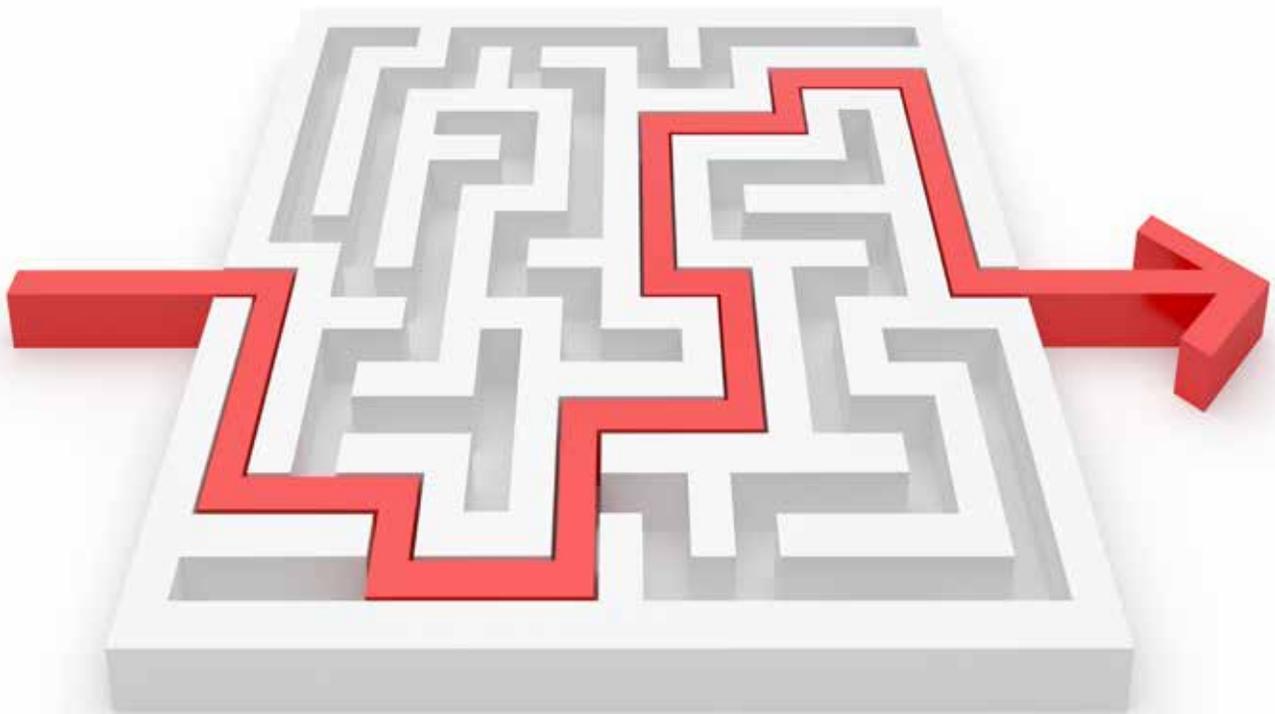


CIGI Papers No. 124 – April 2017

# Sovereign Debt Restructuring: Bargaining for Resolution

James A. Haley





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## About the Author

**James A. Haley** is a CIGI senior fellow and former executive director for the Canadian-led constituency at the International Monetary Fund (IMF) in Washington, DC. He served as Canada's executive director to the Inter-American Development Bank in Washington, DC from 2012 to 2015. Prior to this appointment, he held a number of senior positions in the Canadian Treasury, most recently as general director at the Economic and Fiscal Policy Branch. He represented Canada at meetings of the Working Party 3 and the Economic Policy Committee of the Organisation for Economic Co-operation and Development and served as co-chair of the G20 working group on rebalancing the global economy; he has also served on numerous international working groups. From 2003 to 2006, he was research director in the International Department of the Bank of Canada responsible for briefing the governor and deputy governors on international economic and financial market developments, external imbalances, IMF reform and related policy issues. From 1993 to 1996, he was a senior economist in the Research and European departments of the IMF. He has lectured on macroeconomics, international finance and international financial institutions at the McCourt School of Public Policy, Georgetown University and the Norman Patterson School of International Affairs, Carleton University. His published work has focused on international financial issues, the IMF and sovereign debt restructuring.

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## About the Global Economy Program

Addressing limitations in the ways nations tackle shared economic challenges, the Global Economy Program at CIGI strives to inform and guide policy debates through world-leading research and sustained stakeholder engagement.

With experts from academia, national agencies, international institutions and the private sector, the Global Economy Program supports research in the following areas: management of severe sovereign debt crises; central banking and international financial regulation; China's role in the global economy; governance and policies of the Bretton Woods institutions; the Group of Twenty; global, plurilateral and regional trade agreements; and financing sustainable development. Each year, the Global Economy Program hosts, co-hosts and participates in many events worldwide, working with trusted international partners, which allows the program to disseminate policy recommendations to an international audience of policy makers.

Through its research, collaboration and publications, the Global Economy Program informs decision makers, fosters dialogue and debate on policy-relevant ideas and strengthens multilateral responses to the most pressing international governance issues.

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# Abbreviations and Acronyms

<b>AfDB</b>	African Development Bank
<b>CACs</b>	collective action clauses
<b>CCCs</b>	creditor coordination clauses
<b>CDB</b>	Caribbean Development Bank
<b>DSA</b>	debt sustainability analysis
<b>IMF</b>	International Monetary Fund
<b>LIA</b>	lending into arrears
<b>MDBs</b>	multilateral development banks
<b>NPV</b>	net present value
<b>PBPCG</b>	Policy Based Partial Credit Guarantee
<b>RUFO</b>	rights upon future offers
<b>SDRM</b>	Sovereign Debt Restructuring Mechanism

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# Executive Summary

Sovereign debt restructurings can result in large deadweight losses to debtors and their creditors. This fact accounts for efforts to promote a better framework for the timely resolution of sovereign debt problems. Attention to date has largely focused on creditor coordination issues; in particular, addressing possible coordination failures that can result in protracted delays. This paper reviews these efforts and the steps taken to reduce the costs associated with coordination problems. The informational and commitment challenges that impede the resolution of debt disputes are also considered. These obstacles to efficient bargaining can lead to lengthy delays and increase deadweight losses. At the same time, asymmetric and incomplete information and the inability of sovereign debtors to commit to a flow of resources to debt service hinder efforts to resolve sovereign debt crises through the greater use of GDP-linked debt and debt buybacks. To assuage these effects, the possible use of debt

guarantees to expedite restructurings is discussed. In this regard, the objective of a well-designed guarantee that aligns incentives and helps bridge the informational divide between debtor and creditors is to facilitate debt negotiations that result in a bargaining for resolution.

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# Introduction

Sovereign debt restructurings can be messy. In the most egregious cases, they result in protracted negotiations during which the debtor country loses access to capital markets, forcing an abrupt adjustment of consumption, investment and government expenditures. This reduction in “absorption” and the resulting compression of imports simply reflect the fact that the balance of payments accounts must “balance.” But this adjustment can lead to output losses and higher unemployment that frays the social fabric. And growing social and economic cleavages can lead to beggar-thy-neighbour policies, which in the evocative words of John Maynard Keynes — echoed in the International Monetary Fund’s (IMF’s) Articles of Agreement — are “destructive of national and international prosperity.” In the 1930s, such policies propagated global stagnation.

The IMF was created in the wake of the Great Depression and global war to assist its members strike a judicious balance between financing and adjustment, or the reduction of absorption that was the quid pro quo for IMF financial assistance. The goal was to provide the conditions for sustained global growth and trade liberalization through the orderly resolution of balance-of-payments problems. Under the “rules of the game” of the Bretton Woods era, capital controls adopted by most countries limited the size of these problems to differences in investment and savings rates — typically, a few percentage points of GDP. Because of these controls, and the retreat of private lending following the disastrous experience in the 1930s, private lending to sovereign borrowers was subdued. In these circumstances, the IMF had the resources to fill balance-of-payments gaps in keeping with its mandate of facilitating that judicious balance.

In contrast, private capital flows today dwarf the IMF's resources and balance-of-payments "problems" have become capital account "crises" of a much larger size. The IMF was not designed to deal with these crises, and its ability to assist its members strike the right balance between financing and adjustment has become strained. In this respect, the IMF is now frequently confronted with a trifecta of debt, banking and exchange rate crises, which result in rising risk *premia*, a dysfunctional banking system and a collapsing exchange rate. Combined, these effects magnify the output losses and dissipate asset values to the long-term creditors holding illiquid assets.

These effects and the protracted negotiations associated with default create deadweight losses for borrowers and creditors alike. Such costs reflect the fact that debt cannot be restructured quickly — in part, this is the result of informational problems, in particular the uncertainty about the debtor's willingness and ability to pay, such that sovereign debt restructurings resemble wars of attrition as each side tries to get the other to concede first. Good public policy should work to reduce the frictions that prevent timely, orderly restructurings. This entails a delicate balancing of two objectives: maintaining the incentives required for the efficient operation of capital markets and minimizing the deadweight losses associated with restructuring.

