**Abstract**

An orderly sovereign debt restructuring should place the debtor nation’s public debt on a sustainable trajectory while minimizing procrastination and contagion. But the experience with the debt crisis of the 1980s, Russia 1998, Argentina 2001 and Greece 2010 indicates that orderly debt restructurings remain elusive even with high-powered official intervention. When solvency problems are present, the chances of success would increase if official money were lent at the risk-free rate reflecting its low risk, and private creditors received an upfront haircut. The paper examines the obstacles, which include moral hazard, the difficulty in distinguishing between solvency and liquidity crises, and the ‘political economy’ resistance to upfront haircuts. Orderly sovereign debt restructurings are likely to remain elusive.

**JEL classification:** E61, E65, F34  
**Key words:** Sovereign Debt, Debt Restructuring, Solvency, Liquidity, Seniority  
**Sector Board:** Economic Policy (EPOL)

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1. **Introduction**

This much we know from the experience of emerging market countries from the 1980s onwards: except for a few small cases, sovereign debt restructurings have tended to be costly and chaotic, with orderly sovereign debt restructuring seemingly impossible to achieve. This holds *even* when high-profile official intervention occurs. We explore why this happens and identify the impediments to an orderly debt restructuring (ODR).

The finding from emerging markets (EMs) about ODRs being elusive carries over to Greece 2010. In March 2010, it became clear that Greece’s fiscal fundamentals were weak and that it would need official assistance to avoid a default. Discussions on a bailout began. The salient, counterintuitive feature of the process was that market sentiment *worsened* as negotiations proceeded between Greece and the European Union-European Central Bank-IMF troika: the spread on Greece’s bonds rose significantly even though the size of the bailout package was upped from €45 billion to an eventual €110 billion that May. By mid-June 2010, Greece’s 10-year bond spread relative to German bunds had risen to 640 basis points compared to 230 basis points in early January 2010, indicating investor concerns about insolvency. Remarkably, the two-year bond spread rose substantially even though Greece was effectively being “taken out of the market”, that is, the announced bailout funds were more than enough to payoff maturing short-term private creditors in full. This suggested deep-seated market skepticism about the feasibility of the fiscal program accompanying the bailout.\(^2\)

Notwithstanding these negative market signals about solvency, one point was made abundantly clear by the authorities as official intervention proceeded: talk of any haircut for Greece’s private creditors was strictly off the table. In other words, the troika’s gamble was that structural and fiscal reforms could restore Greece to a sustainable debt path that would lower interest rates to non-default levels without a debt write down, which it was believed would have costly contagion effects.

\(^2\) See Chamley and Pinto (2011).
The official position reversed dramatically in July 2011. By that time, contagion from Greece, Ireland and Portugal (the latter two countries had also received official bailouts by then) had begun to spread to the core of the EU. A July 21 2011 euro zone summit announced support for a haircut for Greece’s private creditors while also agreeing to a major softening of loan terms to bring official EU lending rates closer to the risk-free rate while lengthening maturities significantly. A subsequent summit held on October 26 2011 announced that private Greek bondholders would receive a 50 percent write down on principal, that euro area banks’ capital adequacy would need to be raised to 9 percent by the end of June 2012 and that the European Financial Stability Facility (EFSF) would be leveraged to €1 trillion to support Italy and Spain.

Stock markets reacted euphorically but Greece announced and then withdrew a referendum on the bailout towards the end of 2011, while Italian 10-year bond yields approached the 7 percent threshold at which other countries had been bailed out as its political problems intensified.

On February 21 2012, the EU approved a second bailout for Greece amounting to €130 billion and announced terms for a PSI (private sector involvement) debt exchange, which was completed successfully on March 8 and estimated to have inflicted losses of some 70 percent in NPV terms on €197 billion in privately-held debt, equivalent to approximately 97 percent of projected 2012 Greek GDP. Even so the government debt-to-GDP ratio under the then program assumptions was expected to fall to only 120 percent by 2020. Bloomberg reported in mid-March 2012 that the new 30-year bond issued as part of the debt exchange was trading at around 25 cents on the dollar, suggesting that the debt deal had done little to alter market perceptions about Greece’s credit standing. Figure 1 plots the 10-year Greek bond price as well as its spread from January 1 2010 to the end of May 2012, noting key events; subsequent developments are summarized in section 3.

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As the denouement of the Greek crisis indicates, sovereign debt restructuring is a complicated process, official intervention notwithstanding. Does this mean official intervention does more harm than good? It is hard to answer this question conclusively because of the difficulty in developing a counterfactual. The big lesson from the debt overhang of the 1980s (Krugman 1988, Sachs 1986) is that such intervention is needed to solve coordination and free rider problems among creditors.

Apart from the inherent complexity in sovereign debt restructuring, two reasons may explain why official intervention (OI) tends not to work well in prominent sovereign debt crises—be it the debt crisis of the 1980s in Latin America, Russia in 1998, Argentina 2001 or Greece 2010. The first is a seeming inability to distinguish between liquidity and solvency crises.
While the catalytic effect of official finance may work well in persuading short-term creditors to roll over their loans in countries with acceptable fundamentals (as in Morris and Shin 2006), these elegant results tend to break down once one acknowledges that official loans may be senior to private loans and that the country is facing a solvency instead of a liquidity problem (Kharas, Pinto and Ulatov 2001, Chamley and Pinto 2011). The second reason is legal impediments to a smooth bankruptcy process for sovereigns. We shall focus on the basic economics of and political obstacles to an ODR.

Section 2 sets out the context and motivation for ODRs based on a survey of the experience with sovereign debt restructuring and the part played by official intervention in particular. This is followed by a discussion of procrastination in sovereign debt restructuring in Section 3. Section 4 builds on sections 2 and 3 to tease out the desirable attributes of an ODR. But the track record inevitably raises the question about the feasibility of an ODR. Hence, section 5 discusses the obstacles, which include political economy and the difficulty in distinguishing between liquidity and solvency problems for countries. Section 6 concludes.

2. **Context and Motivation for ODRs**

The sovereign debt literature concerns itself with fundamental questions such as why sovereign debt exists in the first place, considering difficulties in enforcing contracts; why default by a sovereign does not mean permanent exclusion from future borrowing; and why countercyclical fiscal policy (saving during good times, depleting accumulated saving during bad times) and self-insurance against shocks cannot substitute for borrowing. An excellent survey is contained in chapter 2 of Sturzenegger and Zettelmeyer (2006), which also contains a concise account of the seminal papers.

Our goal is different. We want to review the empirical experience with sovereign debt restructuring since the 1980s and use this as a forward-looking platform for discussing the desirable attributes of an ODR. The first point to note is that the vast bulk of EM sovereign debt restructurings since the 1980s have involved private creditors (Table 1). Some US$325 billion in
principal has been restructured, compared to just US$29 billion with official creditors via the Paris Club.\textsuperscript{4}

In contrast, official creditors have accounted for the lion’s share of sovereign debt restructurings for low-income countries, which typically have limited access to the international capital markets. As of February 15, 2012, the Paris Club has treated debt amounting to US$556 billion for 88 developing countries under 423 agreements.\textsuperscript{5} Multilateral creditors have provided debt relief through the Heavily Indebted Poor Countries (HIPC) Initiative and the Multilateral Debt Relief Initiative (MDRI).\textsuperscript{6} However, this initiative is available only to low-income countries and eligibility criteria are restrictive. Given the eligibility requirements for HIPC and MDRI, none of the EMs has benefitted from multilateral debt restructurings.

