

Orderly Sovereign Debt Restructuring

Missing in Action!

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Abstract

This paper takes a hard look at the experience with official intervention in sovereign debt crises, focusing on debt crises of the 1980s, Russia in 1998, Argentina in 2001, and Greece in 2010. Based on the track record, the authors argue that in situations where countries face a solvency problem, official intervention is more likely to succeed if official money is lent at the risk-free rate reflecting its seniority and private creditors receive an upfront haircut. Such an approach would limit the costs associated with procrastination and increase the chances of success by enabling a more realistic fiscal program

to restore solvency. They examine the moral hazard implications for debtor countries of this proposal and find that these are unlikely to be severe. In fact, after their crises of 1997–2001, emerging market countries embarked on an aggressive and comprehensive program of self-insurance, indicating that they are weary of debt crises and their costs. However, the prospect of an upfront haircut for private creditors in the event of insolvency is likely to make them more diligent in their sovereign lending decisions.

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Orderly Sovereign Debt Restructuring: Missing in Action!

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1. Introduction

This much we know from the experience of emerging market countries from the 1980s onwards: sovereign debt restructurings tend to be costly and chaotic, with orderly debt restructuring (ODR, defined in Box 1) seemingly impossible to achieve. This holds even when high-profile official intervention occurs.

This finding from emerging markets (EMs) carries over to Greece 2010. For Greece, discussions on official intervention began in March 2010 in the form of a proposed bailout by the European Union-European Central Bank-IMF troika. After months of official pronouncements that debt restructuring was off the table, an October 26 2011 EU Summit announced that private Greek bondholders would receive a 50 percent write down on principal, that euro area banks' capital adequacy would need bolstering and that the European Financial Stability Facility (EFSF) would be leveraged to support Italy and Spain, to which contagion had spread from Greece. A Greek debt agreement was finally concluded in March 2012, with private creditors receiving a nominal haircut of 53.5 percent on the €206 billion in bonds owed to them. Yet, news reports of a leaked troika assessment in late February said that Greek debt might only decline to 160 percent of GDP by 2020 compared to the target of 120 percent unless Greece emerged from its recession (which implementation of fiscal austerity was likely to make more difficult) and implemented the full package of structural reforms. Indeed, 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.

As the denouement of the Greek crisis indicates, sovereign debt restructuring is a complicated process, official intervention notwithstanding.² Does this mean official intervention does more harm than good? We do not believe so. Indeed the big lesson from the debt overhang

² Perhaps that is just as well because otherwise governments might be tempted to seek it as the easy way out. We shall discuss moral hazard below.

of the 1980s (Krugman 1988, Sachs 1986) is that such intervention is needed to solve coordination and free rider problems among creditors. Two other 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 get overturned 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.

Box 1: What is an Orderly Debt Restructuring (ODR)?

Suppose an ODR is defined as a sovereign debt restructuring where everyone gains: the debtor government's debt is placed on a sustainable trajectory; the creditors take a minimal haircut; and the IFIs and international community are seen as having decisively resolved the problem.

But perhaps this bar is too high, calling as it does for a miracle of law, economics and politics. A less ambitious definition is the following:

Debt restructuring in the case of sovereigns where a fiscal solvency problem is detected and where the market is signaling high default risk will be considered an ODR in the following circumstances:

- Private creditors receive an upfront haircut
- Vulnerable systemic banks are protected. And:
- Official money is lent at the risk-free rate, reflecting its senior status.

Why is this definition attractive? Because experience shows that when countries are mired in an insolvency situation, we eventually end up in a messy default with much bigger haircuts and much bigger costs because of bad dynamics, which makes procrastination costly for all concerned.

We shall focus on the economics. Notwithstanding the law, it is hard to believe that there cannot be a smoother and less costly process for all the parties concerned—a sentiment voiced by influential economists in the context of prominent sovereign debt crises, as we shall see below. Indeed, much of the rest of the paper is devoted to a justification of the content of Box 1 based on past and ongoing experience with sovereign debt restructuring; the particular definition

of an ODR recognizes that debt problems for one sovereign in our integrated world are likely to have implications for other sovereigns as well as for exposed systemic banks, domestic and foreign.

