



# IMF Working Paper

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## Sovereign Debt Restructurings 1950–2010: Literature Survey, Data, and Stylized Facts

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## IMF Working Paper

Monetary and Capital Markets Department

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#### Abstract

This paper provides a comprehensive survey of pertinent issues on sovereign debt restructurings, based on a newly constructed database. This is the first complete dataset of sovereign restructuring cases, covering the six decades from 1950–2010; it includes 186 debt exchanges with foreign banks and bondholders, and 447 bilateral debt agreements with the Paris Club. We present new stylized facts on the outcome and process of debt restructurings, including on the size of haircuts, creditor participation, and legal aspects. In addition, the paper summarizes the relevant empirical literature, analyzes recent restructuring episodes, and discusses ongoing debates on crisis resolution mechanisms, credit default swaps, and the role of collective action clauses.

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## I. INTRODUCTION

With the advent of the global financial crisis, sovereign debt restructurings have returned as a key concern to governments and market participants. This has been the case especially in Europe since the end of 2009. In the past two years, many suggestions have been made on how to resolve the current debt crisis situation. However, the ongoing debate has revealed a limited understanding on how restructurings work in practice, while core concepts are sometimes misinterpreted.

What are typical pitfalls in the restructuring process? How do governments communicate with their creditor banks and bondholders? How long does it take to restructure sovereign bonds or loans? How frequent are creditor holdouts and litigation? What is the scope of debt relief, or “haircuts,” in past restructurings? The existing literature provides limited evidence on these key questions. Until recently, most analyses relied on small samples, case anecdotes or theoretical intuition. One reason for this is the lack of comprehensive data on sovereign debt restructurings. No institution has been responsible for collecting information on the process and outcome of restructurings in a coherent form. The lack of evidence makes it difficult to draw lessons from the past and to assess the suitability of various crisis resolution proposals.

We argue that it is not sufficient to refer to a few prominent cases, like the Brady deals or the recent default in Argentina, to derive policy recommendations. Instead, a more comprehensive survey and better evidence on the history of sovereign debt crises are needed. This paper tries to address these shortcomings.

The paper adds to the literature in three main ways. First, it draws on the most complete dataset on sovereign debt restructurings available so far, covering the full universe of external debt restructurings in the last six decades, including official (Paris Club) and commercial (bond and bank) debt restructurings. The data, which have become available in recent academic contributions, provide new insights not only into the occurrence and scope of debt restructurings, but also into restructuring processes and outcomes.

Second, the paper provides an up-to-date overview of the most relevant economic and legal aspects of sovereign restructurings, including on credit default swaps, litigation, the role of collective action clauses, and crisis resolution mechanisms. To date, there are only a few overview pieces on debt restructuring experiences. Most of them are either very detailed (e.g., the books by Sturzenegger and Zettelmeyer, 2006; Rieffel, 2003; and Cline, 1995) or based on only a few cases (e.g., Finger and Mecagni, 2007).

Third, we discuss considerations relating to the decision on whether to restructure, and also to the decision on the scope of debt relief/haircuts. To our knowledge, no contribution exists that summarizes these aspects in a unified form.

The newly constructed dataset provides novel insights on the characteristics of debt restructurings of developing countries since the 1950s:

- Sovereign debt restructurings have been a pervasive phenomenon, amounting to more than 600 cases in 95 countries. Of these, 186 debt exchanges were with private creditors (foreign banks and bondholders) while 447 agreements restructured bilateral debt with the Paris Club.
- Of the 186 debt exchanges with foreign private creditors, we observe that:

- There has been no distressed sovereign debt restructuring in an advanced economy since 1950. All restructurings occurred in developing or emerging market economies.
- 18 were sovereign bond restructurings, while 168 affected bank loans.
- 57 involved a cut in face value (debt reduction), while 129 implied only a lengthening of maturities (debt rescheduling). However, both types of debt operations can involve a “haircut,” i.e., a loss in the present value of creditor claims.
- 109 cases occurred post-default, while 77 were preemptive.
- Only 26 involved cash buybacks, meaning the exchange of old instruments into cash, at a discount to face value. This means that the overwhelming majority of restructurings implied the exchange of old into new debt instruments. Most of the buyback operations were implemented in the context of debt relief initiatives in poor, highly indebted countries, and involved discounts of 80 percent, or more.
- The main elements of a debt restructuring appear to be similar in most cases, whether domestic or external, private or public debt.
- Debt renegotiations have become quicker and less disputed since the 1980s and 1990s. Most bond restructurings of the last 15 years were relatively smooth, in the sense that they could be implemented within one or two years and with creditor participation exceeding 90 percent. The only two outlier cases were Argentina in 2005 and Dominica in 2004.
- The problem of creditor holdouts and litigation is widespread, but less severe than commonly thought.
- Restructurings can have serious adverse effects on the domestic economy and the financial sector, e.g., foreign and domestic banks, pension funds and insurance companies.

Our findings and stylized facts should not be interpreted as providing a full analysis of the underlying causes of restructurings or of their macroeconomic consequences. Instead, we provide new descriptive evidence and historical data, in a field in which data are notoriously scarce. It should also be underlined that our insights are based on developing country experiences and may therefore not apply to advanced economies or to countries with large, interconnected financial systems.