<table>
<thead>
<tr>
<th>Plan/Country</th>
<th>Amount restructured (in US$ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brady Plan (1989)</td>
<td>200</td>
</tr>
<tr>
<td>Russia London Club (2000)</td>
<td>32</td>
</tr>
<tr>
<td>Argentina (2005 &amp; 2010)</td>
<td>76</td>
</tr>
<tr>
<td>Ukraine (2000)</td>
<td>2.3</td>
</tr>
<tr>
<td>Uruguay (2003)</td>
<td>5.1</td>
</tr>
<tr>
<td>Others</td>
<td>7.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>322.6</td>
</tr>
</tbody>
</table>

Notes and Sources: For the 1980s, the 1985 Baker Plan is not included as the restructured debt amounts are subsumed under the Brady Plan. The Russian and Argentine pre-crisis swaps are not included, but discussed below. US$6 billion of defaulted debt owed to Argentina’s private creditors is still unresolved. World Bank (1998), Chuhan and Sturzenegger (2005), Kharas et al. (2001), Paris Club (www.clubdeparis.org)

The rest of the review takes a look at the origins of debt crises and then goes on to the role of official intervention. The 1980s experience showed it is difficult to design efficient

\textsuperscript{4} A detailed account of specific country episodes involving sovereign debt restructuring is contained in Sturzenegger and Zettelmeyer (2006). Pinto and Tanaka (2005) describe the various instruments and options availed of during these restructuring episodes starting with the 1980s debt crisis. The latter is available on request.

\textsuperscript{5} Visit http://www.clubdeparis.org/


Also see World Bank 2011.
official intervention. This was confirmed by the subsequent experience with Russia in 1998 and
Argentina 2001, which illuminated another important issue: why official intervention may not be
catalytic in terms of persuading private creditors to roll over their loans. The Russian and
Argentine experience also cautioned that financial engineering in the form of debt swaps is
unlikely to avert crises.

*Origins of Debt Crises*

Remarkably similar country narratives can be constructed regarding the origin of
sovereign debt crises starting with the 1980s and going right up to Greece 2010. One set of
constants has marked all serious debt crises since the 1980s: fixed exchange rates, open capital
accounts, weak growth prospects and concerns about fiscal solvency.\(^7\) Fiscal fundamentals play a
crucial role, either at the outset or eventually, as a result of bailing out the domestic private sector.
In addition, even though the crisis itself typically involves an abrupt economic disruption, its
seeds tend to get sown over long periods, reflecting policy and political economy.

Heavy external borrowing preceded the 1980s debt crisis. Such borrowing may have
been motivated by the need to finance development, sometimes via ill-advised public
investments; by social spending needs; and even by the desire to enrich well-connected groups.\(^8\)
Money-center banks were happy to roll over maturing principal and even interest payments
because the key creditworthiness indicator at that time was the external debt-to-exports ratio—
and nominal export prices in dollars kept rising faster than the nominal interest rate, keeping this
ratio under control. Sachs notes (1990, p 8): “During the heady days of the 1970s…..countries
and their banks had the illusion of an unending Ponzi game…” Eventually, with their terms-of-
trade declining sharply in the early 1980s along with the record rise in interest rates in the US—a
combination we shall refer to as the “twin shocks”—the bubble burst and countries now had to

\(^7\) This statement applies to the period under review. This does not rule out macroeconomic crises with
flexible exchange rates. For a theoretical example of the latter, see Kumhof, Li and Yan (2007).
\(^8\) Drawn from Sachs (1990), an overview of a volume of country studies on the 1980s debt crisis.
service their debt the old-fashioned way: by generating current account surpluses to pay down their debt. This meant politically unpalatable fiscal austerity and cuts in real wages.

Three complications frequently arose. First, with fixed pegs to the dollar the norm, the private sector started speculating against their home currencies once they realized that the exchange rate was becoming overvalued. This led the government and central bank to borrow overseas in support of the peg. According to Sachs (1990, pp 13), during 1976-85, “…about two-thirds of the increase in gross external debt in Argentina and Mexico went to finance private capital flight…” And “…in Latin America…a remarkably large portion of the total debt as of 1982 had been incurred in just two years, 1980 and 1981” (Sachs 1990, p. 16), that is, just as the twin shocks were hitting. The acceleration of private capital flight exacerbated the eventual public debt burden while exerting ruinous effects on domestic banks and the financial system.

Second, some central banks imposed restrictions on convertibility in an effort to prevent foreign exchange reserve depletion, leading to a high black market premium on foreign exchange. This hurt growth further because the black market premium served as a tax on exports and the traded goods sector. In this milieu, foreign banks were reluctant to keep rolling over loans, forcing governments to switch to monetary financing of the fiscal deficit. Furthermore, the rate of inflation to generate a given amount of seigniorage for financing the fiscal deficit went up as the population’s ability to shift into dollars raised the inflation elasticity of domestic money demand.10

Third, inflation might have got entrenched as a result of the indexation of wages and asset prices, as in Brazil during the 1970s and 1980s, making extrication from high inflation all the more difficult. Not surprisingly, the major Latin American countries got into a rut of repeated

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9 An exacerbating factor was that, even though of long maturity, these external hard currency debts had floating rates with the interest rate adjusted every six months based on a market index. Therefore, once the U.S. started raising interest rates, the interest burden of the developing countries quickly shot up.
failures in stabilization, ever higher public debt and severe costs for growth and economic welfare, especially for vulnerable groups.\footnote{See for example the case study on Argentina by Dornbusch and de Pablo (1990). Brazil had several stabilization programs during the 1980s and right up to 1994. In July 1994, after six failed price stabilization plans over the previous ten years, Brazil finally initiated a successful stabilization effort embedded in the Real plan. It lowered consumer inflation from 2287\% in 1994 to 71.9\% in 1995 to 18.2\% in 1996 and finally to 7.7\% in 1997. See Blanco et al. (2011).}

The link between stabilization programs and debt crises provides a natural bridge from the 1980s debt crises to those of Russia 1998 and Argentina 2001. Russia achieved single-digit inflation in early 1998 but suffered a devastating triple exchange rate-public debt-banking sector crisis less than six months later. This crisis, which occurred in 1998, had echoes in the subsequent crisis in Argentina in 2001. Both involved fixed (managed in the case of Russia, constitutionally mandated in the case of Argentina) pegs to the dollar, which had been chosen to squeeze inflation out, both eventually developed unsustainable debt dynamics (which were masked by real appreciation of the exchange rate in conjunction with a significant share of public debt denominated in dollars) and in both cases, banks became vulnerable to sovereign risk. In addition, Argentina’s banks also became vulnerable to currency mismatches. The net result was a downgrading of growth prospects and a rise in interest rates, which eventually fueled a meltdown. We shall not go into the details of these crisis episodes, which have been well-documented elsewhere, but use these as a springboard for a discussion of the implications for sovereign debt restructuring later in the paper.\footnote{For Russia 1998, see Kharas, Pinto and Ulatov (2001), Pinto, Gurvich and Ulatov (2005) and Pinto and Ulatov (2012). For Argentina 2000-01, see Serven and Perry (2005) and De la Torre, Levy Yeyati, and Schmukler (2003).}

\textit{Official Intervention: Insights from the 1980s}

Following Mexico’s announcement in August 1982 that it could no longer service its external commercial bank loans, 27 countries owing $239 billion had either rescheduled their bank loans or were engaged in doing so by October 1983. Sixteen were from Latin America and of these, the four largest debtors, Mexico, Brazil, Venezuela and Argentina, owed $176 billion or
74 percent of total EM debt outstanding. Although it was evident by 1985 that the debtor countries were not recovering, debt reduction remained politically unacceptable. Instead, the Baker Plan, named after US Treasury James Baker, was launched in October 1985. It emphasized new lending from commercial banks in exchange for market-based reforms. The 10 Baker Plan agreements rescheduled $165 billion of debt. The World Bank was expected to play a large role with “structural adjustment loans” in helping implement the market-based reforms. But the Baker Plan did not work and with the decade being inexorably lost, the US government finally threw its weight behind debt reduction. It did so via the Brady Plan announced by US Treasury Secretary Nicholas Brady in March 1989, with Mexico becoming the first major test. In total, $60 billion of debt was forgiven, and $200 billion of bank claims were converted into $154 billion of Brady bonds.