This paper takes up the challenge. The first part presents the case for policy interventions to promote the timely restructuring of sovereign debt and briefly discusses the initiatives taken to improve the negotiation process and reduce the risk of protracted delays. Measures taken thus far, in particular the introduction of collective action clauses (CACs), focus on the problem of intra-creditor coordination. While this is an important element of the story, it is not the only source of deadweight losses. Attention must also focus on the basic bargaining problem involved; that is, determining the resource envelope that debtors can credibly commit to debt service. This problem reflects asymmetric and incomplete information that impedes efficient contracting. The second part of the paper therefore reviews three tools that have been proposed to deal with this issue: state-contingent debt, debt buybacks and the use of loan guarantees by multilateral development banks (MDBs) to bridge these informational divides and expedite restructurings. Some common pitfalls and concerns associated with the use of these

proposals are addressed. The paper concludes with a few reflections on the outlook for sovereign debt restructuring, including the observation that not addressing contracting failures associated with debt negotiation may lead to situations in which official sector resources are used to delay needed policy adjustments in a gamble for resurrection rather than to support a bargaining for a resolution.

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## Policy Interventions for the Public Good

Modern thinking on sovereign debt and the current practice of restructuring can be traced to Keynes' analysis of the economics of the transfer problem associated with post-World War I German reparations.<sup>1</sup> The folly of attempting to enforce ruinous repayments on a sovereign was not lost on Keynes (1924): "it is probable that loans to foreign Governments have turned out badly on balance....The investor has no remedy — none whatever — against default. There is, on the part of most foreign countries, a strong tendency to default on the occasion of wars and revolutions and *whenever the expectation of further loans no longer exceeds in amount the interest payable on old ones*" [emphasis added].

This passage emphasizes that foreign creditors have little recourse in the event of opportunistic behaviour. At the time Keynes wrote, the doctrine of sovereign immunity prevailed — that is, courts would not enforce legal rulings against sovereigns on behalf of private creditors. Short of inciting military occupation of the recalcitrant debtor on their behalf, private creditors could do very little to enforce their claims on sovereign debtors.<sup>2</sup>

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1 See Keynes (1919). Keynes debated with Bertil Ohlin over whether the transfer of resources associated with reparations would affect the terms of trade such that the burden of reparations becomes intolerable.

2 Such practices were not uncommon in the 1800s. And Keynes (1924) was writing following the French occupation of the Ruhr valley in 1923 as punishment for Germany's failure to meet its reparation obligations under the Treaty of Versailles. These were state-to-state claims, however, not sovereign debts to private creditors. Regardless, it is safe to assume that gunboat policies of "blockading the harbour" or "seizing the customs house" are no longer feasible options for private creditors seeking redress for outstanding claims.

For the past 40 years, sovereign immunity has been in retreat as successive court rulings have pared back its application. Other developments, including the repeal of the Champerty principle, which forbade the acquisition of a claim for the sole purpose of litigation, and a unique judicial interpretation of a *pari passu* clause, have increased creditors' leverage. Holdout creditors have successfully exploited these developments to enforce claims against the most determined sovereigns; Argentina's decision to settle with investors holding un-restructured bonds is the latest example. Yet, notwithstanding the steady erosion of sovereign immunity and litigation success of holdout creditors, the sorry history of sovereign debt defaults over the past several decades clearly suggests that creditors continue to face steep hurdles in enforcing claims against sovereign debtors.

The limited enforceability of claims has clear implications for debtor-creditor relationships. Most important is the fact that the market for sovereign debt is subject to equilibrium credit rationing since creditors limit credit, making continued access to credit conditional on repayment of outstanding claims. Sovereign borrowers, knowing that they may require access to credit markets in the future, have an incentive to service existing obligations to retain the option value of future borrowing.<sup>3</sup> The rudimentary nature of debt contracts and their binary return function, such that contractual obligations are paid in full or the borrower is in breach, eliminates the need for monitoring: the borrower complies with contractual obligations if scheduled payments are made in full and on time. Problems arise, however, when borrowers are unable or unwilling to meet contractual payments. Failure to meet a payment triggers formal default, which can unleash a range of actions on the part of lenders. Creditors may accelerate all outstanding claims; that is, demand immediate repayment. Or

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3 Joseph E. Stiglitz and Andrew Weiss (1981) motivated credit-rationing in the static context of *ex ante* uncertainty regarding borrower type. In contrast, dynamic equilibrium credit rationing in sovereign debt markets with limited enforcement is required to create incentives for repayment over time (Eaton and Gerosvitz 1981). Creditors limit the credit made available in one period to create an incentive to repay and maintain access in the next period. This result does not preclude the paradoxical result that the most credit-worthy borrower is one that has repudiated its previous debts since it is starting with a fresh slate. Moreover, it is possible that coordination failures among lenders result in too much lending, leading to a lending externality. Such cases are an invitation to default. There is a rich literature on sovereign debt restructuring that is too vast to review here. Ugo Panizza, Federico Sturzenegger and Jeromin Zettelmeyer (2009) provide an excellent survey.

they may seek judgments against the sovereign to attach payments in other jurisdictions.

Creditors are conflicted, however. On the one hand, preserving the bonding role of debt requires that lenders withhold credit to the sovereign and pursue all possible means to enforce judgments against the borrower. By blocking access to capital markets, the sovereign is forced to adjust; this provides the incentive for the borrower to continue to service its debts. On the other hand, such efforts could disrupt production and erode broad public support for sound policies. The populist policies that could result may lower long-term growth prospects and impair debt-servicing capacity; in the extreme, political polarization may lead the borrower to repudiate the debt and withdraw from the global economy. It may be in creditors' interest to ease the burden of repayment to maintain incentives for sound policies that "grow the pie" and increase future debt-servicing capacity.<sup>4</sup>

Creditors must, therefore, determine whether a debtor claiming distress is *unwilling* or *unable* to repay. The problem is that creditors do not observe the underlying reasons for the default. For example, a debtor in distress may be suffering from unobservable negative shocks to the economy, while policy actions to raise the debtor's debt-servicing capacity may not be discernible. These considerations account for the prevalence of restructuring in sovereign lending. But they do not explain the outcome of restructuring negotiations. The nature of the negotiation process holds the key.

## Sovereign Debt Restructuring as Non-cooperative Bargaining

A useful model for studying this situation is the "dividing the pie" problem studied by Ariel Rubinstein (1982). He asked how two players, each seeking to maximize their share, would divide a pie. To see the intuition underlying the model in the context of sovereign debt restructuring, consider the gains from successful contracting. With access to private capital markets, the sovereign borrower is better able to smooth consumption in the face of external shocks and

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4 Paul Krugman (1988) and Jeffrey Sachs (1989) argue that debt reduction can benefit both debtor and creditor but requires a coordination mechanism that forces all creditors to accept a haircut. Similarly, Panizza (2013) contends: "Postponing a necessary default to prove that it is 'unavoidable' prolongs the economic crisis in the debtor country and reduces recovery values because of its negative effects on ability and willingness to repay. Delayed defaults hurt both creditors and debtors."

increase investment beyond the level of domestic savings. Meanwhile, foreign creditors earn a rate of return higher than the next available lending opportunity. Both parties benefit from the smooth execution of the contract and the discounted present value of these benefits determines the size of the pie to be distributed between them.<sup>5</sup>

Once a sovereign has defaulted, creditors and the debtor are locked in a dynamic non-cooperative bargaining game. When a country suspends its debt servicing, the flow of benefits is disrupted; the expected gains to both sides in that period become zero. The “pie” from successful contracting shrinks; the longer a country is in default, the more the pie shrinks. At some hypothetical point in the future over, the pie shrinks to nothing.<sup>6</sup>

The key insight of non-cooperative bargaining is how the pie is divided between the two parties. There are several elements to consider. The first is the question of time. With perfect information, a single-period bargaining game is actually a take-it-or-leave-it offer that gives the party making the offer an arbitrarily large share of the pie.<sup>7</sup> While this outcome may violate societal norms regarding fairness, the offer will be accepted if the recipient of the offer seeks solely to maximize their consumption of the pie — better a vanishingly

small share than no share at all.<sup>8</sup> In most cases of sovereign debt restructuring, the first-mover advantage for the party making the offer can be thought of as residing with the sovereign borrower. This is because of the complexities involved in organizing a large group of disparate creditors, with different rates of time preference and discount rates. The sovereign also enjoys an advantage, as it is the party that initiated the default and can set the timelines for acceptance of the offer.<sup>9</sup>