The next section provides a historical overview, including the origins of sovereign debt crises. This is followed by a distillation of lessons from past sovereign debt restructurings in sections 3 and 4. Section 5 presents desirable features of an ODR based on insights from the previous sections. Section 6 discusses the vexing problem of procrastination as an impediment to ODRs while section 7 concludes.

2. Historical Overview

This overview provides a thumbnail sketch of the origins of debt crises, some numbers on debt restructuring for EMs and proposed mechanisms to aid the process of sovereign debt restructuring.

Origins of Debt Crises

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. In fact, remarkably similar country narratives can be constructed regarding the origin of sovereign debt crises starting with the 1980s (as described above) and going right up to Greece 2010. 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.³ Money-center banks were happy to roll over maturing principal and even interest payments

³ Drawn from Sachs (1990), an overview of a volume of country studies on the 1980s debt crisis.

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 service their debt the old-fashioned way: by generating current account surpluses to pay down their debt.⁴ 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

⁴ An important factor exacerbating the ability to service external debts was that, even though of long maturity, these debts were floating rate debts with the interest rate adjusted every six months based on a market index such as LIBOR. Therefore, once the U.S. started raising interest rates, the interest burden of the developing countries quickly shot up.

the population's ability to shift into dollars raised the inflation elasticity of domestic money demand.⁵

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 failures in stabilization, ever higher public debt and severe costs for growth and economic welfare, especially for vulnerable groups.⁶

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 that which occurred in Argentina in 2000-01. 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

⁵ See Pinto (1991). For an application to Bolivia, see Kharas and Pinto (1989) and Morales and Sachs (1990).

⁶ 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).

elsewhere, but use these as a springboard for a discussion of the implications for sovereign debt restructuring later in the paper.⁷

The Numbers

Starting with the 1980s, EM sovereign debt restructurings with private creditors have involved some US\$325 billion in principal (see table 1) with official creditors (Paris Club) accounting for only US\$29 billion (8.3 percent of the total).⁸

Table 1: Sovereign Debt Restructurings with Private Creditors – 1980s and after

Plan/Country	Amount restructured (in US\$ billion)
Brady Plan (1989)	200
Russia London Club (2000)	32
Argentina (2005 & 2010)	76
Ukraine (2000)	2.3
Uruguay (2003)	5.1
Others	7.2
TOTAL	322.6

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)

In contrast, official creditors have accounted for the lion’s share of sovereign debt restructurings for low-income countries (LICs), 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.⁹ On the other hand, no such collective arrangement exists for non-Paris Club bilateral creditors who generally engage with debtor countries on a one-on-one basis. Multilateral creditors have provided debt relief through the Heavily Indebted Poor Countries (HIPC) Initiative and the Multilateral Debt Relief Initiative

⁷ 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).

⁸ Only last rescheduling by Paris Club for emerging G20 countries included to avoid double counting (e.g. only August 1999 rescheduling for Russia taken into account).

⁹ Visit <http://www.clubdeparis.org/>

(MDRI).¹⁰ However, this initiative is available only to LICs and eligibility criteria are restrictive. Given the eligibility requirements for HIPC and MDRI, none of the EMs has benefitted from multilateral debt restructurings.

Proposed Mechanisms

Dissatisfaction with the process and outcome of debt restructurings for EMs has led to a few proposals being placed on the table in the past two 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.¹¹ 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.¹² 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).¹³ 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 evidence on the impact of CACs on bond pricing has been inconclusive and their usefulness in achieving an ODR is questionable.¹⁴

¹⁰Details at:

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTDEBTDEPT/0,,contentMDK:20260411~menuPK:64166739~pagePK:64166689~piPK:64166646~theSitePK:469043,00.html>

Also see World Bank 2011.