From the perspective of achieving an ODR, three questions stand out: (i) Is official intervention needed? (ii) When is official intervention most likely? And (iii) does official intervention help? We take each question in turn.

Is official intervention needed? Krugman (1994) described The Brady Plan as “…an unprecedented piece of international financial coordination”. He notes that (1994, page 710) the idea of a voluntary approach was soon dropped and a “combination of legal maneuvering and pressure on banks” left them no option but to participate in a debt reduction program. The notion that a voluntary approach would not work is intuitively plausible: no creditor would willingly write down their claims and this could scuttle what is a collectively superior outcome. This is reinforced by what happened during the Baker Plan intervention. Even though commercial banks were supposed to come up with new money, Krugman (1994) and Dooley (1994) note that the main outcome was they managed to substantially reduce their exposure to the debtor countries over the course of the 1980s while loans from official creditors rose sharply. Therefore, it does

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13 Pinto and Tanaka (2005).
14 Chuhan and Sturzenegger (2005).
15 It is likely to be eclipsed by on-going interventions in the euro area.
appear that official intervention is needed for an ODR because otherwise an impasse would result.

When is official intervention most likely? The economic self-interest of the more advanced and influential economies appears to play a powerful role. The immediate response after Mexico’s default announcement in 1982 was to provide government-to-government bridge loans so that debtor countries could stay current on their interest payments and thereby avoid imperiling the US banking system: the four largest debtors, Mexico, Brazil, Venezuela and Argentina, owed $37 billion to the eight largest US banks, which amounted to 147 percent of their capital and reserves. At the time, the US was in a deepening recession and there were widespread fears that a debt default could trigger another Great Depression. The bridge loans eventually led to the Baker Plan. The need for concerted lending stemmed from the “free-rider” problem; each bank on its own would have preferred to reduce its exposure, but if every bank did this, it might have forced a default and eventually, an international financial meltdown. Solving this collective action problem provided the rationale for intervention by the US.

Once the need for debt reduction was recognized, a mutually beneficial (for both debtors and creditors) solution would have been for the commercial banks to voluntarily accept a haircut in the hope of lowering the probability of default and raising the market value of the remaining debt as per the debt overhang argument (Sachs 1986, Krugman 1988). But this was unlikely to happen spontaneously because individual creditors would be tempted to hold out under a voluntary scheme in order to gain on their entire holding of the country’s debt. Solving this “free-rider” problem provided the rationale for the Brady Plan. Thus the economic arguments for official intervention—solving the collective action problem and lowering transactions costs—are clear. But the question remains whether such intervention will materialize without the interests of influential countries being at stake.

Does official intervention help? Dooley (1994) conjectured: “….it is difficult to rule out the possibility that all the direct benefits of the Brady deals to date went to the banks. Moreover,
it is generally agreed that the direct benefits of Brady restructurings have been too small to account for much of the increase in the secondary market prices since 1990.” Of the then-nascent turnaround in Brady Plan countries, he observed: “….impressive reform programs have included substantial increases in the primary budget surpluses…privatization …and significant opening to foreign competition…For these countries the relative contribution of debt reduction and economic adjustment is difficult to disentangle….”

The specific case of Mexico is insightful. While acknowledging the official arm-twisting needed for debt reduction, Krugman nevertheless notes (page 702), “Mexico achieved a reduction in the present value of its debt of approximately $14 billion or 14 percent. This was clearly insufficient…” This view is shared by Claessens, Oks and van Wijnbergen (1993), who argue that the size of the cut in the corporate tax rate permitted by Mexico’s debt reduction “…falls far short of explaining the observed private investment boom of on average 14% real growth for the two years following the Brady deal’s implementation”. They present econometric evidence indicating that the benefits flowed not from the size of the debt relief per se but from the fact that debt service payments were smoothed out, lowering macroeconomic uncertainty and exposure to future exchange rate crises.16 The effects of reduced policy uncertainty on private investment were likely to have been more important than the direct effects of debt relief. But this would not have materialized had Mexico not implemented a domestic reform program in the years preceding the finalization of the debt deal. This aspect of Claessens, Oks and van Wijnbergen’s assessment is similar to that of Dooley cited earlier.

Krugman (1994) describes the outcome of Baker and Brady as exhibiting two salient features: financial stability was maintained but the debtor countries did badly. He cites Cline (1990) as arguing that the debtor countries were going to do badly on growth anyway, so saving the financial system was a signal success. In contrast, Eichengreen and Portes (1989) showed that countries willing to default early and massively during the 1930s crisis did better than those

16 But Mexico endured another currency crisis in December 1994!
not willing to do so; such an eventuality was pre-empted by the Baker and Brady Plans during the 1980s.


Turning to the last round of EM crises over 1997-2001, the experiences of Russia 1998 and Argentina 2001 show clearly that the intervention of the IFIs in situations of low reserves and unsustainable debt dynamics carries a serious risk of prolonging crisis, eventually requiring the country to deal with a much bigger debt problem. This is what the IMF’s IEO report on Argentina (IMF 2004) concluded, and this is what Rogoff (2003), former chief economist of the IMF, had to say about the Russian rescue package of 1998:

As a result, the official lending community, typically led by the IMF, is often unwilling to force the issue and sometimes finds itself trying to keep a country afloat far beyond the point of no return. In Russia in 1998, for example, the official community threw money behind a fixed exchange-rate regime that was patently doomed. Eventually, the Fund cut the cord and allowed a default, proving wrong those many private investors who thought Russia was “too nuclear to fail.” But if the Fund had allowed the default to take place at an earlier stage, Russia might well have come out of its subsequent downturn at least as quickly and with less official debt. 17

The Rogoff quote suggests economists know when the point of no return is reached, which we interpret as meaning that economists should be able to distinguish between liquidity and solvency crises, a complication discussed in greater detail below. Interestingly, Rogoff attributes procrastination in Russia 1998 to the fact that “….current international law makes bankruptcies by sovereign states extraordinarily messy and chaotic”, but the analysis in Kharas, Pinto and Ulatov (2001) points to mistakes in diagnosis which resulted in a rescue package that emphasized liquidity over solvency and eventually led to a much bigger problem. 18

17Rogoff was incorrect in one respect. It was not the Fund which cut the cord; Russia did so itself by defaulting and devaluing in August 1998, less than a month after the international rescue package had been approved.