The remainder of the paper is organized as follows. Sections II and III summarize the basic concepts and describe the process of sovereign debt restructurings. Section IV discusses historical experiences based on a comprehensive dataset on the occurrence and characteristics of sovereign debt restructurings since the 1950s. Sections V and VI present legal aspects in sovereign debt restructurings and the role of credit default swaps, respectively. Section VII summarizes the literature on the cost and implications of sovereign debt restructurings, while section VIII presents evidence on domestic debt restructurings. Sections IX, X, and XI discuss considerations relating to (i) the government’s decision on whether and when to restructure; (ii) the decision on the scope

of debt relief/haircuts; and (iii) good faith debt restructuring procedures and best practices. Section XII concludes.

## II. BASIC CONCEPTS

### A. What is a Sovereign Debt Restructuring?

While there is no universally accepted definition, *a sovereign debt restructuring can be defined as an exchange of outstanding sovereign debt instruments, such as loans or bonds, for new debt instruments or cash through a legal process*. Sovereign debt, here, refers to debt issued or guaranteed by the government of a sovereign state. Most of the paper deals with restructurings of central government debt, although we briefly discuss “quasi-sovereign”, publicly guaranteed debt restructurings as well (see Grigorian and Raei, 2010, for more details).

One can generally distinguish two main elements in a debt restructuring:

- *Debt rescheduling*, which can be defined as a lengthening of maturities of the old debt, possibly involving lower interest rates. Debt reschedulings imply debt relief, as they shift contractual payments into the future; and
- *Debt reduction*, which can be defined as a reduction in the face (nominal) value of the old instruments (e.g., from US\$ 100 to US\$ 80).

Below, we document that deals with outright face-value reductions are not very common. Since the 1950s, only 57 restructurings with private creditors implied a face-value reduction, while 129 were pure rescheduling deals and thus limited to an extension of maturities. However, both types of debt operations can involve a “haircut”, i.e. a loss in the present value of creditor claims (see section 2.3).

A further category of restructurings are debt buybacks, in which outstanding debt instruments are exchanged against cash, often at a discount. Since the 1950s, however, debt reduction via buybacks has remained the exception in the debt crisis context, with a total of only 26 cases.

As in most papers on sovereign debt crises, this analysis focuses on distressed debt restructurings, which usually imply some form of debt reduction in present value terms. *Following the definition provided by Standard & Poor’s (2006), we define distressed debt exchanges as restructurings at terms less favorable than the original bond or loan terms*. Clearly, distressed debt exchanges should be distinguished from restructurings that are part of routine liability management operations (LMOs), such as debt swaps. LMOs are purely voluntary market exchanges, and usually occur in normal times (see Medeiros, Polan and Ramlogan, 2007; Papaioannou, 2009, p. 15). Because LMOs do not typically relate to a crisis situation, these debt exchanges are disregarded here.

Lastly, it should be noted that most of our analysis and data focus on debt restructurings with foreign private creditors only, thus excluding debt restructurings that predominantly



affected domestic creditors. Foreign creditors include foreign commercial banks as well as foreign bondholders.<sup>2</sup>

### **B. What is the Difference Between Default and Restructuring?**

Default events and debt restructurings are closely related but not identical. *A default is the failure of a government to make a principal or interest payment on due time (beyond the grace period)*. Defaults can be partial, when only parts of the country's debt are not being serviced. For example, it is often the case that interest payments continue, while principal payments are suspended. Yet, a default can also imply a complete halt of all debt payments towards creditors. These instances are also referred to as a debt moratorium or payment standstill.

In most cases, restructurings occur after a default. Such restructurings, known as *post-default restructurings*, can be defined as debt exchanges that occur after a payment default, i.e., after the government has gone into arrears on parts or all of its debt to creditors. In fact, most debt restructuring processes are triggered by a default event.

However, recent years have also seen a number of *preemptive debt restructurings*, which can be defined as debt exchanges that occur prior to a default, so that outstanding debt instruments are exchanged before the government misses any payments.

While not all restructurings are preceded by a default, it is also important to underline that not all defaults are followed by a restructuring. There have been many instances in which governments temporarily miss payments, which, however, are eventually repaid. This means that a default is resolved (or "cured") without a debt restructuring.

### **C. Restructurings and Credit Events**

The concept of a "credit event" has gained increasing attention in recent years and is mostly used in the context of credit default swaps (CDS), which have grown in importance in recent years (see section VII). According to the Credit Derivatives Definitions by the International Swaps and Derivatives Association (ISDA), which are incorporated into standard CDS transactions, a credit event for sovereign debt would occur as a result of either:

- *Failure to pay* a coupon or principal on a bond or loan;
- *Distressed debt restructuring*, meaning a restructuring that changes the terms of a debt obligation to the disadvantage of investors. This can imply an extension of maturities, cutting the debt's face value or interest rate, or a change in the payment ranking or currency of the outstanding debt obligations; and

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<sup>2</sup> For recent deals, we follow the categorization between domestic and external debt exchanges by Sturzenegger and Zettelmeyer (2006, p. 263). We therefore explicitly include two domestic debt restructurings, but only because they mainly involved external creditors: Russia's July 1998 GKO exchange and Ukraine's August 1998 exchange of OVDP bonds.

