt

There has been a great deal of recent policy interest in the potential for "state contingent" debts – that is, debt contracts that allow for variations in future repayments depending on observable economic conditions – to provide insurance for a sovereign debtor against adverse economic outcomes and hence reduce the likelihood that the sovereign would ever need to default and/or restructure its debts (see, for example, Borensztein and Mauro 2002 or Sandleris, Sapriza and Taddei 2009). Such securities have, to a limited extent, already been

issued by several sovereign borrowers: in addition to the now fairly common inflation indexed securities, Mexico has issued debts that included warrants that depended on the price of oil, while Bulgaria and Argentina have issued debts with payments that fluctuate with the level of GDP in their economy. With the aim of insuring governments against fluctuations in their need for funds, or their ability to repay, it is possible to envision a debt contracts with repayments contingent on the level of government revenues collected through taxation, or on the level of some forms of government expenditures including welfare payments that tend to rise with the rate of unemployment in a country.

Although such contracts appear quite promising, they face at least one severe practical problem: in order to provide the most insurance, repayments should be allowed to vary with statistics on economic factors that are of most importance to the government of the country. However, these statistics are typically constructed, and hence may be subject to manipulation, by the sovereign government itself. History indicates that governments will manipulate statistics when it is in their own interest to do so. A number of European governments, including Greece and Portugal, appear to have manipulated their financial accounts in order to meet fiscal targets required for EU accession. The United Kingdom, under Thatcher, changed the methods underlying the construction of unemployment statistics several times in ways that appear to have been designed to reduce the stated unemployment rate (Gregg 1994). Numerous countries have manipulated their inflation data, including Chile and Brazil in the 1980s and most recently Argentina which appears to have been explicitly motivated by the desire to reduce payments on inflation indexed bonds.

There are several potential solutions to this problem. One possibility is to design contracts that link debt repayments only to publicly observed data that is not reported by the government itself, such as the Mexican example where repayments were linked to the market price of oil. The problem with this solution is that such publicly available data may be only loosely related to the economic outcomes that the sovereign would like to insure against. Another possibility is to establish an independent statistical agency within the country that is responsible for producing the relevant statistics. However, some statistics, such as those related to a governments fiscal position, must inevitably be produced using data provided by the government itself, while it may be difficult to establish a truly independent statistical

agency when the agencies funding and staffing are influenced by the government.[18] A third possibility is to rely on data constructed by the private sector within the country, as was done with Brazilian inflation data in the 1980s. However, this solution too is problematic in that private sector statisticians may also have an incentive to misstate statistics to increase their own profits, while governments also have multiple tools for influencing the private sector (in the Argentine example, the government has recently fined some firms producing their own inflation statistics amounts in excess of one-hundred thousand dollars[19]).

The potential benefits of appropriately designed state contingent debts suggest that more countries will consider adopting such contractual forms in the future. This is likely to impact future sovereign debt restructuring negotiations as the manipulation of the statistics to which debt repayments are indexed will be perceived by market participants as a *de facto* sovereign default. The resolution of the arising dispute requires the determination that manipulation has taken place, as well as a measure of the size of the manipulation (and hence the size of the loss suffered by investors). One obvious candidate for fulfilling these roles is the International Monetary Fund (IMF) which maintains Data Dissemination Standards, reports upon adherence to the standards[20], and in many cases produces its own estimates and forecasts of economic data. Currently, these reports do not take a strong stand on data inaccuracies: they only note the existence of concerns about the reliability of Argentine inflation data, as well as financial records of provincial governments, without attempting to make a definitive statement on the issue or provide an estimate of the magnitude of possible errors.

5.E Odious and Illegitimate Sovereign Debts

In a number of recent sovereign defaults, sovereigns have argued that some or all of their foreign debt are *illegitimate* and that therefore they have no obligation to continue servicing those debts. As one example, during Ecuador's recent default, the government established a debt audit commission that found that a substantial portion of the debt had been

[18] For discussions of the manipulation of fiscal statistics, see Easterly 1999, Piga 2001, Milesi-Ferretti 2004, and Koen, V. and van den Noord 2005.