18 The arguments which follow were made prior to the crisis in real time by the economics unit of the World Bank office in Moscow, which the second author of this paper then headed.
The first mistake was to bring in senior official money into an insolvency situation in the hope of preserving an overvalued fixed exchange rate. The consequent augmentation of Russia’s dwindling foreign exchange reserves became the perfect time for the holders of ruble treasury bills to exit—as they were demoted to junior status. The second was to encourage a swap out of ruble treasury bills carrying nominal interest rates of 50 percent into long-term dollar Eurobonds at 12 percent to lower interest payments and catalyze a virtuous cycle. It did not work because the interest differential was a measure of default and devaluation risks. Besides, the swap increased the volume of dollar-denominated Russian bonds on offer, lowering their price and triggering margin calls from Russian banks which had borrowed against such bonds, setting off a downward spiral. Third, based on signals from the market as early as mid-May 1998 (the meltdown occurred some three months later) it was evident that the ruble was hugely overvalued and that the market was pricing in both a big devaluation and a large default; it was also evident by then that government debt was on an explosive path.19

Now consider the following quote from another former IMF chief economist, Mussa (2002), in the context of Argentina 2001: “…the Fund did make at least two important mistakes…. (ii) in extending substantial additional financial support …after it had become abundantly clear that the Argentine government’s efforts to avoid default and maintain the exchange rate peg had no reasonable chance of success”. He also emphasized its systemic importance since Argentina’s debt obligations accounted for 20 percent of the entire EM market asset class by late 2000. In its post-mortem of Argentina 2001, the IMF’s Independent Evaluation Office noted that official rescue packages are unlikely to be catalytic in insolvency situations, that financial engineering in the form of voluntary debt swaps are ineffective and that procrastination is costly.20 These were very much the lessons from Russia 1998. The first two

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19 Details in Kharas, Pinto and Ulatov (2001).
lessons, on why rescue packages may not be catalytic and the inefficacy of sovereign debt swaps, are discussed below. The third, on procrastination, is discussed in section 3.

For official intervention to be catalytic could mean one or all of three things: (i) private holders of government bonds are persuaded not merely to rollover maturing loans but also increase their exposure to the debtor government; (ii) the government implements fiscal and structural reform as part of the official rescue package that places government debt on a sustainable trajectory and improves growth prospects; and (iii) interest rates come down because risk spreads relative to the benchmark country (for example, the U.S. or Germany) decline.

It should be obvious that all three would be much easier to achieve if the government faced a liquidity but not a solvency problem; in fact, one could argue that in the case of a pure liquidity problem only (i) would be needed as part of the catalytic effect (as in Morris and Shin 2006). But in a solvency problem the situation is quite different and an official rescue loan package may backfire on account of the seniority of official loans in conjunction with other aspects of the package, which we discuss later. This brings us to why sovereign debt swaps tend to backfire when fiscal fundamentals are weak.

On the surface, the 1998 Russian GKO-Eurobond swap was an offer no finance minister could resist. With GKO (ruble T-bill) yields at 50 percent or more after May 1998 and Eurobonds in the 15 percent range, it was reasoned a $20 billion swap from GKOs into Eurobonds would save $7.5 billion per year, or about 2 percent of pre-crisis Russian GDP. This would mean a substantial lowering of the fiscal deficit and a much improved liquidity situation, lowering both default and devaluation risk and setting off a virtuous cycle of lower interest rates and higher growth.

The preceding intuition proved wrong for three reasons. First, in a market-based, voluntary debt swap (the case both for Russia 1998 and Argentina 2001), investors work to protect the value of their assets. For debt swaps to work, they have to reduce the debt burden of countries. Creditors are unlikely to let this happen in a voluntary fashion—a result the reader will
recognize as a variant of the Modigliani-Miller Theorem from corporate finance. Second, the interest differential was a measure of the differential risk, since ruble T-bills were subject to both devaluation and default risk, meaning that unless these risks were being mispriced, there was nothing for the government to gain from the swap. Third, the government has to find a way of living within its budget constraint. If debt is high relative to taxes, the government might be forced to devalue as a way of lowering the burden of ruble debt; by definition, dollar debt will not be affected. In such circumstances, if the government switches out of ruble debt (GKOs) and into dollar debt (Eurobonds), the size of the required devaluation (the ‘tax rate’) goes up because the amount of ruble debt (the ‘tax base’) is going down. This could then persuade ruble debt holders to exit as a pre-emptive move, forcing a crisis.

Argentina’s mega-swap was carried out in June 2001 and involved lengthening the maturity of $30 billion in bonds. Upon its completion, it was extravagantly described as a new, market-led solution to sovereign debt crises that other governments would be watching, but the swap was concluded at a spread of 1100 basis points, whereas according to Mussa (2002), calculations showed that at spreads of over 1000 basis points Argentina’s debt dynamics were “virtually hopeless”. After the swap, meltdown proceeded as tax collections continued to flag, bond spreads rose further and bank runs intensified because of concerns about the viability of the hard peg. Six months later, Argentina defaulted on its debt, including the bonds restructured as part of the mega-swap.

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21 In the sovereign case, the market value of the debt is determined by the present value of the future primary fiscal surpluses. So long as this is fixed (when discounted at the risk-free rate), shuffling the mix of debt instruments through market-based swaps will not change the present value of the debt burden.

22 For a formal argument, see Aizenman, Kletzer and Pinto (2005). In a similar vein, the Mexican Government began rolling over its short-term peso-denominated debt (Cetes) into short-term dollar indexed debt (Tesobonos) after March 1994 in order to avoid raising interest rates to deal with rising devaluation risk. This became a major source of increased financial vulnerability. See Sachs et al. (1996).

23 So described by David Mulford, then international chairman at Credit Suisse First Boston, cited in Thomas Catan, and Vincent Boland, “Argentina buys time for economy”, FT.com, 5 June 2001.
3. **Procrastination in Sovereign Debt Restructurings**

Procrastination is a major impediment to ODRs. We discuss two points: first, why procrastination is costly; and second, we attempt to understand why procrastination takes place.

*Why Procrastination Is Costly*

With adverse debt dynamics, and diminished chances of a positive catalytic effect of official bailout funds on account of official seniority and debtor country solvency concerns—illustrated most vividly by Russia 1998 and the common lessons from this crisis and Argentina 2001 that were discussed above—procrastination becomes costly. This is because the ratio of debt-to-GDP keeps on rising until a default or debt restructuring becomes unavoidable; all the bailout funds do is to enable short-term creditors to exit at 100 cents on the dollar. The costs to the debtor nation and creditors could then go up substantially—except for the short-term creditors. The long-term prospects for the debtor country are likely to worsen as are those for the remaining private creditors. And to the extent that private creditors hold both short- and long-term claims, they are liable to lose on the latter whatever they gain on the former. Greece is the latest illustration of this point and will be discussed further below.

Returning to the 1980s, some might argue that Baker to Brady was the right sequence: as Cline (1990) noted, the U.S. financial system was saved. But at what cost and to whom? According to an FDIC study (FDIC 1997), the four largest debtors, Mexico, Brazil, Venezuela and Argentina, owed $37 billion to the eight largest US banks, which amounted to 147 percent of their capital and reserves. Suppose the banks had to take a 25 percent haircut on these loans. This would have amounted to $9.25 billion and wiped out some 37 percent of these banks’ capital. However, even their total exposure, $37 billion, was less than 1 percent of U.S. GDP in 1985. Different and less costly strategies were conceivable that would have benefited millions of poor people in Latin America who eventually bore the brunt of its lost decade even as official intervention kept the banks going. Borrowing access by the debtor countries would probably have been disrupted; but such a hardening of their budget constraint was needed to address the
underlying fiscal and political economy problems, as the country studies in Sachs (1990) bring out.