- *Debt repudiation*, meaning the announcement by an authorized official of the intention to suspend payments.<sup>3</sup>

Importantly, not all sovereign debt restructurings automatically trigger a credit event. Voluntary debt exchanges that are not forced upon creditors or debt exchanges in normal times may not constitute a credit event. More specifically, ISDA's definition indicates that a restructuring constitutes a credit event only if it (i) occurs as a result of deterioration in the creditworthiness or financial condition of the sovereign, and (ii) is "binding on all holders"—i.e., applies in mandatory form to all bondholders of a series. As pointed out by Roubini and Nowakowski (2011), a sovereign debt exchange offer can therefore be planned in a way to avoid triggering a CDS. The authors underline that a voluntary restructuring that does not rely on changes in domestic legislation or on the use of collection action clauses (CACs) to coerce non-participating creditors may not trigger a CDS (see Morgan Stanley 2011 for further discussion). It should also be noted that practices involving CDS triggers differ across world regions. For example, CDSs on Latin American sovereign debt normally allow for a three-day grace period, while CDSs on Western European sovereigns are triggered immediately after payments are missed.<sup>4</sup> However, the determination of sovereign credit events remains largely untested territory, with remaining gray areas. According to ISDA's Big Bang protocol, it ultimately lies in the hands of market participants to decide whether a debtor action triggers a credit event or not. Specifically, the final arbiter on credit events is the "Credit Derivatives Determinations Committees," which have been established in five world regions. Each regional committee is comprised of eight global derivative dealers, two regional dealers, five buy-side members, and two non-voting dealers.<sup>5</sup> A supermajority of 80 percent is required for an agreement.

#### D. "Haircuts" and Calculation of Debt Relief

Debt relief can be broadly defined as a reduction in the value of outstanding debt obligations. While there are many formulas, the IMF and most market observers use a present value approach to calculate the scope of creditor losses (or "haircut") implied in a debt exchange. More specifically, Sturzenegger and Zettelmeyer (2006 and 2008) and Cruces and Trebesch (2011), propose two approaches to compute haircuts.

The first approach is widely used by financial market participants and compares the present value of the new debt instruments (plus possible cash repayments) with the face value amount of the old outstanding debt (including past due interest on the old debt but no penalties). The haircut for a country  $i$  that exits default at time  $t$  and which faces an interest rate of  $r_t^i$  at the exit from default can be calculated as follows:

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<sup>3</sup> Specifically, the International Swaps and Derivatives Association (ISDA) defines debt repudiation by sovereigns as a situation in which an authorized officer rejects or challenges the validity of one or more obligations or imposes a moratorium or payment standstill with respect to one or more obligation (see Barclays Capital 2011).

<sup>4</sup> See ISDA: [http://www.isda.org/c\\_and\\_a/Credit-Derivatives-Physical-Settlement-Matrix.html](http://www.isda.org/c_and_a/Credit-Derivatives-Physical-Settlement-Matrix.html)

<sup>5</sup> See ISDA: <http://www.isda.org/dc/committees.html>

$$H_{1t}^i = 1 - \frac{\text{Present Value of New Debt } (r_t^i)}{\text{Face Value of Old Debt}} \quad (1)$$

An important rationale for using this formula is that debt payments are typically accelerated at a default event (see section V.C). Thus, default entitles creditors to immediate and full repayment of the face value amount, which may then be viewed against the present value of the new instruments.

A second approach is to compare the present value of the new instruments to the present value of the old instruments, so that:

$$H_{2t}^i = 1 - \frac{\text{Present Value of New Debt } (r_t^i)}{\text{Present Value of Old Debt } (r_t^i)} \quad (2)$$

The key difference to equation (1) is that the old debt instruments are now valued in present value terms and discounted at the same rate as the new debt instruments. In essence, equation (2) compares the value of the new and the old instruments in a hypothetical scenario in which the sovereign kept servicing old bonds that are not exchanged on a *pari passu* basis with the new bonds being issued (Sturzenegger and Zettelmeyer, 2008, p. 783). Put differently, equation (2) can be regarded as measuring the loss realized in the exchange by the participating creditors. Sturzenegger and Zettelmeyer (2008) conclude that equation (2) provides haircut estimates that better describe the “toughness” of a successful exchange than equation (1). They also argue that acceleration clauses might not always be a valid justification for taking the old debt at face value. In fact, some of the recent debt exchanges were pre-emptive, that is, implemented prior to a formal default that could have triggered acceleration.

In practice, the calculation of  $H$  requires computing repayment streams of both the old and new debt instruments, i.e., the amounts of principal and interest payable in each month in the future. In a next step, these contractual debt service payments are discounted to assess their present value. As a result, the choice of the discount rate  $r$  is crucial for computing haircuts, but this choice involves some arbitrariness.