¹¹ See Krueger (2002).

¹² See Trichet (2001).

¹³ See Bradley and Gulati (2011), Eichengreen and Mody (2000), and Weinschelbaum and Wynne (2005).

¹⁴ 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

Despite the absence of a formal institutional arrangement, there have been a few, small cases of ODR. One of them was Ukraine's comprehensive debt exchange offer of February 2000 which achieved an NPV reduction of 22 to 35 percent and elicited a high participation rate. 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 satisfactory debt restructuring.¹⁵ This unambiguous signal of "no bailout" persuaded private creditors to agree speedily on a deal. In addition, Pakistan's debt restructuring of 1999 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.¹⁶ 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.

3. Resolving Debt Crises: 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.¹⁷ 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

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.

¹⁵ See commentaries in "Ukraine: Heading to Default and Restructuring", *Commerzbank Global Fixed Income*, 7 February 2000. And "Ukraine: Further Upside for Eurobonds", *Emerging Markets Economics Research*, Credit Suisse First Boston, 3 February 2000.

¹⁶ See Pinto and Tanaka (2005).

¹⁷ See Pinto and Tanaka (2005).

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.¹⁸

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?

Is official intervention needed?

Krugman (1994) described The Brady Plan as “...an unprecedented piece of international financial coordination”.¹⁹ 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. 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 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

¹⁸ Chuhan and Sturzenegger (2005).

¹⁹ It could be eclipsed by on-going interventions (pre-emptive and possible clean-ups) in the euro area.

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?

This brings us to the question of whether official intervention helps. 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.²⁰ 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 in turn would not have happened 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 not willing to do so; such an eventuality was pre-empted by the Baker and Brady Plans during the 1980s.

²⁰ But note that Mexico endured another currency crisis in December 1994!

4. Resolving Debt Crises: Insights from 1997-2001

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 1998:²¹

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.

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. 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.²² 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

²¹Rogoff 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.

²²The 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.

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 not an arbitrage opportunity but 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.²³

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.²⁴ These were very much the lessons from Russia 1998. The first two, on why rescue packages may backfire instead of being catalytic and the inefficacy of sovereign debt swaps, are discussed briefly below. The third on procrastination is discussed separately as it is an integral reason why ODRs tend to be elusive.

²³ Details in Kharas, Pinto and Ulatov (2001).

²⁴ IMF (2004, lessons 7-9).

Why Official Intervention May Not Be Catalytic

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 a negative interaction with the seniority of official loans, a point we discuss below.

Why Sovereign Debt Swaps 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 GKO 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.²⁵ Second, the interest differential was not an unexploited arbitrage opportunity but a measure of the differential risk, since ruble T-bills were subject to both devaluation and default risk. 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.²⁶ 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,²⁷ 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.

In addition to the Modigliani-Miller Theorem, another factor could intervene: the interaction of the swap outcome with the existing portfolios of investors. In the Russian case, it was discovered that there was no demand from long-term buyers for the Eurobonds created by the

²⁵ 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.

²⁶ 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).

²⁷ 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.

swap. The large increase in dollar denominated debt interacted negatively with commercial bank exposures to outstanding Russian government dollar-denominated debt, lowering its price on account of the increased supply of dollar debt and making the banks vulnerable to margin calls. Raising the dollars to meet margin calls prompted banks to sell GKO's, their most risky asset, and convert the proceeds into dollars, thereby attacking the central bank's reserves. This very quickly led to the default and devaluation of August 17, 1998.

5. ODRs – Desirable Features

This section is motivated by the preceding empirical findings on the origins and resolutions of sovereign debt crises. It demonstrates the rationale for an upfront haircut for private creditors and lending official money at the risk-free rate in the event of a solvency problem; addresses the moral hazard concerns that might arise in such circumstances; and outlines the challenge of distinguishing solvency from liquidity situations.