Similarly, in Russia’s case, it became obvious by mid-May 1998 that government debt was on an unsustainable course and that the ruble was hugely overvalued. Suppose the official community had at that point persuaded Russia to float the ruble, backed it in seeking a haircut for private creditors and given it an official rescue package at the risk-free rate (reflecting its seniority and risk status). The situation would still have been difficult and the U.S. probably would still have had to bail out the systemic hedge fund operated by Long Term Capital Management (LTCM) which fell victim to the contagion from the Russian default (see Dungey et al. 2006) but the problem would have been smaller, as noted by Rogoff. Including the swap, dollar-denominated public debt had increased by $16 billion or 8 percent of post-crisis GDP over the previous 10 weeks.24

In the case of Greece, the October 2011 EU Summit announcements on the need for haircuts for private creditors were in line with the conclusion in Chamley and Pinto (2011). They were eventually implemented in March 2012, two years after negotiations on a bailout began. In the meanwhile, a debt problem amounting to 3-4 percent of euro area GDP in Greece had by the summer of 2011 mushroomed into a situation wherein: “Nearly half of the €6.5 trillion stock of government debt issued by euro area governments…” is at risk with the crisis having spread to Italy and Spain (IMF 2011, p. 16). As a result, the euro area has got locked into an interacting vulnerability linking sovereign debt and exposed banks. The Greek bailout has helped neither Greece nor the exposed French and German banks (because what they gained on Greece has probably been more than outweighed by the spread of the sovereign debt crisis) nor other sovereigns like Italy and Spain in the euro area.

This raises a tantalizing question: had the haircut for Greece’s private creditors been imposed upfront in March 2010, when the solvency problem was first detected, and the

24 Details may be found in Kharas, Pinto and Ulatov (2001) and Pinto and Ulatov (2012).
vulnerable foreign banks ring-fenced, would the wider contagion have been avoided? A speculative attack on the debt of other vulnerable sovereigns might well have followed; but this could have also spurred a more decisive response by the official community, including the major central banks. The back-to-the-wall effects of crises in concentrating the mind and a two-year head start in implementing fiscal and structural reforms in the vulnerable euro zone countries should not be dismissed. As it turned out, following the turbulence associated with the Greek announcement and then withdrawal of its referendum at the end of 2011, the ECB injected liquidity via two tranches of a Long-Term Refinancing Operation (LTRO). This lent commercial banks huge sums at 1 percent for 3 years which they used to Spanish and Italian sovereign bonds, lowering their yields substantially and boosting confidence; but by June 2012, the LTRO effect had worn off and Italian 10-year bond yields were once again approaching the 7 percent threshold at which other countries had been bailed out.

Two subsequent events have kept a lid on the spreading sovereign debt crisis in the euro zone. The first was a bold announcement at the end of July by Mario Draghi, President of the ECB, that the ECB would do “whatever it takes” to support the euro and keep the euro zone together. The second was an announcement in September by the ECB about its government bond buying program–Outright Monetary Transactions (OMT). The OMT would potentially involve unlimited buying of government bonds at the shorter end of the maturity spectrum (1-3 years) provided the country concerned agreed to a program with the IMF involved in its design. At the same time, attention has turned to creating a fuller fiscal and banking union to save the euro. In the case of Greece itself, the March 2012 PSI debt exchange was followed by a debt buyback executed in December 2012 whereby it used a €10bn loan from its official creditors to buy back nearly €32bn worth of bonds. This allowed it to erase approximately €20bn of its €344bn.

25 The ECB lent 523 banks €498 billion in December following that with another €530 billion to 800 banks at the end of February 2012.
national debt and paved the way for additional official financial, attesting to the bargaining power of the official sector.

**Why Is There Procrastination?**

Let us return to the 1980s. It took 7 years to accept that debt reduction was needed. It took a few years more to negotiate and implement the Brady debt deals based on the menu of options available. But even if the Brady deals had been negotiated and implemented instantaneously, 7 years would still have been lost. Thus, the first impediment to an ODR seems to be an inbuilt bias towards procrastination. Where does this procrastination come from? One might think that politicians in the debtor country have an incentive to procrastinate rather than admit that mismanagement on their watch led to a default. However, Mexico was quick to admit in 1982 that it could no longer service its external debt. Similarly, Russia pulled the plug on its international rescue package by devaluing and defaulting on August 17 1998, less than a month after it had been approved by the IMF.

Do private creditors have an incentive to procrastinate? There are two answers to this question. If the prospects for the country are bad and the debt dynamics adverse, then individual creditors have an incentive to sell and exit before the others do in order to minimize their own losses in line with the prisoners’ dilemma. But if all creditors do this simultaneously and panic results, everyone loses much more, as in a fire sale. This recognition might keep the creditors from exiting.

In practice, a pivotal factor which might keep creditors from exiting is the anticipation of an official bailout package. But this might depend also on the maturity of the debt held. If it is short-term, there is a clear incentive to hang on if the probability of a big rescue package is high; but this will be at the expense of long-term bondholders.

What about economists? Implicit in the Rogoff quote on Russia 1998 is that economists should know when a currency is overvalued and when there is a solvency rather than a liquidity problem: in fact, Rogoff was arguing that economists knew it all in the case of Russia 1998 but
were driven to continue with the (unsustainable) status quo because there is no easy bankruptcy process for sovereigns.\textsuperscript{26} We sympathize with the view that economists should be able to assess whether a currency is overvalued and whether the public finances are salvageable without a debt write down.

What about the official community, including the IFIs? One would have to admit that the record is mixed, with Russia 1998 and Argentina 2001 both examples of procrastination and flawed design of rescue packages.\textsuperscript{27} The latter in particular means one of two things: (a) that the economists involved were not sufficiently astute in assessing the sustainability of the fixed exchange rates or of the public finances; or (b) that debt reduction is anathema and that the official community will do whatever it takes to bailout private creditors and avoid setting a moral hazard-inducing precedent for debtor countries. While one might have believed that (b) was true, the experience from Russia 1998, Argentina 2001 and Greece 2010 suggests it needs revisiting.

4. ODRs – What Should They Look Like?

Successful ODRs have been few and far between, involving small amounts of debt. One was Ukraine’s debt exchange offer of February 2000 involving $2.6 billion which achieved an NPV reduction of 22 to 35 percent (Table 5.4, Sturzenegger and Zettelmeyer 2006) and elicited a high participation rate.\textsuperscript{28} Ukraine was then under the IMF’s three-year US$2.2 billion Extended Fund Facility (signed in September 1998) and the IMF made it clear that Ukraine in 2000 could not use its low reserves to service maturing debt and that the IMF program depended upon a

\textsuperscript{26} While Rogoff’s is an excellent point, the absence of an easy bankruptcy procedure was not the only reason the doomed Russian rescue package of July 1998 went ahead. There was a strong belief in many quarters that with Russia having achieved single-digit inflation in February 1998, these hard-won stabilization gains had to be preserved; and that with Russian government debt much less than the Maastricht criterion of 60 percent of GDP, the market was overreacting.