[19] http://uk.reuters.com/article/2011/04/12/argentina-economy-inflation-idUKN1217596520110412

[20] See http://www.estandardsforum.org/argentina/standards/special-data-dissemination-standard.

"illegally" issued by past governments.[21] Amongst other reasons, these debts were declared to have been in violation of local laws and international treaties, tainted by corruption, and of lacking transparency, leading President Correa to declare that he would "not permit the continued payment of a debt that, in any light, is immoral and illegitimate." Similarly, in the lead-up to Argentina's default at the end of 2001, the Argentine Federal Court held that a substantial portion of Argentina's foreign debt was fraudulent and illegitimate, having been amassed when the country was under military rule.

The claim that debts were illegitimate echoes the legal concept of *odious debt* which dates back at least as far as Sack (1927). Writing in the shadow of the First World War and the subsequent break-up of colonial and domestic empires, Sack was concerned with principles under which successor governments should be held liable for debts incurred by previous regimes. Essentially, Sack argued that successor states *should* be liable for debts incurred by previous regimes, *except* for when those debts were not created in the interest of the state. A consensus appears to have arisen that for a debt to be odious it is sufficient that the debts be incurred without the consent of the people (for example, by a dictatorship), that the debts accrue no benefits to the people, and where these facts were known by creditors at the time the loan was made. In recent times, the concept of odious debt has arisen in the treatment of apartheid era South African debts and Hussein era Iraqi debts. The inability to apply these criteria in Ecuador and Argentina is presumably what led to the alternative notion of illegitimate debts.

To what extent should concerns about odious or illegitimate debt influence sovereign debt restructuring outcomes? On an abstract level, the application of the doctrine of odious debt, or a modified notion of illegitimate debts, seems unobjectionable. On a practical level, there may also be cases in which it is straightforward to generate consensus as to the odious or illegitimate nature of a sovereign debt, as in the case of debts incurred by a military dictatorship for the purpose of suppressing its populace. More generally, the application of these principles in practice raises a number of important issues. First, to the extent that the

[21] The arguments advanced by Ecuador (for example, that the previous government should never have waived jurisdiction and agreed to be governed by foreign law in its contracts) have been widely condemned. See, for example, the discussion in Porzecanski (2010) and Feibelman (2007).

use of the funds is a determinant of whether or not a debt is declared odious, application of the doctrine is likely to be frustrated by the fungibility of government revenues. A country that wishes to raise funds for odious purposes may simply divert funds from non-odious purposes (say, education or health services) and then borrow with the stated aim of funding these non-odious activities.

Second, in many cases it will likely be difficult to generate consensus whether a governments actions are in the interest of the state in the sense of providing a benefit for the people. For one example, if a dictatorship issues debt to fund a military campaign to suppress a rebellion that itself has acted in despotic ways, should the funds be declared odious or illegitimate? For another, if a private firm loaned money to the Iraqi government during the period in which Iraq received western military aid for its conflict with Iran, should the loan be considered odious? This issue is particularly problematic for potentially illegitimate debts issued by a democratically elected governments that has been chosen by their electorate to determine, itself, what is in the best interests of the state. In response to this concern, some advocates have argued that an international institution, such as the UN Security Council, should be asked to determine whether debts are odious. However, it is far from obvious that any international political organization will be able to generate consensus except in the most extreme of cases.

Fourth, to the extent that the possible future application of the doctrine is uncertain, the more widespread adoption of this doctrine has the potential to increase creditor uncertainty and raise the borrowing costs of all countries. One possible way to reduce this problem would be adopt an *ex ante* mechanism for determining odious or illegitimate debts; only loans issued after some international designation of this status would be declared odious or illegitimate. However, this may also run into problems in the case of debts issued at short maturities that must necessarily be rolled over periodically. Existing creditors will then be placed in the difficult position of having to choose between rolling over a previous non-odious debt with new odious debt, which may be less likely repaid in the future, or refusing to roll-over this debt and likely triggering a default in which they are unlikely to be repaid.