A one-shot, take-it-or-leave-it game in which the pie is divided or is forfeited leads to a very specific result; changing the length of the game and number of iterations of offers yields a strikingly different result.<sup>10</sup> Extending the game to allow for successive offers and counter-offers fundamentally changes the outcome of bargaining. This scenario is a more realistic depiction of debt restructurings. In some cases, restructurings are completed quickly and with a minimum of negotiations; in other cases, the process involves protracted negotiations and multiple offers before a final settlement is reached. With the possibility of multiple rounds of bargaining, the first-mover advantage is lost and the subjective rate of time preference, or impatience, of the two players plays a critical role: the division of the price depends inversely on the ratio of subjective discount rates. Intuitively, it should not be surprising to learn that the more patient player can secure a larger share of the pie. More surprising, perhaps, is the result that, where there is common knowledge of rates of time preferences and payoffs to the parties, this equilibrium is reached without delay —

5 Conceptually, the size of the pie for a lending relationship of  $n$  periods could be expressed:

$$\Pi = \pi/(1+r) + \pi/(1+r)(1+r) + \pi/(1+r)(1+r)^2 + \dots + \pi/(1+r)^n,$$

where  $\pi$  represents the (constant) per period gain accruing to both parties from executing the contract and  $r$  is the (assumed) shared rate at which the gains from contracting are discounted. More generally, if the gains and discount rate change over time:

$$\Pi = \sum_{i=0}^n \{\pi(i)/(1+r(i))\}$$

Strictly speaking, this formulation is not wholly correct and should be regarded as a heuristic illustration. Reduced payments that encourage sound policies in the debtor may increase the probability of future debt servicing and raise the expected value of the creditor’s claim. But, in most cases, this effect will be insufficient to offset the direct loss of the payments. This difference in return functions drives a wedge between the two parties. For clarity of exposition, however, it is convenient to overlook this wrinkle.

6 From footnote 5, we have the expression for the size of the pie:

$$\Pi = \sum_{i=0}^n \{\pi(i)/(1+r(i))\}$$

With  $\pi(i)=0$  for each period, this expression is clearly zero. But even when there is a resolution of the default, if the restructuring and return to capital markets are delayed to some sufficiently remote point in the future, the size of the pie may approach zero. This is because, with reasonable assumptions bounding the size of  $\pi(i)$ , the denominator grows over time and in the limit approaches infinity, whereas the numerator is a fixed real number.

7 The reference to “arbitrarily large” assumes that the pie is perfectly divisible. If this is not the case, the first mover will offer the smallest possible share to the other player.

8 In practice, social norms of fairness are often respected; individuals will refuse offers that are manifestly unequal, even in situations in which there is no incentive to develop a reputation for toughness. Such norms may account for the legal doctrine of “unconscionability” or, in English courts of equity, “inequality of bargaining power,” that addresses the use of duress or unequal bargaining power.

9 This effect might explain why some creditor groups advocate for creditor coordination clauses (CCCs) to be included in the boilerplate of international bond documentation: While it is possible to speak of “the” borrower, there is no single “creditor” with which to negotiate. This gives the sovereign debtor an advantage in taking the lead in the negotiation process. In the event of default, CCCs would automatically require sovereigns to convene creditor committees to begin the process of coalescing the disparate views of creditors. James A. Haley (2016a) discusses this issue in more detail.

10 Jeremy Bulow and Kenneth Rogoff (1989) consider repeated rounds of offers and rejections in the context of sovereign debt restructuring in their constant-recontracting model.

both players correctly anticipate the unique equilibrium division and agree to it immediately.<sup>11</sup>

This is an extremely powerful result. And, were it to hold, ephemeral defaults and instantaneous restructurings would be observed. In practice, however, the reality of debt restructuring negotiations is that key information is not common knowledge. Players do not have full information regarding the other, in particular rates of time preference and structure of payoffs, and incomplete and asymmetric information creates frictions in the bargaining process. The government's willingness to transfer resources to foreign creditors, for example, is a function of its rate of time preference and the political constraints under which it operates, both of which are imperfectly observable by creditors. Borrowers also lack full information. They do not know the rate at which creditors discount the benefits from a resumption of lending, which depends on the next-best lending opportunity and proprietary information. Nor do debtors observe an individual creditor's minimum acceptable offer.

These informational challenges are compounded by the fact that both parties have an incentive to dissemble; that is, to inject uncertainty into negotiations.<sup>12</sup> Borrowers may inflate the effects of negative shocks to the economy or exaggerate political roadblocks to the reforms that would increase debt-servicing capacity. A government could claim to be taking painful measures that will raise future debt-servicing capacity, when in fact it uses a payments suspension to avoid adjustment. Moreover, borrowers and creditors may engage in behaviours to mask their true rate of time preference. An array of stratagems can be used for this purpose, including actions that demonstrate extreme inflexibility intended to induce the other side to concede. Both players

can "invest" in costly signalling to demonstrate their patience to outwait the other. For example, legal proceedings initiated by holdout investors, despite the low probability of enforcement, signal the creditors' willingness to assert their claims regardless of the cost and the protracted nature of such actions. Similarly, sovereigns may take costly actions that "tie their hands" as an indication of their resolve not to concede to the demands of holdout creditors and make such commitments credible.<sup>13</sup> In addition, both players may signal that they have attractive outside options — that the benefit they derive from continued contracting is less than is the case. This behaviour reflects the fact that a player with a feasible alternative can afford to be more patient in the negotiations process, inducing the other player to concede.

## Dealing with Dysfunction

In many recent cases, debt restructurings have been completed quickly and with a minimum of litigation, notwithstanding these sources of dysfunction.<sup>14</sup> On other occasions, these effects combine to create debt restructurings that resemble a protracted war of attrition in which the goal is to force the other side to concede (Eichengreen 2003). These cases are reflected in the bimodal distribution of debt renegotiation outcomes documented by Mariscal et al. (2015). They show there is a high frequency of rescheduling with no or small present-value haircuts involving a high probability of subsequent renegotiation, and a separate peak of less frequent restructurings involving a large reduction in the present value of claims. Moreover, recent work suggests that rescheduling arrangements that do not provide the foundations for a lasting

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11 With common knowledge and full information, there is certainty regarding what represents acceptable offers so that both parties use backward induction to map out the full range of offers and refusals and jump immediately to the final division. To invoke and invert the words of the great American philosopher Yogi Berra, "if you know where you are going, it is easy to get there."

12 See Ghosal, Miller and Thampanishvong (2016) for a discussion of how uncertainty about payment capacity generates delays. More generally, the problem of uncertainty and possible distrust underscore the importance of mechanisms that can address some of the agency problems inherent in international lending. The IMF clearly has a role in terms of members' obligations to provide timely information and as confidential adviser to member governments; the Sovereign Debt Forum proposed by Richard Gillin and Brett House (2014), meanwhile, could promote the sharing and validation of information, building trust and reducing uncertainty.

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13 The Argentine rights upon future offers (RUF0) clause gave investors participating in the initial bond exchange the right to share in any increased payouts subsequently offered to other creditors. The RUF0 clause thereby increased the costs of any concession to a subset of creditors, signalling the government's commitment to not negotiate with holdout creditors. The Argentine authorities also introduced a "lock law" that purportedly prohibited reopening the exchange offer to non-participating bondholders to punish potential holdout investors. See the discussion in Martin Guzman (2016a). Jon Elster (1988) provides an insightful analysis of the strategies individuals adopt to bind their decisions and thereby achieve a better outcome.

14 Ran Bi, Marcos Chamon and Jeromin Zettelmeyer (2011) refer to anticipated coordination failures as "the problem that wasn't," since most recent debt restructurings involving bond exchanges were completed quickly and with limited disruption.

resolution of payments difficulties are unlikely to create the conditions for sustained growth.<sup>15</sup>

The inefficiencies associated with the non-cooperative bargaining game and the large deadweight losses that can result generate a potential role for public policy. As Keynes warned, attempts to enforce debt payments that entail hardships a sovereign government is unprepared to impose on its citizens can have negative consequences to the borrower and its lenders — the dislocation created by debt crises increases the risk of beggar-thy-neighbour policies as countries adopt policies to shield their economies from the vagaries of fickle global capital. Such responses represent an attempt to shift the burden of adjustment to others, creating negative spillover effects.

For the past 60 years, the IMF has, therefore, served as a *quasi*-surrogate international bankruptcy court to reduce the risk of these effects, consistent with its mandate to assist its members strike a felicitous balance between financing and adjustment. The process is triggered when a country in distress seeks a rescheduling from the Paris Club of official creditors. Before the liberalization of capital accounts and increase in private capital flows, a Paris Club rescheduling, together with an IMF program supporting orderly adjustment, would generally have been sufficient to normalize payments.<sup>16</sup> But private capital flows now dwarf the resources of official creditors,

and rescheduling and regularizing payments to official creditors is no longer a sufficient condition; private claims must be brought into the process.

Private sector involvement has been achieved through the application of comparability of treatment. In most cases, the ability of a distressed sovereign to service the claims of private creditors is highly dependent on access to IMF resources. Before the IMF can agree to a program, however, the Fund must have assurances (or “adequate safeguards”) of repayment; otherwise it would be in violation of the Articles of Agreement. This requirement provides an effective instrument with which to extend comparability of treatment and apply the terms of a prospective Paris Club agreement to private creditors.