\textsuperscript{28} In contrast, the debt amount involved in Russia 1998 was $77 billion ($45 billion in ruble debt, $32 billion owed to the London Club). Pinto, Gurvich and Ulatov (2005) p 431.
satisfactory debt restructuring. This unambiguous signal of “no bailout” persuaded private creditors to agree speedily on a deal. In addition, Pakistan’s debt restructuring of 1999 involving $610 million (Table 6.3, Sturzenegger and Zettelmeyer 2006) was done in large part because of a comparability requirement imposed by the Paris Club, which had rescheduled Pakistan’s loans in January that year. The swap offer attracted a participation rate of close to 99 percent partly because of default concerns with the original bond and achieved a reduction of 30 percent in NPV terms.

But lingering dissatisfaction with the process and outcome of debt restructurings in the more complicated cases has led to a few proposals being placed on the table in the past 15 decades. Sachs (1995) proposed an international bankruptcy mechanism to achieve ODRs which would entail a payment moratorium by the debtor country during debt renegotiations. The Sovereign Debt Restructuring Mechanism (SDRM) was proposed by the IMF in 2001 to reduce the creditor coordination problem in the event of debt restructurings for bond debt, the holdings of which are much more dispersed than the concentrated syndicated bank loans which featured in the debt crisis of the 1980s. In addition, a voluntary code of conduct was proposed by Jean-Claude Trichet in 2001 which spelled out nine principles governing creditor-debtor relations during debt restructurings. However, none of these proposals has gained traction so far.

The only mechanism which has been widely accepted by the market has been Collective Action Clauses (CACs). They are a part of the terms and conditions governing a bond issue and can be invoked by the debtor government. The most frequently used CAC is one which entails a modification of payment terms requiring a favorable vote by a majority of the outstanding bond holders (75 percent typically; 85 percent used by some countries and could be lower). Empirical

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30 See Pinto and Tanaka (2005).
31 See Krueger (2002).
evidence on the impact of CACs on bond pricing has been inconclusive and their usefulness in achieving an ODR is questionable.  

What should the way forward look like? This is the question we now tackle. Based on sections 2 and 3, we posit three conditions an ODR should fulfill, which we believe most economists would be comfortable with:

- Restore the debtor country’s government debt to a sustainable trajectory
- Minimize procrastination and hence costs for both the debtor country and its creditors
- Minimize any harmful contagion effects in our interconnected world.

We shall now present a simple numerical example based on Chamley-Pinto (2011) to illustrate the incompleteness of the preceding three conditions. Two concepts will come in handy. A country will be said to have a liquidity problem if it has insufficient reserves to meet maturing debt obligations in the event that creditors do not roll these over. It will be said to have a solvency problem if the present value of primary surpluses is less than the present value of outstanding debt obligations. In this case, either primary surpluses will need to be raised (“fiscal reform”) or debt will have to be written down (“haircuts”) in order to restore solvency.  

In this simple framework, we equate solvency with the sustainability of the government’s debt. An important point before the example: it may not always be able to distinguish between liquidity and solvency problems. In fact, the former could well morph into the latter as a result of multiple equilibria and self-fulfilling crises, as pointed out in Obstfeld’s classic 1994 paper. We discuss solvency and liquidity below.

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34 For example, it was reported in the news on March 9 2012 that Greece was able to secure a 95.7 percent participation rate among private-sector creditors in its bond exchange by invoking CACs to make the deal binding on holders of Greek-law bonds (until the bailout began, much of Greek debt was under Greek law); but by then, severe damage had been done to the Greek economy and euro-area wide.  
35 For technical details, see Burnside (2005) and Pinto (2012).  
36 Think of what might have happened had the ECB not announced and implemented the LTRO when Italian bond yields were approaching the psychological threshold of 7% in late 2011. The LTRO was instrumental in staving off a deeper crisis, as was the subsequent announcement of the OMT program (see text above).
Numerical Example

Consider the 2-period situation in Table 2. The debt service due in each period is shown in the second row of the table. The risk-free sovereign yield in a benchmark country like the U.S. or Germany rate is assumed to be 5 percent. In Scenario 1, the government faces a liquidity problem because the debt service payments falling due of 100 in period 0 exceed the primary surplus of 75. But it is solvent in the sense that the present value of primary fiscal surpluses equals that of the debt to be repaid; both equal 250 when discounted at the risk-free rate of 5 percent. In this case, the government can borrow 25 at the risk-free rate of 5 percent either from the markets or the IMF to make up the difference. The total amount it must repay in period 1 is 25X1.05+157.50=183.75, which can be exactly met out of the primary surplus in period 1.

Table 2: Two Hypothetical Fiscal Scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Period 0</th>
<th>Period 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Debt service due</td>
<td>100</td>
</tr>
<tr>
<td>Scenario 1 (liquidity)</td>
<td>Primary surplus</td>
<td>75</td>
</tr>
<tr>
<td>Scenario 2 (solvency)</td>
<td>Primary surplus</td>
<td>75</td>
</tr>
</tbody>
</table>

Now suppose an adverse shock occurs and the period 1 primary surplus falls to 175, as in Scenario 2. The government now has a solvency problem in the sense that the present value of the primary surpluses at the risk-free discount rate of 5 percent falls to 241.67. Equilibrium can be restored to the government’s intertemporal budget constraint if the price of the debt were to fall from 1 to 0.967 (the ratio of the present value of primary surpluses to that of debt service due at the risk-free discount rate=241.67/250). Notice even with this haircut that the government would still need to borrow an amount given by 96.7-75=21.7 in period 0 to pay off the maturing debt. In other words, it has both a liquidity and solvency problem.

Suppose it were to go to the market to borrow this amount of 21.7. What would it be charged? Anticipating the haircut, the market would charge an interest rate \( i \) given by the
arbitrage condition: \(0.967(1+i)=1.05\). This can be solved to give \(i=8.58\) percent.\(^{37}\) The spread jumps from 0 to 358 basis points. The amount of 21.7 can also be sought from official sources, say the IMF. In this case, the amount due in period 2 is \((21.7x1.05+0.967X157.5)=175\), where the IMF’s seniority means it gets repaid in full; but in line with the Modigliani-Miller theorem, this effect is offset by its charging the risk-free rate. However, the amount due to period 1 private creditors is still subject to the same haircut imposed on period 0 creditors.

This brings us to the situation reflective of Greece 2010 and also of Russia 1998 and Argentina 2001. Anxious to avoid a first period default, the government goes to official creditors and borrows 25 at the risk-free rate in order to pay off period 1 creditors in full. The big difference is that the size of the official loan goes up from 21.7 to 25. In this case, the price of second-period debt falls from 0.967 to \((175-25X1.05)/157.5=0.944\). This is equivalent to an interest rate of 11.2 percent, or a spread of 620 basis points. This is exactly what we have witnessed in practice, with long bond spreads rising substantially and persisting at elevated levels following the announcement and implementation of the bailout for Greece.

A crucial difference in the two responses to the insolvency situation is that in one case, an upfront haircut is imposed on all creditors, leading to a smaller official loan. In the second case, the one witnessed in practice, short-term creditors get paid in full, leaving less for long-term creditors. The point of bringing in official creditors is to engender positive catalytic effects, namely, persuading private creditors to roll over their loans instead of exiting; and putting pressure on the debtor country for fiscal reform and austerity in order to increase primary surpluses. In practice, short-term creditors have been exiting and bond spreads have continued to rise; in Greece’s case, the share of official loans (official creditors plus the European Central Bank, ECB, and Eurosystem) had risen to 58 percent by the end of April 2012. In effect, the official bailouts have taken the countries out of the debt market in the hope that in the meanwhile

\(^{37}\) It can be cross-checked that \(0.967[21.7X1.0858+157.5]=175\), where the expression in square brackets equals the new amount payable in period 1.
primary surpluses will increase to levels consistent with solvency. In the case of Greece, at least, the market does not seem to have ever believed this would happen as conveyed by the evolution of the long bond spread.