5.F Coordinating on Denial of Market Access

As noted above, market participants typically view the loss of (normal) credit market access as being the primary cost of, and deterrent to, default. In the 19th Century, one mechanism by which this was implemented was via a prohibition on listing new securities of a sovereign in default on the London Stock Exchange. In recent decades, the threat of seizure of interest and principal payments on new debts has limited the ability of sovereigns in default from issuing new debts.

Recently, attempts have been made to limit the ability of creditors to seize interest and principal payments on these new debts with Euroclear, for example, now explicitly limiting the practice. To the extent that this is a useful tool for preventing the collective action problem known as strategic holdout from occurring, this has the potential to produce better sovereign debt restructuring outcomes. However, to the extent that this prevents creditors from seizing the assets of countries in default that have not negotiated in good faith with their creditors, this change will reduce the costs of default and has the potential to severely limit the market for sovereign debt.

Ideally, what is required is a mechanism for determining when a country has negotiated in good faith so that only those countries are protected from having the funds associated with their new debts seized. In history, one of the roles fulfilled by both *ad hoc* bondholder groups and the Corporation of Foreign Bondholders was in advising the London Stock Exchange as to when a negotiation in good faith had been concluded so that new issues could be listed. This suggests that a desirable reform of the debt restructuring process would be the establishment of an institution or procedure for designating good faith negotiations that could be combined with conditional protection from asset seizure. One possible measure of whether negotiations have been in good faith could be whether or not the sovereign has engaged with creditors in a timely manner, and has abided by any arbitral or court decisions. The IMF requires that countries must be negotiating in good faith in order to be eligible for "lending into (private creditor) arrears" and a transparent application of the IMF definition of good faith may be a starting point for the development of such a measure.

5.G Is There a Need for an International Debt "Referee"?

Discussions of alternative mechanisms for the coordination of creditors have raised the possibility of the development of a centralized institution for the adjudication of sovereign debt restructuring *outcomes*. For the time being, in the light of hostility from both creditors and creditor country governments such as the United States, this possibility seems remote. However, the discussion of other issues that may arise in future sovereign debt restructuring operations has on a number of occasions indicated that there may be a role for one or more centralized institutions to adjudicate on sovereign debt restructuring *processes*, even if it has no direct role in determining debt restructuring outcomes.

There are many details of the sovereign debt restructuring process that have the potential to result in disputes between the debtor and creditors, or between different creditors, and hence where adjudication might be necessary. We discuss four, of which three require adjudication after a default or restructuring has begun, and one which requires adjudication prior to any default or restructuring occurring.

We begin with the three cases in which *ex post* adjudication might be necessary. First, it will often be necessary to adjudicate on the eligibility of creditors to vote on the details of a restructuring when those creditors may be controlled or influenced by the sovereign. In such cases there may be a need for some body to determine the extent of a sovereigns control over its own debts, and whether or not the owners of the sovereign's debts are under undue influence of the sovereign (such as domestic banks who are subject to direct regulation by the sovereign) and hence should be excluded from voting on a restructuring.

Second, it is often necessary to determine whether or not a sovereign in default is bargaining "in good faith." As noted above, good faith bargaining with private creditors is an explicit requirement for a country to be eligible for access to IMF lending into arrears, and is an implicit or explicit requirement for access to other forms of official sector debt relief. Likewise, it was also argued above that the protection of sovereign assets from attachment by holdout creditors should also be conditioned upon good faith bargaining with majority creditors. In both cases, this requires someone to adjudicate on whether existing negotiations satisfy this "good faith" requirement.

Third, it will also be necessary to determine whether a sovereign has implicitly defaulted on an state contingent debt contract by manipulating the release of data upon which the debt contract is conditioned. If such manipulation has been found to have occurred, it is also necessary to determine the size of the implicit default created by this manipulation.

The fourth factor, in which there is a role for an organization to act prior to the commencement of debt restructuring negotiations, concerns the determination of whether certain debts are odious or illegitimate.