### Creditor Coordination versus Bargaining

Even with comparability of treatment, the severe financial crises of the past quarter century and concerns regarding the stability of the global financial system have been the catalyst for efforts to promote the timely, orderly restructuring of private claims. There are two distinct issues in sovereign debt restructuring that such efforts must address.

The first is intra-creditor coordination. The issue of intra-creditor coordination reflects the fact that, as sovereign lending has evolved, bank debt has largely been displaced by bonded debt. This has meant that from a small number of creditor banks, which could be coordinated through an informal process — dubbed the London Club — sovereign borrowers now have creditors that number in the many thousands. These bondholders may hold many different bond issues, some of which are denominated in domestic currency, others in foreign currency; some issued under domestic law, others issued in a foreign jurisdiction. Simply organizing disparate creditors can be a challenge — not to mention the difficulty of getting them to speak with one voice.

In the wake of the 1997-1998 Asian financial crisis, these concerns led to efforts to augment the IMF’s tool kit, culminating in the proposal for a Sovereign Debt Restructuring Mechanism (SDRM) championed by IMF First Deputy Managing Director Anne Krueger. While the SDRM proposal enjoyed the support of many members, it lacked the backing necessary for adoption. Efforts to improve the framework for timely, orderly debt

15 David Benjamin and Mark L. J. Wright (2013) note that the average default takes more than eight years to resolve, results in creditor losses of roughly 50 percent and leaves the sovereign country as or more highly indebted than when it entered default. The effects can be harmful to growth: Forni et al. (2016) find that while growth generally declines following a debt restructuring, agreements that allow countries to exit a default spell are associated with improving growth. Gong Cheng, Javier Diaz-Cassou and Aitor Erce (2016) similarly conclude that more generous restructurings involving nominal relief are associated with higher economic growth. In contrast, agreements including only net present value (NPV) relief have no positive impact on growth. However, countries that get these restructurings are more likely to pursue a prudent fiscal policy than those receiving a nominal haircut. In other words, when deciding upon the type of relief to be granted through debt restructuring, the official sector faces a trade-off between the objectives of stimulating growth and fostering fiscal sustainability.

16 The Paris Club is housed in the French Trésor, which supplies its secretariat and chairperson. Cheng, Diaz-Cassou and Erce (2016) provide a survey of its history. They note that, for its first 30 years or so, the Paris Club was, in effect, a debt collector for the advanced economies. Debts were rescheduled to provide cash-flow relief but agreements preserved NPV; the process was specifically designed not to provide debt discharge (as do domestic bankruptcy courts) that would allow a “fresh start” or transition to a sustainable growth path. This changed with the introduction of so-called Venice terms (1987) and Toronto terms (1988) that began a process of debt relief, culminating in the heavily indebted poor countries’ initiative.

restructuring thereafter focused on so-called “market-based” measures incorporated in the contractual terms of individual bond issues.

The problem of intra-creditor coordination is compounded by the fact that many bonds require unanimity to change key financial terms. This means that a small group of individuals can block a restructuring favoured by a preponderance of bondholders.<sup>17</sup> These efforts have focused on CACs, which allow for a supermajority of bondholders to change payment terms. Important progress has been achieved; “first generation” CACs are now boilerplate in bond documentation. Moreover, a “second generation” of CACs has been developed that addresses the problem of aggregation — the potential for a small group of investors to buy up a controlling share of a small bond issue and thereby block the entire restructuring with the intent of extracting side payments.<sup>18</sup>

CACs represent an important advance in the pursuit of more orderly sovereign debt restructuring. But even the strongest supporters of voluntary, market-based approaches recognize that CACs are incomplete, given the large stock of outstanding debt without such provisions.<sup>19</sup> Ed Bartholomew, Angela Liuzzi and Ernest Stern (2004) have proposed an ingenious two-step process to address the intra-creditor coordination problem that does not rely on contractual terms to assuage creditor coordination problems. Their approach uses synthetic assets and invokes the acceleration principle to collapse a diverse universe of heterogeneous claims of different maturities and yields into a far more manageable set of interim claims — a “C” type claim, which capitalizes interest at a high rate (equal to or higher than the highest coupon bond outstanding) and an “N” type, which does not capitalize at all. The returns on the various outstanding bonds can be replicated simply by varying the proportion of these two interim claims. And, with a cash

offer to induce take-up, an exchange offer using these interim claims could reduce the number of outstanding bonds subject to negotiation from, say, 100 to two, greatly simplifying the process and promoting more timely restructurings.

This promising result merits consideration. Yet, as its authors acknowledge, the two-step proposal assumes agreement on the quantum of resources that the sovereign can *credibly* commit to debt service and which creditors accept.<sup>20</sup> Failure to agree on that critical variable can result in a breakdown in negotiations and protracted delays.<sup>21</sup> Intra-creditor coordination may be a *necessary* condition for a timely restructuring, but is not a *sufficient* condition.

This result highlights the fact that the second critical issue in sovereign debt restructuring negotiations is bargaining over resource flows.<sup>22</sup> The key participants in the bargaining process are the debtor, its creditors and, as discussed above, the IMF. The Fund has a critical role to play by virtue of the fact that its debt sustainability analysis (DSA) establishes the broad parameters of possible debt-service flows that are consistent with a judicious balancing of financing and adjustment. If the IMF is unable (or insufficiently independent) to make a clear determination of a debtor country’s willingness and ability to repay, negotiations will

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17 Rohan Pitchford and Mark L. J. Wright (2010) explain delays in sovereign debt negotiations in terms of a strategic holdout effect whereby creditors delay a settlement in the expectation of better terms.

18 See Makoff and Kahn (2015) and Haley (2016b) for a more complete discussion.

19 See Gelpern, Heller and Setser (2016) on the reach of new CACs. At the same time, some authors have argued that CACs are insufficient to address the deficiencies of the current system if the courts overseeing their application are insufficiently attuned to the critical nuances involved in sovereign restructurings. Such considerations, they argue, militate for a “soft law” approach based on a common set of principles. See Guzman and Stiglitz (2016).

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20 There are additional complications that would have to be addressed, including the treatment of bond issues denominated in different currencies in the acceleration process following a currency crisis that accompanies the debt default.

21 Similarly, Bi, Chamon and Zettelmeyer (2011) note that recent restructurings featured bond exchanges with minimum participation thresholds (which act as a coordination device) and exit consents (which reduce the attractiveness of holding pre-exchange bonds in cases where the sovereign borrower imposes a substantial haircut) have reduced creditor coordination problems. Their analysis focuses on the collective action problem of coordinating creditors and abstracts from the bargaining game between the sovereign borrower and its creditors.

22 In some cases, this is a matter of timing — rescheduling payments while maintaining the NPV of outstanding claims. In other cases, this will entail restructuring, or providing debt discharge in the form of NPV reductions. Yan Bai and Jing Zhang (2012) compare the relative speed of bond restructurings since 1990 with the much longer restructuring of earlier bank debt. Because creditors’ reservation value is private information, delays arise in equilibrium because the borrower uses delay to screen creditors’ reservation values. Secondary market prices of bonds in default provide information regarding recovery values, they argue, and facilitate timely renegotiation of bonded debt in contrast to bank loans that remained on the balance sheets. One outstanding issue is the role played by external factors — outside opportunities available to debtors and their creditors, for example — that led to this fortuitous outcome. Moreover, earlier bank restructuring experience reflects other considerations, including tax and regulatory treatment that favoured rescheduling (preserving the option value of the bank loan), given solvency concerns.

be stalled.<sup>23</sup> Protracted delays in restructuring can therefore result, even when private creditors are prepared to initiate discussions. Greece may be an important example, in that private creditors acknowledged the need for a restructuring in early 2010 and ultimately came to an agreement — albeit with the application of *ex post* CACs — within three months of the start of negotiations (Independent Evaluation Office 2016). But once the IMF has established the adjustment effort required and debt service to expect, it is up to the debtor and its creditors to resolve the problem of default.

Far less attention has been given to this issue; in part, this may reflect the complexity of modelling non-cooperative bargaining between a borrower and multiple heterogeneous creditors in an environment of incomplete and asymmetric information.