Upfront Haircuts and Official Funds at the Risk-free Rate

We present a simple example explaining why official money should be lent at the risk-free rate and why an upfront haircut for private creditors makes sense when a country is facing a solvency issue, borrowing from Chamley and Pinto (2011). This is essentially because of a negative interaction between the seniority of official loans and the insolvency of the government that was first articulated in Kharas, Pinto and Ulatov's (2001, p. 43) analysis of Russia 1998, in which they argued that the official rescue package actually helped to trigger the crisis: "A debt-based [official] liquidity injection that aims to boost confidence could worsen public debt dynamics while offering heavily exposed [private] investors a convenient selling opportunity....the financing portion of the package could actually trigger a crisis if the market is sufficiently skeptical about the implementation of fiscal and structural reforms. This argument is even stronger if the [official] liquidity injection involves debt that is perceived to be senior to existing claims of private creditors" (words in square brackets added).

Consider a 2-period situation where d_i denotes the debt service due in period i and s_i denotes the primary fiscal surplus (revenues minus noninterest spending) in period $i=1,2$. Let r^* denote the risk-free sovereign yield in a benchmark country like the U.S. or Germany. We start from a situation where there is a liquidity but not a solvency problem, i.e. $s_1 < d_1$ but the present value of primary surpluses equals that of debt service payments:

$$s_1 + \frac{s_2}{(1+r^*)} = d_1 + \frac{d_2}{(1+r^*)} \quad (1)$$

In this case, the country can go to the markets or the IMF and borrow $d_1 - s_1$ at the risk free rate. The debt service due in period 2 will now equal $(d_1 - s_1)(1 + r^*) + d_2 = s_2$, since the intertemporal budget constraint (1) is satisfied.

Now suppose an adverse shock occurs and the period 2 primary surplus falls to $\sigma < s_2$. In Option 1, the government gives all creditors an equal haircut so that the price of the debt falls to $p < 1$, where p is given implicitly by:

$$s_1 + \frac{\sigma}{(1+r^*)} = p(d_1 + \frac{d_2}{(1+r^*)}) \quad (2)$$

To make the problem interesting, we assume that $p.d_1 > s_1$, so that the government is forced to borrow $p.d_1 - s_1$ in period 1 in order to pay off period 1 creditors at 100p cents on the dollar. It can borrow this amount from the market in which case, anticipating a haircut, private lenders will charge r given by the arbitrage condition:

$$p(1 + r) = 1 + r^*. \quad (3)$$

Equations (2) and (3) form a recursive system which can be solved first for p and then r . The spread thus jumps from zero to $(r - r^*) > 0$, given by:

$$r - r^* = \frac{1-p}{p} \cdot (1 + r^*). \quad (4)$$

This money can also be sought from official sources, say the IMF. In this case, the additional amount due in period 2 is $(pd_1 - s_1)(1 + r^*)$, where we assume the IMF charges the risk-free

rate reflecting its seniority.²⁸ This amount is exactly equal to the additional amount due were the borrowing from the market. In the latter case, the additional amount due would be $(pd_1 - s_1)(1 + r)p$, which is exactly equal to the amount that would have to be paid to the IMF because of equation (3).

Now we turn to Option 2, which captures the scenario 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 $d_1 - s_1$ at the risk-free rate in order to pay off period 1 creditors in full.²⁹ In this case, the price of second-period debt falls from p to π , given by the equation:³⁰

$$\pi d_2 = \sigma - (d_1 - s_1)(1 + r^*), \quad (5)$$

with the spread rising to $[(1 - \pi)/\pi](1 + r^*)$ from that given by equation (4) above. This is exactly what we have witnessed in practice, with long bond spreads rising substantially and persisting at elevated levels.

The preceding algebra, which mimics what we have observed in insolvency situations, suggests that the hoped-for positive catalytic effect of official intervention, namely, that private creditors will be induced to roll over their loans instead of exiting; and the debtor country would be under pressure to adopt austerity budgets and increase primary surpluses, may not come into play. 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 s_2 ; then we would be back to a liquidity problem, with the solvency problem solved.³¹ 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 r^* in spite of the

²⁸ A basic principle of finance is that assets should be priced in accordance with risk.