There is likely to be substantial resistance to the formation of a new institution even with its role limited to the adjudication on issues related to sovereign debt restructuring processes, and not outcomes. As a consequence, it is worth asking whether there are existing institutions that may fulfil these roles. There are two obvious candidates among existing institutions: the International Monetary Fund, or a creditor country group such as the Paris Club. Both have substantial resources and a great deal of experience dealing with sovereign defaults. Both also already perform some of these functions to some extent; as noted previously, good faith bargaining with private creditors is an explicit requirement for a country to be eligible for IMF lending into arrears, while the IMF maintains data dissemination standards.

However, there are some obvious problems with using either of these institutions. First, as both of these institutions either are creditors in their own right, or represent creditors, they are open to an accusation of bias in their decision making from other creditors. Second, as official organizations, the perception that they are influenced by political considerations in their member countries may exist. Third, the track record of these institutions is not encouraging: the IMF has occasionally been criticized for exhibiting a lack of transparency in determining good faith bargaining efforts, and currently refrains from making strong statements as to data quality. For all of these reasons, private creditors in particular are unlikely to welcome greater official sector involvement in debt restructuring.

Other existing institutions may be able to perform some of these roles. For example, it has been suggested that the United Nations or its Security Council may be able to play a role in designating whether a regime, and the debt it issues, is odious or illegitimate. Although subject to the same political concerns noted above for official creditor bodies, this is probably

unavoidable as the designation of whether a regime is odious or illegitimate is ultimately a political concern.

For the remaining issues, existing bodies appear either unsuitable, or might serve only if they were to substantially modify their current practice. On the issue of implicit default by data manipulation, the expense of constructing alternative statistical estimates will deter many institutions from performing this function, and while history shows that, at least in the case of misstatement of inflation statistics, private banks have been able to produce alternative estimates, as creditors these banks also have a conflict of interest. By contrast, if the definition of a credit event for a state contingent debt contract was rewritten to include implicit defaults through data manipulation, then the ISDA would first convene a committee to ascertain the existence of such a default, and second would likely use an auction to value the relevant securities for the purpose of determining the size of the payments to be made by the protection seller, hence implicitly estimating the size of the data manipulation.

Similarly, on the issue of voting rights, for debts issued under a trust structure, the trustee has the power to accelerate these debts and commence enforcement actions following a breach of the indenture, such as a failure by the sovereign to provide timely information on the size of its own debt holdings. However, the recent example of Ecuador's restructuring in which, under the trust indenture, voting was supposed to exclude government owned or controlled bonds, shows the limitations of relying on the trustee. In this case, it appears that the government of Ecuador never responded to trustee requests for statements outlining the extent of government ownership of these debts, but the trustee elected not to act despite this breach of the indenture (Buchheit and Gulati 2009). Existing creditor bodies also seem ill suited to performing this role due to the evident conflict of interest. As an alternative, disputes about voting rights could be referred to an arbitral body, with the understanding that the sovereigns failure to release information on its holdings would lead to more aggressive restrictions on voting rights.

The least tractable issues concern the determination of good faith bargaining. The historical practice of asking creditors themselves to report on whether bargaining has been conducted in good faith seems flawed by an evident conflict of interest. Despite the reservations listed above, the institution best positioned to adjudicate on this issue would appear to

be the IMF, albeit via a procedure that is more transparent than that used in the past.