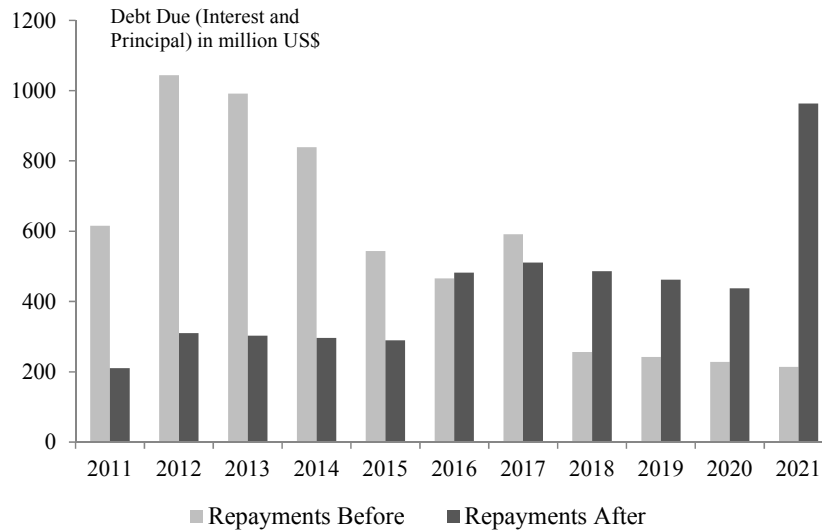
Sturzenegger and Zettelmeyer (2006) suggest that the discount rate be determined using the secondary market “exit” yield implicit in the price of the new debt instruments at the first trading day after the debt exchange. Secondary market yields, however, are available only for countries with a liquid bond market, and so exit yields exist for only a small subset of recent cases.

Due to these constraints, some authors use a constant 10 percent rate across countries and time, or they use a “risk free” rate for discounting purposes, such as LIBOR (see Kozack, 2005, for a discussion). An alternative is to impute exit yields based on market and rating data, as suggested by Cruces and Trebesch (2011). Using a unified methodology, they estimate market discount rates for the full sample of sovereign debt restructuring cases back to the 1970s. These discount rates take into account both the global price of credit risk as well as debtor country conditions at each point in time.

For illustration, let us turn to a stylized example. Figure 1 depicts a scenario for a country’s total debt service for the years 2011 until 2021, with a repayment hump in 2011 and 2012. Assume the country is in severe distress and successfully implements a debt

exchange in January 2010, involving both a cut in face value and a lengthening of maturities of its debt. Specifically, we assume that the total outstanding principal of 4.5 billion US\$ is reduced to 3 billion US\$. This 1.5 billion dollar debt write-off is equivalent to a nominal debt reduction of 33 percent ( $1-3/4.5$ ). In addition, most principal payments until 2015 are shifted to the period between 2016 and 2021, implying a present value reduction of the debt.

Figure 1. A Stylized Example—Total Debt Service Before and After Restructuring



Note: Hypothetical example of a debt exchange with a nominal debt reduction of 33 percent and a lengthening of maturities. At a 10 percent discount rate and 7 percent interest rate, the resulting haircut  $H_1$  of eq. (1) amounts to 44 percent, while the formula of eq. (2) yields a  $H_2$  of 37 percent.

With a 10 percent discount rate and constant 7 percent aggregate interest rate, the resulting haircut— $H_1$  in equation (1)—amounts to 44 percent, implying that investors lose 44 cents on the dollar in present value terms. However, the haircut is only 37 percent when applying the  $H_2$  formula of equation (2), where payments streams of new *and* old debt are discounted at 10 percent per annum. This example illustrates that there are different ways to compute the size of haircuts, with  $H_2$  of equation (2) representing a widely accepted measure in the academic literature. The results also show that creditor losses in present value terms (here: 37 percent) usually exceed the nominal loss in face value of the debt (here: 33 percent). Accordingly, one should distinguish between the size of haircuts (which are usually computed in present value terms) and the scope of face value debt reduction. In addition, one may think of haircuts in terms of targeting a specific debt to GDP ratio, as discussed in section X.C below.

Finally, some researchers have argued that haircuts are not necessarily the same as debt relief. This point is made by Sturzenegger and Zettelmeyer (2007), who suggest that debtor countries may want to use a different (lower) discount rate than investors. Their main argument is that a country should evaluate its debt burden under the assumption that it *will* repay, instead of taking a creditor's perspective and assessing the riskiness of its debt based on market prices. The country should therefore discount its debt with a risk free rate, or at most with the borrowing rate in normal times. Based on this approach, Sturzenegger and Zettelmeyer (2007) conclude that the debt relief from a country's perspective is typically lower than the haircut suffered by investors.

### III. THE PROCESS OF SOVEREIGN DEBT RESTRUCTURING

#### A. Key Elements in a Debt Restructuring Process

This section presents key elements in the process of restructuring sovereign bonds and loans. For illustration, Figure 2 provides a stylized timeline from the start of distress to the final restructuring. The restructuring episode is triggered by a default on debt payments or the announcement of a debt restructuring. Thereafter, the government usually embarks on some form of negotiations with its creditors, either bilaterally or with the help of advisors. The key purpose of the debt renegotiations is to agree on the terms of a debt exchange that will provide some form of debt relief and solve the distress situation. The negotiations are also often used as a forum to communicate key financial data and the government's fiscal and debt management plans.