There are two approaches to dealing with the complexity of negotiations involving multiple creditors. The first is to assume a representative creditor and perfect information. Using this construct, Benjamin and Wright (2013) show that delays arise owing to the inability of the sovereign to commit to not default following a restructuring. From the creditors' perspective, there is a cost associated with the irreversibility of restructuring a claim: once lenders agree to a haircut and reduce the face value of their claims, they cannot subsequently demand the original terms should the borrower enjoy a material improvement in debt-servicing capacity. In effect, a claim in default is an option on the face value of the instrument, even if the probability of receiving the full payout is vanishingly small. Creditors prefer to retain the option value until the risk of serial default is at an acceptable level.<sup>24</sup>

Benjamin and Wright (2013) argue that while the delay may be privately optimal in this context, it is socially wasteful, since the country is unable to access capital markets while in default and thus loses the potential gains from higher levels of investment and consumption-smoothing benefits. Similarly, Bi (2008) develops a stochastic bargaining game with complete information to argue that delays can be beneficial, in the sense that they allow for the economy to recover, which increases the size of the pie to distribute. The model is a stochastic endowment economy, however, and does not consider the effects of investment and production. Including these effects can result in multiple equilibria: on the one hand, if the government uses the resources freed up from default for investment, a delay in the restructuring can be beneficial; on the other hand, if the government does not invest, delays can be costly, as the economy becomes trapped in a low-level equilibrium waiting for a very large positive shock that may not materialize.<sup>25</sup> The latter situations are precisely those that justify public policy interventions to promote timely, orderly restructuring of sovereign debt.

Going beyond the complete-information, representative-creditor framework, Andrew G. Haldane et al. (2005) consider a far richer bargaining environment in which adjustment efforts by the debtor can affect the pool of resources available for debt service and individual investors differ by their costs of rejecting an offer and holding out.<sup>26</sup> Modelling the actions of thousands of heterogeneous creditors is, clearly, next to impossible. Fortunately, Haldane and his co-authors employ insightful intuitive short-cuts to simplify the problem. With unanimous consent required to restructure, the sovereign must satisfy the investor with the lowest cost of holding out:

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23 As the IMF (2013) has recognized, to avoid restructurings that are “too little, too late” requires more rigorous debt sustainability and market access assessments, some means to prevent IMF resources from being used to bail out private creditors, and measures to alleviate the costs of debt restructuring. CIGI researchers have made important contributions with respect to the role of the IMF in sovereign debt restructuring: James M. Boughton (2015) reviews the evolution of the IMF’s role and governance issues that can impinge on its decision making; Beatrice Weder di Mauro and Jeromin Zettelmeyer (2017) explore the implications of an expanding international financial safety net; and Martin Guzman (2016b) and Susan Schadler (2013) discuss efforts to enhance the DSA process and constrain IMF lending in situations of unsustainable debt.

24 This option-value perspective explains why banks may be prepared to reschedule claims but resist restructurings that reduce the face value of loans to highly indebted borrowers: regardless of how remote, there is some chance that a positive shock will raise output sufficiently to restore the recovery value of the claim to its original face value.

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25 This is the rationale for debt-overhang models due to Krugman (1988) and Sachs (1989).

26 See Goshal and Miller (2015). Creditor heterogeneity can also reflect exposure to potential losses. In this regard, the development of credit default swaps, which provide protection against default, can alter the willingness of investors to agree to socially efficient restructurings. While such instruments can be beneficial in terms of allowing borrowers to commit to not renegotiate debt, they may also result in possible inefficiencies if lenders overinvest in protection and hence have no incentive to agree to welfare-enhancing restructurings (Bolton and Oehmke 2011). At the domestic level, bankruptcy judges can weigh the interests of individual creditors against broader considerations, such as the collective interests of creditors and other stakeholders. The potential for such “empty creditors” who refuse to negotiate further illustrates the limitations of a purely contractual approach in sovereign debt restructurings.

an offer that is accepted must make the investor indifferent to holding up or restructuring.<sup>27</sup> If that investor accepts the offer, so too will others. Similarly, with CACs, it is not necessary to consider the strategies and choices of each creditor. Instead, attention can be limited to the threshold investor; that is, the investor whose agreement satisfies the threshold for collective action. Haldane et al. (2005) show that under complete information it will always be possible for the debtor to make an offer that is large enough that it garners sufficient support while maintaining incentives for the optimal adjustment effort. However, this is not the case with incomplete information.

With complete information, every player knows every other player's payoff as a function of the strategies played — the offers and counter-offers that the other side will make in response to their offers. Relaxing the assumption of complete information implies that the value of creditors' outside options and the debtor's disutility from adjustment effort are private information. This creates an incentive for gaming — dissembling to mislead others — possibly resulting in a situation in which the two sides get stuck in a Pareto-dominated point. Two players are unable to exhaust the mutual gain from reaching an agreement if they have incomplete information about the other (Myerson and Satterthwaite 1983). Rather than converge on a stable equilibrium, successive iterations of offers and counter-offers may reflect misperceptions of what others are prepared to accept.<sup>28</sup> As Haldane et al. (2005, 327) note: “A strong and very general conclusion from the literature on bargaining with two-sided incomplete information is that when individual rationality constraints bind and when participation in a deal is voluntary, private information leads to ex post bargaining inefficiencies.”

These inefficiencies can account for protracted debt negotiations in which economic losses grow and asset values shrink, and which result in restructurings that do not put the country on a path of sustainable long-term growth.

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27 In this case, the use of exit consents raises the costs of rejecting an offer acceptable to others, increasing the probability of a successful restructuring. See footnote 19.

28 The problem of non-converging offers and counter-offers could explain the development of domestic legal frameworks that guide private negotiations conducted “in the shadow of the court house.” Haley (2016b) discusses this in the context of the Coase theorem.

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## Proposals to Improve the Process

This discussion suggests that protracted delays in debt restructuring may result from failures in the environment for non-cooperative bargaining over the quantum of resources allocated to debt service, even where intra-creditor coordination is not an issue. These contracting failures include the inability of sovereign debtors to credibly commit to not default on restructured obligations, the absence of complete state-contingent contracts and the inability of governments to credibly commit to sharing upside outcomes.<sup>29</sup>

### State-contingent Contracts: GDP-linked Debt

In a world of complete state-contingent contracts, with payments conditional on states of the world, there would never be a need to restructure debt. In such an environment, underlying contracts would contemplate all possible states of the world, including those with very low levels of output in which debt-servicing capacity would be curtailed.<sup>30</sup> Equity comes closest to this ideal. But recall: equity contracts are supported by a web of legal, accounting and governance frameworks. These frameworks do not exist at the international level, which explains why most sovereign lending is conducted through simple, “plain vanilla” instruments.

Of course, instruments designed to achieve a better sharing of risk do exist. Growth warrants that provide payments to bondholders if growth exceeds a certain level have been used to “sweeten” the terms of Argentine and Greek restructurings, as troubled sovereigns asked their creditors to reduce their claims in bad (“restructuring”) states in return for higher returns in good (“upside”) states. And yet, given the potential benefits associated with greater

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29 Such instruments have long been on the menu of options for international crisis prevention and resolution (Rogoff 1999). More recently, the Bank of Canada and Bank of England have championed their use and explored how well designed indexed bonds can address some of the problems discussed below (Benford et al. 2016). See also Olivier Blanchard, Paolo Mauro and Julien Acalin (2016).

30 In practice, such an Arrow-Debru economy is precluded by imperfect and asymmetrically distributed information and bounded rationality, which limit the ability of individuals to contract over all possible states (Arrow and Debru 1954; Simon 1957).

risk sharing, the use of equity-like instruments has been limited to situations of extreme distress.

Why are these instruments not more widespread? A possible explanation is that *in extremis* situations of restructuring, in which the sovereign borrower has already slipped into default, the probability distribution over future states of the world is truncated; investors are in the worst-case scenario and there is only upside potential. Warrants offered by the sovereign borrower are thus an incentive (or “sweetener”) to conclude a restructuring. In times of normal market access, in contrast, investors face a two-sided risk. This implies that, unless the preponderance of outstanding debt is state-contingent, an issuer facing large exogenous shocks (or that is acting opportunistically) will seek a restructuring of its debt. But if a debtor is restructuring other debts, it seems unlikely that GDP-linked debt would be exempted. Indeed, it is more likely that domestic politics would require that all payments — plain vanilla and GDP-linked — cease. And, even if the government were prepared to continue servicing its GDP-linked debt, plain vanilla bondholders (holdout investors and others equally) could litigate using *pari passu* arguments or, on equity grounds, inter-creditor discrimination to block payments: as the Argentine case shows, the law in such matters is far from settled.<sup>31</sup>

Regardless, the issue of commitment remains as investors have limited options should debtors renege in good times after benefiting from the state-contingent contract in bad times. For example, if GDP-linked bonds form a large share of outstanding debt, a governance-challenged debtor, or a debtor facing a large fiscal shock that does not affect GDP (or affects GDP with a considerable delay),

may choose to misreport GDP.<sup>32</sup> (Responsibility for reporting GDP could be delegated to an external monitor; in this case, the country may simply default.) Accordingly, there will be residual uncertainty regarding monitoring, verification and enforcement: while a debtor will always want creditors to share in bad states, it is less clear that governments will be equally prepared to share in good states. Under these conditions, investors may view state-contingent instruments as insurance contracts for bad states and price GDP-linked debt at a premium over plain vanilla instruments. If the instrument is *de facto* insurance against bad states and is priced accordingly, however, it would be expensive to issue. Governments could be criticized for offering significantly higher returns to investors on debt that is supposed to provide those investors excess returns in good states of the world.