Returning to our numerical example, suppose the country is better off the closer the price of period 2 debt is to 1, which would imply a lower spread and smaller reputation costs. Raising the price all the way back to 1 would require restoring the primary surplus in period 2 to 183.75; then we would be back to a liquidity problem, with the solvency problem solved. This raises the question of how serious the solvency problem was in the first place, a point we return to later. In the meanwhile, suppose the interest rate on the official bailout package were higher than the risk-free rate in spite of the seniority of the official loans. Then by continuity, the second period primary surplus would have to be even higher than 183.75 in order for the price of period 2 debt to return to 1, which is likely to severely strain credulity and derail any catalytic effects of official finance. This points to the importance of pricing official funds at the risk-free rate in view of their seniority as otherwise the credibility of the accompanying fiscal package would be lowered: it would require primary surplus targets that would be too onerous to be believable.

The numerical example shows that when the market believes that there is a solvency problem, an upfront haircut for all creditors combined with official funds priced at the risk-free rate will lead to more believable fiscal targets to restore the country’s reputation. The upfront haircut will require that the official loan be just 21.7 instead of 25; and the period 1 primary surplus target will need to be 180.3 instead of the pre-shock 183.75 to return bond prices to 1.

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38 For example, the IMF loan interest rate for Greece, while well below what the market may charge, involves significant spreads above the IMF’s own borrowing cost (a spread of 200 basis points for amounts in excess of 300 percent of quota, which goes up to 300 basis after 3 years if the credit is still above 300 basis points. Greece’s loan is 3200 percent of quota).

39 The result here on official finance is diametrically opposed to that in Morris and Shin (2006) who treat official and private loans as strategic complements. Here, they become imperfect substitutes because of insolvency and official seniority.

40 Notice that if the official loans were also subject to default, they would be priced above the risk-free rate in anticipation of the haircut; the eventual expected payout would be the same. Therefore, so long as a haircut on official loans is ruled out, these loans should be priced at the risk-free rate.

41 21.7X1.05+157.5=180.3.
This prospect might induce long bond holders to hang on instead of selling off. And it could also have political economy benefits: with private creditors receiving an upfront haircut, the less severe fiscal austerity program becomes easier to sell to the public.

5. Obstacles to an ODR

The most controversial aspect of an ODR discussed above is likely to be the idea of an upfront haircut for private creditors in the event of a solvency problem for the debtor country. Three objections could be raised: moral hazard; the difficulty in distinguishing solvency from liquidity problems; and political economy considerations.

Moral Hazard

Let us start by considering governments. Moral hazard would imply that countries deliberately and irresponsibly run up debt in order to precipitate a solvency problem where private debt will be written down. While it is conceivable that countries have behaved in this manner in the past and could do so again in the future, such behavior is unlikely to be the norm. Three points are worth making in the specific context where the IFIs are brought in to orchestrate a rescue which aims to restore the government to solvency.

First, consider who is really being bailed out. It cannot be the country, since any official funds received have to be paid back in full and such debt is hard to renegotiate.42 Therefore, engineering a situation where official loans are obtained to pay off maturing private debts at 100 cents on the dollar does not ‘subsidize’ the country’s ‘bad’ behavior—although one cannot rule out unfair redistributions within the country itself as well-connected people benefit from the external loans which are then serviced by the taxpayers, as frequently happened in Latin America during the 1970s and 1980s.

Second, moral hazard would imply a proclivity by countries to default strategically on their debt, that is, to default based on an unwillingness to pay rather than an inability to do so.

42 See for example, de Bolle, Rother and Hakobyan (2006).
Once again, there is little evidence to support such a position.\textsuperscript{43} Countries typically default only as a last resort.

But perhaps the most compelling argument against moral hazard by debtor countries is the unambiguous trend towards self-insurance by EMs, documented in Aizenman and Pinto (2011a, b) and Pinto (2012). By definition, a country prone to moral hazard is not going to self-insure, as this would be contradictory to the idea that someone else is insuring your risky behavior. However, EMs moved aggressively to self-insure at three levels after their 1997-2001 crises, taking steps to: (a) restore sustainable public debt dynamics by raising primary surpluses and strengthening fiscal institutions; (b) insure against shifts in market sentiment and sudden stops by building up foreign exchange reserves and restricting currency mismatches on government and private balance sheets; and (c) lower contingent liabilities from the private sector by shifting to flexible exchange rates, monitoring private external borrowing and strengthening financial institutions.

What about moral hazard for private creditors? First of all, these creditors price for risk and are diversified. Nevertheless, as documented in Kharas, Pinto and Ulatov (2001, Box 2) private creditors are often in the forefront of the drumbeat for big bailout packages. What would be better than to price government debt at default levels and exit at 100 cents on the dollar? In other words, they are not innocent bystanders.\textsuperscript{44} Second, with the economic benefits of external financial integration for developing countries being seriously questioned (Aizenman and Pinto 2011a, b) one should take threats that haircuts for private creditors will have disastrous effects for

\textsuperscript{43} Sturzenegger and Zettelmeyer (2006, p 4, p 38) argue that most sovereign defaults since the 1970s were driven by interactions between domestic policies and economic shocks (including exogenous shocks), sometimes worsened by political shocks. In this sense, ability and willingness to pay are difficult to disentangle. However, Ecuador’s default of 2008 on its US$3.2 billion Eurobonds was a rare instance of a country that did not repay its debt even though it had the resources to do so. The Eurobonds were declared ‘illegitimate’ and the government bought back 91 percent of the defaulted debt in the secondary market at 35 percent of face value.

\textsuperscript{44} See Canuto, Pinto and Prasad (2012), pp 22-23 for some pointed examples.
EMs (by shutting off market access) with a grain of salt.\textsuperscript{45} If anything, experience shows that disruptions in market access force countries to at last address the fundamental fiscal problem which lies at the root of sovereign debt crises—the self-insurance by EMs after 1997-2001 discussed above is an extreme manifestation of precisely such behavior. Third, where official funds are used to bailout private creditors, the primary fiscal surplus targets needed for assuaging default fears on the remaining private debt might simply be out of reach, as argued earlier.

Ultimately, the prospect of an upfront haircut for private creditors is a matter of pragmatism as it increases the chances of a successful and credible fiscal program and implies equal treatment for short- and long-term creditors. Otherwise, it makes little sense to inject senior official funds into an insolvency situation. The knowledge that they would be subject to an upfront haircut in the event of insolvency would also make private creditors exercise greater caution in lending to sovereigns, reducing an important source of moral hazard, which is in line with the \textit{caveat emptor} principle.

\textit{Solvency versus Liquidity}

The seriousness of insolvency can be gauged from two vantage points. First, what are the market signals? If bond spreads indicate a high probability of default and keep rising even as official bailout discussions continue (the case with Greece 2010, Russia 1998 and Argentina 2001), then this should be taken as a red flag. Second, what are the country’s fiscal and growth prospects as conveyed by an assessment of its fundamentals by economists at the IFIs? How likely is it to generate the needed primary surpluses to stabilize and even lower debt? If the chances are dim, accompanying official loans at the risk-free rate with an equal upfront haircut for all investors will then enable more credible fiscal targets and lead to lower long-bond spreads, minimizing reputation costs.