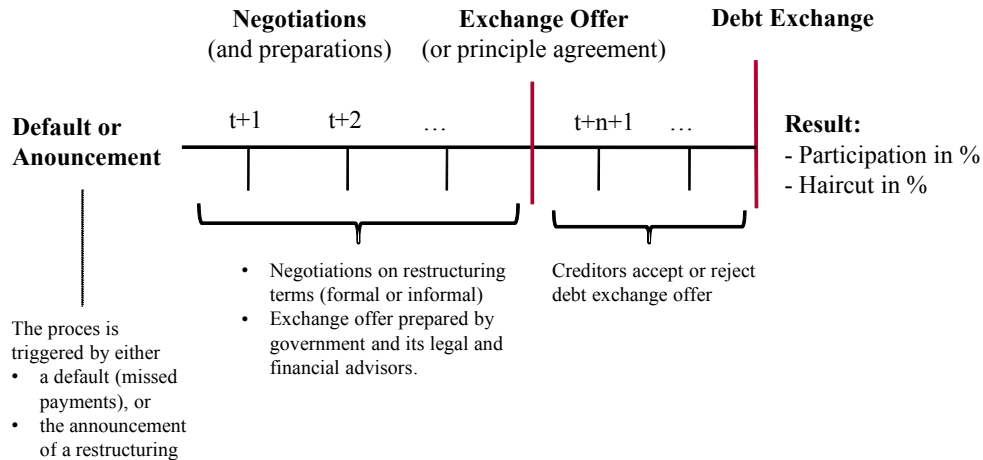
The negotiation or 'preparation' phase can take months or even years and usually goes hand in hand with a macroeconomic adjustment program and an evaluation of the country's financial situation. Among the first steps a country needs to undertake when considering a debt restructuring is to verify its total debt claims, which means understanding the characteristics of the government's outstanding loans, bonds, and other debt instruments, including their legal and financial features.

Lim, Medeiros, and Xiao (2005) suggest verifying the following key characteristics:

- The face and market value of bonds or loans;
- The amortization schedule (bullet versus amortization, and/or the existence of a sinking fund);
- Interest rate and coupons (fixed versus flexible, and/or the existence of step-up or linked features);
- Currency of denomination of the instruments (local versus foreign currency);
- Enhancements, including embedded options or collateral; and
- Legal clauses, including CACs and non-default clauses, and the ability to include exit consents (see section V for details).

The verification of claims allows countries to ascertain their debt stock, debt-service profile, and the value of debt instruments. This lays the foundations for the next crucial procedural step, a detailed debt sustainability analysis, which provides an indication of the financing gap, the macroeconomic adjustment effort, and the degree of required debt relief (see sections IX and X for more details). On this basis, governments typically develop a set of restructuring scenarios and prepare a final restructuring proposal, often with the support of legal and financial advisors.

Figure 2. Stylized Timeline of a Sovereign Debt Restructuring



After the restructuring offer is presented to creditors, they have to decide whether to accept or reject the offer. In most cases, a successful exchange requires a certain minimum threshold of acceptance by creditors. Creditor coordination problems and holdout risks are thus likely to be most acute during this period.

In most crisis cases, restructurings mark the end of a debt crisis episode, because the exchange of old into new debt puts the country back on the path of debt sustainability. However, restructurings do not always put an end to debt distress. Some countries continue to incur arrears after a completed restructuring process and there are many examples in which sovereigns implemented a series of subsequent restructurings, in particular during the 1980s debt crisis (see section IV).

In the next subsections, we briefly review the evidence on debt restructuring processes for each type of creditor involved. Specifically, we summarize the experience of restructuring processes with regard to: (i) bilateral (government to government) debt renegotiated under the Paris Club umbrella; (ii) commercial bank debt (London Club); and (iii) bond debt (sovereign bond restructurings).<sup>6</sup>

Table 1 summarizes the differences in negotiation settings across creditors. Note that the restructuring of supplier and trade credits is not discussed in detail, as it usually takes place ad hoc or is excluded from the restructuring exercise. We also do not discuss the recent Heavily Indebted Poor Country (HIPC) initiative or the Multilateral Debt Relief Initiative (MDRI) to coordinate debt relief to the poorest countries (for more details on the HIPC and MDRI, see IMF and World Bank, 2009).

<sup>6</sup> A more detailed presentation on debt restructuring processes for these creditor groups is provided in Rieffel (2003).

**Table 1. Overview of Debt Restructuring Vehicles by Type of Creditor**

Sovereign Debt Restructuring by Type of Creditor					
<i>Creditor</i>	Commercial Banks	Bondholders	Bilateral (Governments)	Multilateral (World Bank, IMF)	Suppliers, Trade Creditors
<i>Restructuring Vehicle</i>	London Club (Creditor Committees)	Exchange Offers	Paris Club	Preferential Treatment; Restructuring only for poorest countries	Ad hoc

### **B. Restructuring Bilateral Debt: The Paris Club**

The Paris Club is the main institutional framework to restructure external bilateral sovereign debt, referring to public and publicly-guaranteed debt that debtor countries owe to other governments. The origins of the Paris Club date back to 1956, when Argentina met its sovereign creditors in Paris in an effort to prevent an imminent default. With the 1980s debt crisis, the Paris Club became one of the key vehicles to resolve debt crises around the world and has since arranged more than 400 restructuring agreements.

In essence, the Paris Club is an informal group of creditors and an ad hoc negotiation forum. Like the Bank Advisory Committees (“London Club”), the Paris Club has neither legal status nor statutory rules of procedure. However, it has a small secretariat based in Paris and follows a set of established negotiation rules. The Paris Club members are the governments of 19 of the largest world economies, plus additional creditor governments that are invited to participate in the negotiations on a case by case basis, depending on whether they have relevant claims on the debtor in question.<sup>7</sup> Table 2 provides an overview of the group of creditor governments involved in a number of recent debt restructuring negotiations.