The implication of this analysis is clear: growth warrants may help facilitate in the resolution of a debt crisis by signalling good faith on the part of the sovereign borrower, but are likely to play a modest role in terms of crisis prevention. This assessment reflects the fact that state-contingent debt does not address the fundamental source of contract inefficiency. This inefficiency is the inability of sovereign governments to credibly commit to allocate a stream of resources for debt service in an environment of weak contract enforcement. Defaults featuring protracted restructuring negotiations are likely to remain.

## Debt Buybacks

Debt buybacks are also promoted as a solution to non-cooperative bargaining problems because they dispense with a lengthy, costly negotiation process. The underlying idea is appealing: a distressed debtor buys up its debt at deep discounts; say the debt is trading at 50 cents to the dollar, so that one dollar of resources extinguishes two dollars (face value) of debt. This seems like a very good deal for the country. But, while debt buybacks can be a prudent strategy for a highly indebted country, this felicitous result is not assured.

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31 These considerations would probably not apply to mature advanced-economy issuers with well-established rule of law, independent institutions (such as the judiciary and central bank) and unconditional access to capital markets. Indexed debt could well be a useful addition to the debt manager’s tool kit to manage risks and minimize costs over a longer horizon. Similarly, a possible market exists for US municipalities, which are subject to Chapter 9 of the US Bankruptcy Code. But for governments with histories of weak institutional commitment and myopic time horizons, issuing indexed debt would probably require some additional element. That additional element might be purchases by the World Bank and other MDBs using their preferred creditor status as a *de facto* mechanism to enforce priority of GDP-linked debt.

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32 The risk of misreporting militates for bonds indexed to the international price of a key commodity that is not subject to the potential moral hazard problem of misreporting (Krugman 1988). Chile has issued bonds contingent on copper prices; given the importance of copper production to the economy, these instruments have likely provided important insurance benefits. For the typical emerging market economy, however, a relatively small share of output fluctuations can be attributed to terms of trade shocks so that GDP-linked instruments would be preferable (Borensztein and Mauro 2002).

To begin, consider the case in which the debtor uses its own resources to finance the buyback. Bulow and Rogoff (1988) showed that buying up debt can entail wealth transfers from distressed debtors to investors. Their result stems from the fact that once the government starts its buyback, the market value of the debt rises: with less outstanding debt, the probability of full repayment of the remaining debt also increases. That expectation is factored into the market's valuation of the remaining debt, so that the market value after the buyback is the same as it was before the transaction. In effect, the buyback operation entails a transfer from the debtor country to bondholders. In other words, as illustrated below (see Box 1), creditors get a free lunch paid for by taxpayers. This

### Box 1: The Buyback Boondoggle

Consider a simple example in which the outstanding face value of the outstanding stock of distressed debt is \$200. If investors expect to receive only 50 cents on the dollar, the expected value the market attaches to the debt is \$100. Now, while the debtor plans to use \$50 of reserves to purchase \$100 ( $=\$50/\$0.50$ ) of debt at the prevailing market price, assume that the buyback increases the expected value of the debt to, say, 75 cents on the dollar. This effect reflects the fact that, with less debt outstanding, the claims of remaining bondholders will increase in value as a result of the buyback. The problem for the debtor is that no creditor will exchange a claim on \$1 for \$0.50 when creditors who refuse to sell stand to get \$0.75 after the buyback operation; the debtor must therefore offer the expected *post*-buyback valuation to induce investors to participate in the transaction. So, rather than retiring \$100 in face value, only \$67 is retired ( $\$50/\$0.75$ ) and the face value of the debt is thus \$133 after the buyback. Moreover, after the buyback, the market value of the outstanding debt remains at \$100 ( $=\$133 \times \$0.75$ ). In other words, the transfer of \$50 from taxpayers to the private creditors leaves the market value of the sovereign's debt unchanged. A similar argument applies to a publicly funded international debt facility to buy up debt of distressed sovereigns, although in this case the transfer is from industrial country taxpayers, who fund the debt facility, to creditors (see Bulow and Rogoff 1988).

effect explains why Bulow and Rogoff (1988) refer to such transactions as the “buyback boondoggle.”

The “boondoggle” effect reflects the assumption that the market value of debt is independent of the debtor's reserves (that is, creditors have no power to appropriate reserves or access export earnings).<sup>33</sup> In this case, reserves used for the buyback are not factored into market values. Reversing this assumption reverses the result: if the value of reserves is fully factored into the *ex ante* valuation of the debt, the *ex post* value should fall to the benefit of the country (Froot 1988; Helpman 1988). More generally, the effects of buybacks are distributed between creditors and the debtor, depending on the extent to which reserves (or export earnings) are appropriable. This result suggests that the erosion of the doctrine of sovereign immunity could make buyback operations increasingly useful in the resolution of sovereign debt problems. But cases in which the debtor uses reserves to buy back debt are limited; after all, a country experiences a debt problem *because* it lacks reserves.

Consider buybacks financed with borrowed resources. Angelo Baglioni (2013) shows that the key issue in leveraged buyouts is how the transaction is financed. If junior debt is used, the debtor is worse off for the reasons in the boondoggle result (see Box 2). In contrast, if the buyback is financed with senior debt — IMF or MDB lending — the country is better off. This result follows from the fact that the market price of remaining private debt *falls* once it is subordinated by the official sector's preferred creditor status. But this effect only holds if the loan is fairly priced — that it accurately reflects the risk of lending. If there is a subsidy element, the benefits of the buyback are shared by the debtor and its private creditors. While subject to debate, it can be argued that official sector lending rates do include a subsidy element, in which case the buyback entails the shifting of risk.

These results assume that information is symmetric — that creditors and the government both observe the market valuation of debt before and after the buyback. Moreover, the probability of repayment is a function of the resources at the debtor's disposal — in other words, its ability to pay. As argued above,

<sup>33</sup> Similarly, the boondoggle result assumes there is no debt “overhang” that distorts the incentives to invest (Krugman 1988).

## Box 2: Leveraged Buybacks

To consider the effects of a leveraged buyback, start, as before, with the face value of the outstanding stock of debt of \$200. With investors collectively expecting to receive 50 cents on the dollar, the expected value the market attaches to that debt is \$100. Assume that the country borrows \$50 with the intent to purchase half of the outstanding distressed debt at the prevailing market price. However, because the buyback increases the expected value of the private debt to 75 cents on the dollar, only \$67 is retired. After the buyback, the face value of the debt is thus \$183 (\$50 of new debt plus the remaining \$133 in previous claims), while the market value of the outstanding debt rises from \$100 to \$137 (= \$183 x 0.75). In other words, there has been a net transfer of \$37 to private creditors.

Now assume that the leveraged buyback is financed by official sector credit that is *senior* to existing debt. In this case, the expected price of private debt falls as a result of the buyback because existing debts are subordinated to the official sector's exposure reflecting the preferred creditor status of the IMF (or MDB). Assume that the post-buyback market price is \$0.25 cents on the dollar. With the announcement of senior debt, the country buys back \$200 (= \$50/\$0.25) of the outstanding debt. After the buyback, the total face value of the debt is \$50, equal to the new senior debt.<sup>34</sup> Given the preferred creditor status of the official debt, the market prices this debt at par so the market price is also \$50. Thus, the buyback reduces the market value of debt by half. In this case, the buyback clearly benefits the debtor.

however, protracted delays in non-cooperative bargaining reflect the difficulty of distinguishing between ability and *willingness* to pay.

Unfortunately, this observability problem can lead to perverse incentives. Jorge Fernandez-Ruiz (2000) notes, for example, that highly indebted debtors face a dilemma in deciding whether to seek a rescheduling or a restructuring. Under a rescheduling, a debtor that incurs the costs of adjustment associated with sound policies loses bargaining power in subsequent negotiations. This is because strong adjustment policies, which reduce the uncertainty about the debtor's ability to repay, allow creditors to confidently seek a higher stream of payments, knowing that a debtor pleading poverty may be dissembling. When willingness to adopt sound policies is private information, debtors therefore have an incentive to mask their willingness to implement difficult measures. This results in an inefficient pooling equilibrium in

which countries that are prepared to adjust are indistinguishable from those unwilling to adjust.