6 Conclusions

This paper has summarized a range of current research and thinking about sovereign debt restructuring, with a predominant focus on restructuring those debts owed to private sector creditors. We conclude with an attempt to distill the lessons of the paper into twelve summary points. They are:

1. It Is Difficult For Sovereign Debtors To Commit to Honoring Agreements
   The key distinguishing feature of sovereign debt is that traditional mechanisms for the enforcement for contracts are difficult to apply. In addition to being the source of sovereign default risk, this same fact limits the ability of a sovereign to credibly commit to participate in a new reformed sovereign debt restructuring process.
2. A Low Cost Debt Restructuring Process May Not Be Optimal
   Much of the policy debate has focused on reforms aimed at speeding up, and reducing the costs of, sovereign debt restructuring. However, reductions in the penalty suffered by a country in the event of default will lead to more default which *may* lead to higher borrowing rates and less sovereign debt in the first place.
3. Reduced Penalties for Sovereign Default Need Not Result in Higher Sovereign Borrowing Costs
   Much of the policy debate as to the desirability of collective action clauses concerned the possibility of more default and higher borrowing rates. However, even if default probabilities increase, a collective action mechanism that leads to low cost default resolution may increase creditor recovery rates enough to result in decreases in borrowing rates.
4. Sovereign Debtors May Undermine A Low Cost Debt Restructuring Mechanism
   In order to reduce borrowing costs, sovereigns may structure their debts to make restructuring in the event of a default difficult. This may be done by issuing debts with different seniority structures, different governing laws, and different contractual features, or by placing debts with retail investors who may be more difficult to organize.
5. Average Outcomes of Past Debt Restructuring Operations With Private Creditors Have

Been Poor

The best data that we have suggests that episodes of default on debts owed to private sector creditors take on average more than six years to be resolved, result in creditor losses of approximately forty per-cent, and leave the country as or more highly indebted (to private creditors) as they were before the beginning of the default.

6. Collective Action Problems Among Creditors Exist

   The history of sovereign debt restructuring is filled with efforts by creditors to coordinate in negotiating with a sovereign in default, implying the existence of perceived collective action problems. These include free riding on the debt relief offered by other creditors, strategic holdout to engage in litigation, and free riding on the costs of negotiation.

7. Mechanisms to Promote Collective Action May Worsen Outcomes

   In complicated sovereign debt restructuring operations, the costs of negotiation are often very large. To the extent that these are hard to verify and share amongst creditors, mechanisms that attempt to enforce common repayment terms across all creditors as a solution to the strategic holdout problem may exacerbate the incentive to free ride on these costs.

8. The Adoption of Aggregation Clauses May Give Both Sovereigns and Creditors The Incentive to Modify Borrowing Contracts

   To get around the Eurogroup proposal for the widespread use of aggregation clauses in debt contracts, sovereigns may find it optimal to issue non-debt but "debt-like" securities. Creditors may prefer debt securities with low coupons issued at a discount in order to maximize face values and hence voting power in the event of a restructuring.

9. The Current Design and Interpretation of Sovereign Credit Default Swaps Gives Creditors Poor Incentives in Restructuring

   Current processes for restructuring sovereign debt do not adequately represent the protection sellers who bear the costs of a sovereign default, which may lead to inefficient outcomes. In addition, interpretations of the definition of a credit event that exclude coerced "voluntary" exchange offers give creditors little incentive to participate in a voluntary exchange.

10. State Contingent Debts Require Public Assessments of Data Quality

Although state contingent debts are theoretically desirable, their practical implementation is limited by the fact that the sovereign itself produces official economic statistics and has the power to manipulate them producing a *de facto* default. Insuring against such risk, and restructuring in the light of such a default, requires a publicly agreed upon procedure for assessing the reliability of government statistics, and estimate the extent of manipulation.

11. A Transparent *ex ante* Mechanism Is Necessary For Adjudicating on Odious Debts
    The increasing number of appeals to the doctrine of odious debt in sovereign debt restructuring negotiations requires a publicly agreed upon procedure for designating debts as odious. To minimize the effect of uncertainty over future designations on borrowing costs, the mechanism should operate prior to the issuance of new debt contracts.
12. Restrictions on Creditor Litigation Should Be Conditioned on Good Faith Bargaining
    Creditor litigation to block repayment of new debts of a country in default may be a useful mechanism for ensuring the contractual compliance of the sovereign. Strategic holdout can still be limited restricting such litigation in the face of a publicly observed mechanism for designating when negotiations have been restructured in good faith. This might be based on a transparent application of the IMF eligibility requirement for lending into arrears.

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