<sup>7</sup> Currently, the permanent members of the Paris Club are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, Norway, Russian Federation, Spain, Sweden, Switzerland, United Kingdom, and United States of America.

**Table 2. Paris Club Creditors in Selected Restructurings**

Country	Agreement Years	Participating Creditor Governments
Afghanistan	2006, 2007, 2010	Germany, Russian Federation, USA
Algeria	1994, 1995	Australia, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK, USA
Brazil	1992	Austria, Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Spain, Sweden, Switzerland, UK, USA
Iraq	2004	Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Korea (Rep. of), Netherlands, Russian Fed., Spain, Sweden, Switzerland, UK, USA
Pakistan	1999, 01/2001, 12/2001	Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Korea (Rep. of), Netherlands, Russian Fed., Spain, Sweden, Switzerland, UK, USA
Russia	1999	Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, Portugal, Spain, Sweden, Switzerland, UK, USA
Seychelles	2009	Belgium, Germany, Italy, Japan, Russian Federation, South Africa, Spain, UK

Source: Paris Club website

The process of debt restructuring with the Paris Club can be summarized as follows: A country that wants to restructure its debt has to approach the Club's secretariat and demonstrate its payment difficulties and need for debt relief based on its economic and financial situation. Debtor countries are also required to agree to a structural adjustment program with the IMF. Once a country satisfies these criteria, it meets and negotiates with a group of its creditors at the Paris Club so as to come to an agreement on broad restructuring terms. This final agreement (the "agreed minutes") is not legally binding, but establishes the minimum debt relief conditions that will guide the bilateral negotiations required for the bilateral agreements to become effective.<sup>8</sup>

Usually, the level of the debt relief granted in Paris Club restructuring depends on whether the country is a low income country (LIC) or not, and is often based on the financing gap identified in the related IMF program. Since the 1980s, there has been a clear trend towards granting more debt relief and increasingly concessional terms with regard to LICs. The scope of maximum debt cancellation increased from 33 percent in 1988 (Toronto terms) to 67 percent in 1994 (Naples terms). In 1996, with the establishment of the HIPC initiative, concessional treatment became a standard practice of the Club, with cancellations reaching up to 80 percent in 1996 (Lyons terms) and up to 90 percent in 1999 (Cologne terms). In addition, the Paris Club adopted the "Evian approach" in 2003, offering debt relief to countries other than HIPCs. A key novelty of the Evian approach was its focus on long-term debt sustainability rather than exclusively on short-term debt relief. Thereby, the Paris Club formally recognized that non-HIPC countries may also face solvency problems.

<sup>8</sup> For example, Iraq received 100 percent debt relief from Cyprus, Malta, Slovak Republic, and the United States under bilateral agreements, while the "agreed minutes" required only 80 percent debt relief.



A key principle of the Paris Club is the “comparability of treatment” clause, contained in each agreement. The clause foresees equal burden sharing across all creditor groups, in particular private creditors (banks, bondholders and suppliers), but also by other official bilateral creditor countries that are not members of the Paris Club. In practice, this means that the scope of debt relief granted by Paris Club creditors will determine how much debt relief other creditors should also grant to the country in question. As highlighted by the IMF (2001a, p. 43), “comparability of treatment is more an art than a science” and it is ultimately the Paris Club must judge whether any agreement with banks or bondholders has comparable terms or not. However, a clear breach of the comparability clause can potentially lead to a cancellation of the Paris Club agreement and, in consequence, jeopardize the financing of the related IMF program.

Thus, the Club’s comparability of treatment rule significantly affects the leeway in negotiations with banks or bondholders, also because Paris Club agreements often precede restructurings with other creditors. Two recent examples are the Eurobond exchanges of Pakistan 1999 and the Dominican Republic 2005, which were at least in part motivated by the comparability of treatment clause. In the case of Pakistan, for example, only a small share of external debt was owed to private creditors. The Eurobond restructuring only had a volume of about 1 percent to GDP and was thus too small to have a sizable impact on debt sustainability. Despite this, the Paris Club required the government of Pakistan to show signs of “progress” in bondholder negotiations (see Sturzenegger and Zettelmeyer, 2007, p. 141).

### **C. Restructuring Bank Loans: The London Club**

The process of debt renegotiations between governments and commercial banks is typically labeled as “London Club” restructuring. Despite its name, the London Club is neither a statutory institution based in London nor a well-organized club.<sup>9</sup> Instead, the term loosely describes the case-by-case restructuring routine developed between major Western banks and developing country governments in the late 1970s and early 1980s.

The core element of the London Club process is the Bank Advisory Committee (BAC), or Creditor Committee. The BAC is a group of 5–20 representative banks which negotiate on behalf of all banks affected by the restructuring. Its key aim was to overcome coordination problems among hundreds of individual banks and to bundle restructuring expertise in the hands of large banks and their legal and financial advisors.

The members of the banking committees are usually senior officials of those banks with the largest exposure to the sovereign.<sup>10</sup> However, as highlighted by Reed (1987), these large banking committees represented only 25–35 percent of a country’s total external

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<sup>9</sup> As highlighted by Rieffel (2003, p. 108) the origins of the “London Club” label remain obscure. The term is to some degree misleading, as most meetings of Bank Advisory Committees during the 1980s and 1990s took place in New York, not in London.