²⁹ We examine the implications of official creditors charging more than the risk-free rate below.

³⁰ Working with (2) and (5), it is easy to show that $p - \pi = [d_1(1 - p)(1 + r^*)]/d_2 > 0$.

³¹ This can be seen by setting $\pi = 1$ in equation (5) and then comparing with equation (1).

seniority of the official loans.³² Then by continuity, the second period primary surplus would have to be *even higher* than s_2 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.³³ 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.

Moral Hazard and Self-Insurance

Could an upfront haircut for private creditors encourage moral hazard? Let us start by considering the case of countries. 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 design a rescue package consisting of new official loans and reforms 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.³⁴ 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.

³² 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).

³³ The results here on official finance are 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.

³⁴ See for example, de Bolle, Rother and Hakobyan (2006).

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. Once again, there is little evidence to support such a position.³⁵ 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 (forthcoming). 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.

Three observations are worth making about the self-insurance package adopted by EMs. First, it represented a u-turn away from the ‘fatal’ combination of fixed exchange rates, unsustainable government debt dynamics and low international liquidity which was a universal feature of the sovereign debt crises of the 1980s and after, applying also to Greece 2010. Second, it has been remarkably successful so far, helping EMs to weather the storm of the Great Recession and emerge from it largely unscathed, as noted in Development Committee (2010). This was in spite of serious misgivings expressed about the ability of EMs to self-insure (e.g.,

³⁵ 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.

Caballero 2003); but this was largely because EMs went far beyond just increasing foreign exchange reserves, which was how self-insurance has been traditionally viewed. Third, the massive change in the behavior of EMs after 1997-2001 represents a philosophical shift on their part: a realization that growth strategies cannot be based on external borrowing; that debt crises and the resulting macroeconomic volatility are bad for long-run growth; and that they would have to rely on themselves rather than waiting for a new international financial architecture to take hold.

What about moral hazard for private creditors? This is a highly pertinent question for several reasons. 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? 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 EMs (by shutting off market access) with a grain of salt.³⁶ 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.

A fourth point is worth making: questionable behavior by private creditors. For example, Goldman Sachs arranged bond issues for Russia as well as the ill-fated swap from ruble T-bills to Eurobonds (discussed above) while at the same time apparently trimming its own Russian

³⁶ 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.

exposure.³⁷ Although it was obvious by mid-May 1998 that Russia's government debt was on an unsustainable trajectory, Russian government dollar denominated debt increased by \$16 billion between June 4 1998 and Russia's devaluation and default of August 17 1998, or some 8 percent of post-crisis GDP as a result of the efforts of well-known Wall Street firms.³⁸ More recently, during the Greek crisis, stories have come to light about how Goldman Sachs used swaps to help Greece hide its government debt in 2001 to meet the Maastricht criterion.³⁹ The point is not that such transactions were illegal. They were not. But it demonstrates that financial engineering can be used to paint a misleading picture; and that private creditors and investment banks are there to make money for themselves, not to ensure that resources are allocated and risks managed in pursuit of faster long-run growth. In other words, private creditors are not innocent bystanders when default occurs or a haircut becomes advisable.

The main point emerging from the preceding discussion is that the prospect of an upfront haircut for private creditors is ultimately a matter of pragmatism as it increases the chances of a successful and credible fiscal program. 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 caveat emptor principle.

³⁷ See for example, "Easy Money: A Special Report. For Russia and Its U.S. Bankers, Match Wasn't Made in Heaven." By Joseph Kahn and Timothy O'Brien, New York Times, October 18 1998. Reprinted as "Do the Deal and Get Out, Joseph Kahn and Timothy L. O'Brien of the New York Times report on how Wall Street's Goldman, Sachs & Co. advised the Kremlin—and escaped the Russian economic bloodbath." Business Extra, The Moscow Times, October 27 1998.