In this environment, buybacks can be an important signal that a country is prepared to undertake difficult reforms and thereby secure a comprehensive debt restructuring.<sup>35</sup> If the debtor intends to repay its obligations, and the problem is ability and not willingness, its debt burden is not given by the prevailing market price, but by the face value of the outstanding debt. A market value below face value indicates that creditors do not believe or trust the debtor's commitment to honour its obligations. In this way, any buyback at a discount reduces the debt burden perceived by the debtor.<sup>36</sup>

There are two additional issues to consider with respect to debt buybacks that may limit their usefulness. First, while buybacks may have the entirely beneficial effect of reducing the debt

34 Alternatively, assume the buyback is at the pre-buyback valuation of 50 cents on the dollar, which reduces the debt to \$100. (This is a rationed outcome, since more bondholders would prefer to sell at that price rather than suffer the price effects of subordination.) Following the buyback, the total face value of the debt is \$150 (\$100 in subordinated private debt plus \$50 in new senior debt) and the market valuation of debt would be \$75 (= \$100 x 0.25 + \$50). The assumption that the buyback is made at the pre-transaction market price could reflect a policy decision to prevent the official lender's senior status inflicting losses on private creditors or a situation in which a large share of the debt is held by domestic financial institutions. Such considerations may have been at play in the Greek buyback in December 2012.

35 Julio Rotemberg (1991) argues that buybacks can raise debtor and creditor welfare by lowering bargaining costs. But his result assumes that the source of payments disruption is *willingness* to pay, rather than *ability* to pay. Linda Goldberg and Martin M. Spiegel (1992) develop a two-sector model and demonstrate that when one sector is exempt from "output appropriation," debt-equity swaps can be welfare-improving, since they lead to higher investment.

36 At the same time, recalcitrant debtors may drive down the secondary market price for the debt prior to a buyback to evade the bonding role of debt. Ecuador's 2008 buyback might be cited as an example of such strategic behaviour (Levy-Yeyati 2011). Needless to say, efforts to create such distorted incentives are contrary to the objective of efficient intervention.

burden going forward, they could embolden holdout investors, knowing that as the total amount of outstanding debt goes down the returns to blocking a restructuring of the remaining claims increase. In that case, other creditors would be unwilling to participate in a restructuring in conjunction with the buyback, so that the potential gains from signalling “willingness” are lost.

Second, when buybacks are financed by official sector debt, private creditors could be made worse off by the potential subordination of their claims relative to a scenario in which creditors accept a haircut of sufficient size to restore the sovereign to solvency. In the example above (see Box 2), the buyback clearly benefits the debtor. But the means by which it does so is problematic, since it implies that the official sector is used to transfer risk to the private sector: subordination has the effect of reducing the value of private claims from \$0.50 to \$0.25. This effect is inconsistent with the efficient allocation and bearing of risk. In this respect, debt trading at a discount reflects the fact that the market either assumes that the government cannot, or will not, service its debt. If the problem is willingness, the country is attempting to evade the bonding role of debt; official sector intervention could impair the efficiency of global capital markets. However, if the problem is ability and the debt is unsustainable, the stock of debt should be reduced.

## Guaranteeing Debt Restructuring

Ideally, rather than providing official sector financing, which raises issues of potential subordination and moral hazard, public policy should enhance the capacity of private creditors and sovereign debtors to resolve crises through the re-contracting of claims. As argued above, informational problems delay agreement on the quantum of resources the debtor is prepared to allocate on debt service, with deadweight losses to debtors and creditors. In this respect, the goal for policy is to enhance the credibility of the debtor’s commitment to reduce the risk that newly restructured debt will subsequently be subject to default. To achieve this, it is necessary to create a contracting environment in which it is incentive compatible and thus dynamically consistent for the debtor to adhere to the commitment. Such an intervention would facilitate restructuring — reducing deadweight losses — without transferring risk from either the sovereign government or the private creditors. Providing an instrument that meets this condition

could lead to more timely restructurings and fill a gap in the international architecture.

One way of aligning incentives is to require the sovereign to post collateral. Conceivably, some debtors could collateralize the income stream from exports by allocating some share of export revenues to an escrow account. For countries specialized in the export of commodities with terms of trade determined in world markets, such an approach would be equivalent to issuing state-contingent debt. And, in contrast to GDP-linked bonds, collateralized revenue streams are not subject to verification and reporting abuse. But not all countries have the natural resource income streams or the capacity to bind themselves in this manner, while the collateralization of a revenue stream may be too great an infringement on national sovereignty.<sup>37</sup>

In these cases, an IMF program is clearly the starting point. In a sense, the policy commitments a country makes in return for an IMF program is the equivalent of collateral. The goal of IMF engagement is to identify a set of policy actions that minimize negative spillovers and raise the potential growth rate, increasing debt-servicing capacity. Under the Bretton Woods rules of the game, in which capital movements were controlled, policy adjustment referred to a reduction of domestic spending; with a Paris Club rescheduling of official credits, this was generally sufficient to resolve balance of payments problems. With capital account liberalization, however, this absorption approach is no longer consistent with the Fund’s mandate to assist its members in striking a judicious balance between financing and adjustment. In effect, the definition of “adjustment” must be broadened to include the adjustment of private claims, where necessary to ensure debt sustainability. The problem is that the IMF would like to reduce the costly delays associated with sovereign debt negotiations, but it lacks the full suite of instruments needed to bring the parties together.<sup>38</sup>

37 Moreover, there may be complex issues in international jurisprudence and macroeconomic effects, in particular in periods of distress, associated with the posting of collateral. Such effects would have to be carefully considered to assess the impact on indebted countries and creditors.

38 One tool at the IMF’s disposal is the lending into arrears (LIA) strategy, which can be mobilized to affect incentives for parties to demonstrate good behaviour in the negotiation process. Haley (forthcoming 2017a) discusses LIA in more detail. A corollary to an expanded tool kit for IMF intervention in debt restructuring is governance reform that ensures that the institution is pursuing the public policy objectives in its mandate and not the political goals of a subset of its membership.

### Box 3: Guarantees in Sovereign Debt Restructuring

MDB guarantees of sovereign bond issues have been used frequently in the past to enhance the attractiveness of new bond issues to lengthen the maturity of outstanding debt and deepen debt markets. Brady bond transactions, in which official sector loans were used to provide collateral on new instruments, can be considered a variation of guarantees in the context of resolving debt problems. There are, however, only two examples in which explicit guarantees have been used to support restructurings — St. Kitts and the Seychelles.

The St. Kitts guarantee was provided by the Caribbean Development Bank (CDB) in support of the December 2011 debt restructuring operation. Under the terms of the guarantee, the CDB provided a US\$100 million guarantee on a revolving and renewable basis. Essentially, if a coupon payment is missed, the rest of the guarantee is immediately voided. And, even if there is no missed payment, the guarantee must be renewed every 24 months. This ensures that the guarantee is subject to cancellation if the authorities fail to follow through on important policy adjustments. Thus, despite the “headline” figure of US\$100 million, the rolling exposure of the CDB is capped at US\$7–US\$10 million at any point in time, determined by the interest and amortization schedule. A wrinkle in the St. Kitts guarantee is the fact that the CDB had provided a guarantee to debt in 2008. Half of this guarantee was called in the context of the September 2011 default.

The Seychelles guarantee was provided by the African Development Bank (AfDB) to signal the multilateral’s support of the authorities’ program and achieve the goal of securing the minimum bond exchange threshold of 75 percent. The Policy Based Partial Credit Guarantee (PBPCG) entails an aggregate exposure of US\$10 million with a termination date of 16 years. The PBPCG includes a non-reinstable feature that, if called, the disbursed amount converts to a regular AfDB loan.

An option that has received comparatively little attention to date (see Box 3) is the use of loan guarantees offered in the context of exchange of old debt for new, restructured debt offering a lower NPV. The purpose of the guarantee is to “grease the wheels” of debt restructuring by providing some assurance to creditors that the restructured debt has less risk attached to it. This assurance could induce creditors to take a larger haircut, either in the form of a greater reduction in the face value of the claim or lower coupon rate on the instrument.<sup>39</sup>

The size of the haircut is critical. While the guarantee “bridges” informational divides that prevent efficient contracting and result in costly delays, the MDB is also potentially taking on risk. To avoid unwarranted transfer of risk onto MDB balance sheets, the IMF economic program supporting a debt reduction guarantee must be subject to a higher standard. Rather than balancing on some knife edge of sustainability with respect

to expected growth and interest rates, the DSA of such a program should be robust enough to withstand much greater shocks to growth and interest rates.<sup>40</sup> Absent the required debt restructuring, such a program would clearly run counter to the objective of the IMF in assisting its members to strike the right balance between financing and adjustment. But with a requisite debt restructuring, the adjustment required of the member would be reduced commensurately.

Securing a debt reduction that restores debt sustainability and creates the conditions for long-term growth is only the first challenge. The guarantee must also be structured such that it creates incentives for the debtor to follow through on the policy actions that are needed to safeguard sustainability — in other words, it must be an incentive-compatible contract. The goal must be to minimize the risk of strategic default. In this regard, it would be necessary to restrict access to only debtors with strong policy frameworks and a commitment to long-term

39 For the purposes of this discussion, MDBs are assumed to offer the guarantees. As noted below, this may be required to properly align incentives; in any event, there is no appetite for a new multilateral institution in the current environment (Haley 2017b). The modalities of individual restructurings would depend on specific circumstances. For debtors facing multiple crises — debt, exchange rate and banking — it might be advantageous for accounting and regulatory purposes to secure the NPV reduction through reduction on coupons, rather than the nominal face value of the debt.