<sup>10</sup> Restructuring experience was also a criterion, as shown in the case of Algeria 1996. Although Japanese banks had the largest exposure, the French bank Société Générale was asked to head the committee given that Japanese banks were not experienced in heading steering committees and could not fully rely on their own work-out negotiators.

debt to commercial banks in the 1980s and 1990s. The rest was held by an often fragmented group of banks in a variety of countries. Table 3 gives an overview of the structure of BACs in selected debt renegotiations, as well as the total number of banks involved in each deal.

London Club negotiations tend to proceed as follows: In the early stage of financial distress, a debtor government contacts its one or two major bank creditors asking them to organize and chair a steering committee. During the 1970s and 1980s, it was easy for the government to identify their major creditors, as most lending took place via syndicated loans and there was barely any trading on secondary markets. Also, banks were well informed about who held the debt, so that communication was easier than in today's more dispersed bond markets.

Once the committee of major bankers was established, the banking representatives would meet the country's government officials on a regular basis, often at monthly or weekly intervals. These negotiations typically covered the full spectrum of crisis resolution measures, including the provision of new financing, short-term liquidity support via rollovers or credit lines, as well as the restructuring of loans with maturity prolongation and/or outright reductions in face value. The BACs were thus a key vehicle to address both the liquidity and solvency problems of sovereigns in distress.<sup>11</sup>

A key milestone for debt restructurings in the London Club process is the "agreement in principle", which was signed between the representative BAC banks and government officials, once the main restructuring terms had been agreed. After the principle agreement had been signed, the terms were sent to all other banks for approval. In this step, unanimity was required for the successful finalization of a restructuring.<sup>12</sup>

Contrary to common belief, holdouts and intra-creditor disputes were a major problem in the era of bank debt restructuring of the 1980s and 1990s. According to data collected in Trebesch (2008), about 30 percent of London Club restructurings suffered from intra-creditor disputes that led to delays of 3 months or more in implementing the deal. In most cases, holdout problems were caused by groups of smaller banks, such as regional banks in the U.S. However, in some cases, major creditors also refused to participate in agreements arranged by a representative group (e.g., Bankers Trust in Algeria in 1992, Lloyds bank in Argentina in 1982, Citibank in Chile in 1987 and in the Philippines in 1986). A further repeated problem was disagreement over the composition and leadership of creditor committees (e.g., in Algeria in 1994, Dominican Republic in 1983, and South Africa in 1985).

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<sup>11</sup> Much of the work was done by legal advisers and subcommittees that focused on particular aspects of a deal. There were subcommittees for processing economic data and surveillance, subcommittees responsible for communicating with the Bretton Woods institutions, or subcommittees specially negotiating over trade financing or interbank credit lines.

<sup>12</sup> This was often not an easy goal, because deals sometimes involved up to 1,000 banks, small and large, in many countries. Typically, each member of the Steering Committee would manage the reconciliation by a group of banks not in the committee, so as to convince them to sign up for the deal (see Rieffel, 2003, p. 122). This was not always successful.

In addition, the implementation of bank loan restructurings was plagued by technical and legal hurdles. The Yugoslav debt deal of 1983 is just one example of a technically very challenging restructuring. Reportedly, the deal required the signature of some 30,000 documents in up to eight international financial centers (Financial Times, September 2, 1983). Legal and technical issues also led to significant delays in finalizing deals, such as in Mexico in 1984/85 and in Vietnam's Brady deal negotiations in the mid-1990s.

### Box 1. The Brady Plan

By the late 1980s, many developing countries had been in default for nearly a decade. They had settled on a chain of rescheduling agreements with their bank creditors, granting short-term liquidity relief but no cuts in face value. In this situation, the Brady plan constituted a major policy shift, because the official sector started to encourage outright debt reduction so as to restore debtor solvency. The plan was first announced by U.S. Treasury secretary Nicholas Brady in March 1989 and was later widely supported, including by the IMF and the World Bank.

The main elements of the Brady Plan are the following:

- *Exchange of bank loans into sovereign bonds*: The Brady plan foresaw the exchange of outstanding bank loans into new sovereign bonds, which were partly collateralized by US Treasury bonds. The issuance of new tradable instruments amounting to several billions of US\$ created a liquid secondary market for emerging market sovereign bonds, which had last existed during the interwar years. The Brady plan can thus be seen as the start of modern-era sovereign bond trading.
- *Menu approach*: Participating creditors were offered a menu of options, allowing them to choose between different new instruments, including discount bonds with a cut in face value, and par bonds with long maturities and below-market interest rates but no debt reduction. Banks could also choose to provide new money to the issuing countries, in which case they were offered new instruments with better terms, e.g., higher coupons or shorter maturities.
- *Capitalization of arrears*: Interest arrears to commercial banks were partly written off but also partly capitalized into new short-term floating rate bonds.