\textsuperscript{45} For example, Eichengreen and Ruhl (2000) argued in the context of Ecuador, Pakistan, Romania and Ukraine following the East Asian and Russian crises that IFIs act to avoid “….a costly, extended interruption to market access”, and are therefore not credible when they seek to impose haircuts on private creditors.
However, we admit it is not always easy to judge whether the country is dealing with multiple equilibria (liquidity and confidence) or a fundamental (insolvency) problem. Brazil in the summer of 2002 just before Luiz Inacio Lula da Silva, the candidate of the Brazilian Workers’ Party, was elected president is a case in point. Bond spreads reached 2000 basis points that July as presidential election polls “…indicated that Lula would win the presidential election….can [investors] be certain that a Brazil run by a president with a past record of sympathizing with default will not take the easy way out?” In the article from which this quote is taken, Williamson (2002) argued that fundamentals were sound: primary fiscal surpluses had been raised substantially and budget constraints hardened for the state governments. Besides, the real had been floated in 1999.46

In his classic on multiple equilibria, Obstfeld (1994) recognizes: “Ultimately,…crises based on limited foreign reserves [liquidity] must also be based on overall fiscal weakness: [otherwise]…it would be …..feasible to borrow sufficient reserves to…..fend off any attack [on the fixed exchange rate]” (material in square brackets added). Brazil was different in that it had taken clear steps to strengthen its fiscal fundamentals. Not only was it running significant primary surpluses, it had raised these substantially when compared to the period prior to the float of the real in January 1999. Adopting a float while moving to address currency mismatches (the government was simultaneously shifting towards local currency debt) would substantially alleviate the international liquidity problem since the central bank would no longer be in the position of having to defend a fixed peg. Therefore, at the time that the bond vigilantes went after it in the summer of 2002, Brazil’s problem was one of political risk and confidence, which was boosted, albeit feebly, by the announcement of a $30 billion loan from the IMF; in the case of Greece, bond spreads kept rising with each successive bailout augmentation.

46 Williamson (2002) was in part responding to an estimate by Morris Goldstein that there was a 70 percent chance that Brazil would be forced to restructure its debt by the end of 2003. See Goldstein (2003) and the excellent Overview in Giavazzi, Goldfajn and Herrera (2005).
Hence, if a country is taking steps to self-insure along the comprehensive lines discussed above (including the adoption of flexible exchange rates and hardening budgets) then one might be a bit more cautious about confusing a liquidity with a solvency problem; but this was not the case with Russia 1998, Argentina 2001 or Greece 2010, which were much more clear-cut ex ante on both market signals and fundamentals.

*Political Economy*

We interpret “political economy” as anything that would lead to procrastination. The biggest resistance is likely to come from the creditors themselves. For example, the big commercial banks holding Greek debt were in the forefront of warning against any Greek debt restructuring because of the contagion risks. It was in their interest to let official creditors replace exiting private creditors at a hundred cents on the dollar while fiscal and structural reforms were implemented.

But three caveats are in order. First, creditors are not a homogeneous bunch. They are distinguished by the maturity of the debt they hold, with short-term creditors benefiting most from the strategy of taking the sovereign out of the market for a few years with official creditors replacing exiting private creditors; by the size of their exposure; and whether they are covered by insurance, for example, in the form of credit default swaps, especially if such insurance was purchased before the solvency problem was detected. Second, replacing exiting private lenders with official lenders does not lower the country’s debt burden in a present value sense and results in more ambitious fiscal targets to restore solvency which are by definition unattainable; otherwise, we would be dealing with a liquidity and not a solvency problem. Therefore there is a risk that the country could abandon the program for political reasons before short-term creditors have exited. This was definitely the case in Russia 1998 and, judging by the extraordinarily high two-year bond spreads (see Introduction), appeared to be the fear in the case of Greece 2010 as well. Third, creditors may hold both short and long maturity debt. In this case, provided the official loans are priced in accordance with their risk (and the interest rate should equal the risk
free rate in the case where official loans are first in the queue and small enough to be paid in full), creditors could lose on their holdings of long-term debt what they gain on their short-term debt holdings. This is because in an insolvency case, a default and debt write down become inevitable with all the burden of the restructuring falling on the remaining private debt.

Therefore, an upfront haircut is simply a way of distributing restructuring costs more fairly across creditors in the event of insolvency. It is the analog of the “concerted lending” approach applied to the money center banks during the 1980s crisis to pre-empt the free rider problem—that is, some banks reducing their exposure as others roll over their loans—once a debt overhang develops.

6. Conclusions

The record on official intervention in sovereign debt crises is not a flattering one, whether it be the 1980s, Russia 1998, Argentina 2001 or Greece 2010. An important reason, most apparent in Russia 1998 and Greece 2010, is the tendency to procrastinate, treating solvency problems as liquidity problems even when the distinction between the two is clear. If the goal of official intervention in such circumstances is to teach debtor countries a lesson, nothing needs to change. If however the goal is to increase the likelihood of an orderly debt restructuring then pricing official loans at the risk free rate (in line with their more-or-less zero risk) and insisting on an upfront haircut—when the bargaining power of the official sector is the greatest—for private creditors will help.\(^{47}\) It will also share the burden more equitably between short- and long-term creditors. While this may appear to be a recipe for moral hazard, the aggressive self-insuring behavior of emerging market countries after their crises of 1997-2001 suggests behavior diametrically opposed to what one might expect from countries confident of being bailed out should they run up debt irresponsibly. Besides, private creditors are hardly innocent bystanders but sophisticated investors who price for risk and are diversified. Therefore, an upfront haircut in

\(^{47}\) With adverse debt dynamics and the growing risk of contagion, the official sector may find its bargaining power eroding as time passes.
the event of a solvency problem should not come as a total surprise to them and could make their \textit{ex ante} lending behavior more diligent.

Eventually, there is a choice between two strategies: gambling for redemption as laid out in Conesa and Kehoe (2011) in which an immediate haircut is avoided; and insisting on an upfront haircut for private creditors keeping in mind that the cost of default is large and that the chances of a default increase with procrastination, as set out in Chamley and Pinto (2012). In practice, the approach to sovereign debt restructuring favored by official agencies has been to gamble for redemption, reflected in using official funds to take the country out of the market while implementing fiscal and structural reform to raise primary fiscal surpluses and spur growth. It has tended not to work—Latin America in the 1980s, Russia 1998, Argentina 2001 and Greece 2010 are prominent examples.

In conclusion, we have laid out what we believe constitute the desirable attributes of an orderly sovereign debt restructuring (ODR) when a solvency problem is involved. In addition to ensuring that government debt attains a sustainable trajectory and that procrastination and contagion costs are minimized, pricing official funds in line with their risk and using official bargaining power to insist on an upfront haircut for private creditors would be desirable. However, there is no perfect formula for distinguishing between liquidity and solvency problems and upfront haircuts are going to encounter stiff political resistance.\footnote{Besides, even the official sector may find it difficult to assume a fully objective stance. For example, the interests of the US in the 1980s debt crisis and those of the ECB and EU in the ECB-EU-IMF troika in the euro zone crisis may not always coincide with what a dispassionate body like the IMF is likely to recommend.} Therefore, ODRs are likely to remain elusive.
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