40 The approach is analogous to the practice of factoring in “prudence” in economic forecasts to ensure that fiscal targets are achieved. Canada adopted this approach two decades ago, in part, to build credibility with financial markets.

growth.<sup>41</sup> The debt restructuring guarantee would also be written so that payments made by the MDB automatically convert to a loan subject to the same conditions of any other policy-based loan, consistent with past practice (see Box 3).<sup>42</sup> And the guarantee should be priced at the same rate as a loan on amounts extended, but with a higher commitment fee charged to create an incentive to make scheduled payments.

There are several issues to consider and features that could be incorporated into a guarantee facility. These include:

- **Modalities of the guarantee.** Securing the public policy objective requires a judicious balance between providing incentives to participate in a debt restructuring, on the one hand, and guarding against risk transfer, on the other. Careful consideration would have to be given to the type of loss covered — interest, amortization and/or first-loss — and the level at which protection is capped. Similarly, the maturity of the guarantee is an important factor — whether it would extend over the full maturity of the bond or be limited to an initial period of greatest uncertainty in which policy frameworks are strengthened and growth is restored.
- **Earmarking revenues to a debt-servicing fund.** To mitigate risks to the MDB and to align incentives, it may be necessary for the debtor to earmark a share of revenues to a debt-service fund (either held in escrow by the MDB or in trust over which sovereign immunity is specifically waived). If the debtor follows through on policy commitments and shocks are not as severe as factored in the DSA, which in most cases and in most periods would be the case, surplus revenues would be freed up for social spending and investment

once a buffer equal to, say, two years of interest payments has been accumulated.

- **Preserving inter-creditor equity and the holdout problem.** To promote efficient global capital markets, it would be important to support inter-creditor equity — the principle that similar creditors receive similar treatment. It could be argued, however, that existing senior private creditors are adversely affected by a guarantee that would give junior creditors a de facto senior ranking. To the extent that this scenario poses a serious threat to the efficiency of capital markets, it could be addressed by a menu of bond exchange options, tailored to creditors of different seniority. Because the guarantee would be offered in the context of voluntary exchanges, the rates at which different classes of old debt are exchanged for the new debt would reflect these differences in seniority. At the same time, the effects of the guarantee on the incentives of individual investors would have to be examined: by helping debtors meet high thresholds in bond exchanges with larger haircuts, a guarantee could increase the returns to a strategy of holding out.
- **Nature of IMF engagement — DSA and preferred creditor status.** Debt reduction that restores sustainability and creates conditions for sustained growth would eliminate the need for large “exceptional access” IMF programs of the kind that have figured prominently in recent cases of sovereign debt distress. This outcome would reduce the risk of subordination of private claims, which has been cited as a major concern and reduces the attractiveness of buybacks as a voluntary mechanism for resolving debt crises (see Box 2).<sup>43</sup> The IMF would remain a key player, given its critical role as impartial adviser in the negotiation process, in particular in the context of its DSA, bringing creditors together with the debtor and providing frank assessments of the need for debt discharge. Its credibility in this role could be strengthened since, with fewer resources at risk, the concerns that some creditor groups have voiced regarding the “conflicted” nature of the IMF’s role in debt negotiations

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41 As one referee has noted, this standard is easy to state and difficult to interpret and apply. Ideally, it would be possible for the IMF to screen potential users and accurately identify users on this basis and assuage potential agency problems. Realistically, however, information asymmetries would likely hinder this process so that the IMF could only apply an imperfect screen. But even if the IMF were to enjoy an informational advantage, there would be cases in which political pressures are brought to bear so that safeguards on its assessments would be necessary. This underscores the importance of governance arrangements that hold the institution to its mandate (see footnote 38).

42 Note that the guarantee secures the debt reduction necessary to restore growth without the *ex ante* subordination of private claims associated with a leveraged buyback. The potential subordination of private claims under the guarantee can be thought of as the cost of exercising the option value of the insurance contract.

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43 The effectiveness of guarantees can be questioned based on the Brady bond experience, in which investors did not fully value the implicit guarantee provided by the underlying collateral. However, this effect may have reflected the subordination effect of senior debt represented by the preferred creditor status of the IMF and the World Bank. This is clearly an important issue that merits further attention.

might be assuaged. The IMF would also provide a delegated-monitoring function to the MDB providing the guarantee: in conjunction with the debtor, the Fund would identify the policy actions needed to promote sustained growth. This would require a high degree of transparency and close collaboration between the IMF, MDBs and private creditors. At the same time, the Fund would have “skin in the game” in terms of a program that would provide a backstop in the initial phases of the reform process. But such programs would be smaller than past exceptional access programs, reducing the potential subordination effect. Nevertheless, as some researchers have suggested, consideration could be given to removing the preferred creditor status in such cases to enhance the credibility of its assessments (Panizza 2013).<sup>44</sup>

There are, clearly, many questions to answer, including the potential impact on MDB balance sheets and investor uptake, which are not addressed here.<sup>45</sup> However, the use of MDB guarantees may help bridge a contracting divide that results from a sovereign borrower’s inability to credibly pre-commit to sharing upside outcomes that would result from debt discharge and a return to sustainability. If that gap did not exist, a sovereign could ask its creditors to provide bigger upfront debt relief today in return for sharing in upside potential in the future. Of course, if the market for state-contingent contracts does develop, the need for a debt restructuring guarantee would diminish. In the meantime, an instrument that allows MDBs to better assist their members deal with the vagaries of the global capital market might be an attractive option for institutions seeking to remain relevant in a world of large private capital flows and middle-income members that are “graduating” a traditional borrower relationship.

<sup>44</sup> See also Schadler (2014).

<sup>45</sup> Haley (forthcoming, 2017b) discusses the guarantee proposal in more detail.

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## Conclusion: Where Do We Stand?

Sovereign lending is an uncertain business, one subject to bouts of optimism followed by the inevitable post-high crash. After each successive wave of lending, efforts are made to improve the process by which highly indebted countries reduce their debt burdens. These efforts are a perennial issue on the international policy agenda. Similar discussions occurred in the late 1800s, the 1930s, post-World War II and in the wake of the debt crisis of the 1980s. The current round of reform is now a quarter-century old. Important progress has been achieved in reducing intra-creditor coordination issues through the introduction of first- and second-generation CACs. But this is only one factor behind the protracted delays in restructuring debt that can create large deadweight losses to both debtors and their private creditors. Incomplete information and the inability of debtors to credibly commit to debt servicing can prevent the timely resolution of the non-cooperative bargaining game in which debtors and creditors are engaged.

In such circumstances, public interventions can help both parties identify and support Pareto-optimal outcomes. In their comprehensive survey of the literature Panizza, Sturzenegger and Zettelmeyer (2009) observe:

The main policy message from this literature is that there is indeed room for public intervention that would both reduce the costs of debt crises *ex post* and improve efficiency *ex ante*....In principle, there are two ways of doing this. First, institutions could be created that improve information or provide commitment. This may enable the development of more complete contracts between creditors and debtors (for example, contracts that put a limit on the total debt that a country can issue and, hence, prevent the “dilution” of past creditors by new creditors; or contracts that are specifically “equity-like,” such as GDP indexed bonds). Alternatively, institutions could be created that substitute for more complete contracts....[I]nternational institutions that play this role effectively may be complicated to design and would need to be powerful — and, hence, “intrusive” and politically controversial — in order to be effective.

This passage concisely states the challenge of reducing deadweight losses from protracted delays in debt restructuring. Efforts to develop GDP-linked debt represent an important response to debt issue and should continue. But proposals for such state-contingent contracts are not new — there is a long history of such efforts. It is tempting to apply the market test and conclude that there must be a basic problem that prevents their widespread adoption. Similarly, as the authors note, an institutional “fix” is certainly possible in theory, but is clearly ruled out in the current environment. And, while debt buybacks can play a useful role in relieving debt burdens, their benefits to a distressed debtor depend on several factors. In cases involving official intervention, the debtor benefits only through the subordination of private claims. This result is not conducive to capital market efficiency.

This paper suggests the use of guarantees to support bond exchanges in the context of debt restructurings that provide a “fresh start,” analogous to debt discharge in domestic bankruptcy. Guarantees could help debtors and their creditors overcome the contracting problems that prevent efficient bargaining. The idea is not advanced here as a fully articulated policy proposal, but rather as an issue for discussion. There are, clearly, important issues to be addressed and questions that are not answered. However, good management involves using limited resources effectively; the international community might usefully allocate some time and consideration to how guarantees could be used to bridge the informational divide that prevents efficient bargaining and more effectively bind those sovereign debtors who wish to commit to strengthened policy frameworks. Failure to address these inefficiencies may lead to situations in which official sector resources are used to delay needed policy adjustments in a gamble for resurrection rather than support a bargaining for a resolution.

### Author’s Note

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