³⁸ To be fair, the deals they executed as well as the ruble T-bill-Eurobond swap were embraced by Russia and the IFIs as part of the official rescue package, which was doomed to failure. On the latter, recall the quote from Rogoff (2003).

³⁹ See "Goldman Secret Greece Loan Shows Two Sinners as Client Unravels." By Nicholas Dunbar and Elisa Martinuzzi March 5 2012. <http://www.bloomberg.com/news/2012-03-06/goldman-secret-greece-loan-shows-two-sinners-as-client-unravels.html>

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.

However, it should be admitted that it is not always easy to judge whether the country is dealing with a multiple equilibria (liquidity and confidence) or a fundamental problem (insolvency). 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 1999.⁴⁰

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 befeasible 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

⁴⁰ 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).

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 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 as pointed out in Chamley and Pinto (2011).

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.

6. ODRs and Procrastination

Procrastination is a major reason that ODRs tend not to occur in practice. In this section, we discuss two points: first, 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, procrastination becomes costly 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.

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, suppose that the official community had persuaded Russia to float the ruble in May 1998, backed it in seeking a haircut for private creditors and given it an official rescue package at the risk-free rate. 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.⁴¹

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). In

⁴¹ Details may be found in Kharas, Pinto and Ulatov (2001) and Pinto and Ulatov (2012).

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 Greece been dealt with more decisively in March 2010 (when the solvency problem was first detected) along the lines of the October 2011 Summit announcement, would the wider contagion have been avoided? There is no guarantee of this and 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, and advanced the implementation of fiscal and structural reforms in the vulnerable countries. The back-to-the-wall effects of crises in concentrating the mind should not be dismissed. As of writing, ECB’s efforts to inject liquidity via two tranches of a Long-Term Refinancing Operation (LTRO) which lent commercial banks huge sums at 1 percent for 3 years has helped cut spreads substantially on vulnerable sovereign bonds and boosted confidence. This reinforces the idea that contagion efforts of an upfront haircut for Greece’s creditors would have been manageable.⁴²

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 deals based on the menu of options available. But even if the Brady deals had been negotiated and implemented instantaneously, 7

⁴² There are clearly weaknesses in fiscal and growth fundamentals in the vulnerable sovereigns; but these would have had to be addressed anyway and the sooner the better.

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 fairly 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 losses (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.

Another 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.⁴³ 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.

⁴³ While Rogoff's is an excellent point, it is debatable whether the absence of an easy bankruptcy procedure was 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.

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.⁴⁴ 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. Mussa (2002) noted with respect to Argentina 2001 that “...no reasonable person should believe that substantially better outcomes were not achievable under realistic alternative economic policies if they had been implemented sufficiently early and appropriately vigorously.....” In other words, welfare losses can be avoided. Besides, one has to keep in mind the moral hazard problem for private creditors, who go into risky situations in the hope of being eventually bailed out by official loans.⁴⁵

7. 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 negative interaction between the seniority of official loans on the one hand and solvency problems in the debtor country on the other. If the goal of official intervention in such circumstances is to teach debtor countries a lesson, then nothing needs to change. If however the goal is to increase the likelihood of an orderly debt restructuring (ODR) then pricing official loans at the risk free rate and insisting on an upfront haircut for private creditors will help. It will also share the burden more equitably between short-

⁴⁴ On Russia 1998, see Kharas, Pinto and Ulatov (2001). For Argentina 2001 see Mussa (2002) and IMF (2004).

⁴⁵ For a detailed discussion of moral hazard in the case of Russia 1998, see Pinto, Gurvich and Ulatov (2005).

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 by others should they run up debt irresponsibly. Lastly, private creditors are hardly innocent bystanders but sophisticated investors who price for risk and are diversified. Therefore, an upfront haircut in the event of a solvency problem should not come as a total surprise to them and could make their *ex ante* lending behavior more diligent.

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