In total, 17 Brady deals were implemented on a country-by-country basis, starting with Mexico in September 1989 and ending with the last Brady type agreements in Côte d'Ivoire and Vietnam in 1997. Most Brady countries were in Latin America, namely Argentina, Bolivia, Brazil, Costa Rica, Dominican Republic, Ecuador, Mexico, Panama, Peru, Uruguay and Venezuela. The other six countries were Bulgaria, Côte d'Ivoire, Jordan, Nigeria, Philippines, Poland and Vietnam.<sup>13</sup>

The Brady Plan is widely regarded as a success. Debtor countries put an end to the 'lost decade' of the 1980s debt crisis and normalized their relations with creditors for the first time after years of protracted debt renegotiations. The agreements also fostered a new wave of capital inflows to emerging markets. Sovereigns were able to re-access capital markets, stock markets rallied, and countries saw an increase in growth and investment, as documented by Henry and Arslanalp (2005). Based on their analysis, the authors argue that debt relief can be efficient, particularly in countries that face a debt overhang problem and which feature strong institutions and a viable private sector economy, thus attracting foreign investment flows.

However, not all hopes connected to the Brady plan were fulfilled. As highlighted by Chuhan and Sturzenegger (2005), the step-up of interest payments inherent in some of the new bonds threatened the debt sustainability of some debtors 10 years later, thus contributing to renewed default risks.

<sup>13</sup> Originally, also Morocco was supposed to implement a restructuring under the umbrella of the Brady initiative in the early 1990s. This, however, did not occur because the government did not fulfill the requirements of a related IMF agreement.

Relatedly, the belief that Brady bonds were ‘undefaultable’ turned out to be wrong. Ecuador was the first country to restructure its Brady bonds, in 2000, followed by Uruguay (2003), Argentina (2005), and Côte d’Ivoire (2010).

In recent times, the experience with bank debt restructuring has been mixed. Those of Pakistan (1999) and the Dominican Republic (2005) could be implemented quickly and after just a few meetings with major bank representatives. In contrast, the bank loan restructurings in Iraq (2006) and Serbia and Montenegro (2004) took much longer and were more disputed. Iraq, for example, faced a creditor group composed of banks, trade creditors, suppliers, and an array of individual companies and investors. Ultimately, the government had to settle more than 13,000 individual claims on Saddam era debt, a process that took more than two years.<sup>14</sup> A further example of a troublesome restructuring is the Russian London Club deal of 1998–2000. The domestic debt restructuring committee of 19 international banks was effectively dissolved in 1999, as creditors moved to exchange their debt on a bilateral basis. Also the process of external bond restructuring was delayed by many months, partly due to disagreements with a group of mutual funds and hedge funds that held up to 15 percent of debt but which were not represented in the banking committee (see Trebesch, 2008, for details).

All in all, however, the BAC process can be regarded as a successful debt restructuring vehicle. The 1980s and 1990s saw more than 100 debt restructurings under the London Club umbrella and most were implemented without major hurdles or conflict.

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<sup>14</sup> Iraq reopened the private debt exchange of 2006 (so-called 688) in 2008 to try to cover the rest of private creditors. The new process was called 688-08 and covered the remaining stock of debt. The cash buyback agreement was reportedly quite successful, with significant debt forgiveness. However, there is still some remaining unresolved debt.

**Table 3. Selected Bank Advisory Committees since the 1980s (London Club Process)**

Country	Period	Total Number of Banks (approx.)	Size of Banking Committee	Head of Committee	Bank Committee Members (by Country)							
					US	Japan	UK	France	Germany	Switzerland	Canada	Other
<b>Albania</b>	1991-1995	45	5	Creditanstalt-Bankverein (Austria)				Credit Lyonnais	Berliner Handels- und Frankfurter Bank	Union Bank of Switzerland		Banca Nazionale del Lavoro, Creditanstalt-Bankverein
<b>Algeria</b>	1990-1992	240	8	Credit Lyonnais (France)	Chase Manhattan	Mitsui-Taiyo Kobe, Long-Term Credit Bank, Industrial Bank of Japan		Credit Lyonnais, Banque Nationale de Paris				Arab Banking Corp., Union de Banques Arabes et Francaises
<b>Argentina</b>	1980s debt crisis	300-350	11	Citibank (US)	Bank of America, Citibank, Chase Manhattan, Manufacturers Hanover, Morgan Guarantee	Bank of Tokyo	Lloyds Bank	Credit Lyonnais	Dresdner Bank	Credit Suisse	Royal Bank of Canada	
<b>Brazil</b>	1980s debt crisis	750-800	14	Citibank (US)	Bank of America, Bankers Trust, Chase Manhattan, Chemical Bank, Citibank, Manufacturers Hanover, J.P. Morgan	Bank of Tokyo	Lloyds Bank	Credit Lyonnais	Deutsche Bank	UBS	Bank of Montreal	Arab Banking Corp.
<b>Mexico</b>	1980s debt crisis	500	13	Citibank (US), Bank of America (US)	Bank of America, Manufacturers Hanover, Morgan Guaranty, Bankers Trust, Chase Manhattan, Chemical Bank, Citibank,	Bank of Tokyo	Lloyds Bank	Societe Generale	Deutsche Bank	Swiss Bank	Bank of Montreal	
<b>Poland</b>	1980s debt crisis	500	8	Creditanstalt-Bankverein (Austria)	Bank of America and Citibank		Lloyds Bank, Barclays Bank	Banque Nationale de Paris	Dresdner Bank of West Germany, Dresdner's Luxembourg subsidiary			Creditanstalt-Bankverein
<b>Russia</b>	1998-2000	2000	12	Deutsche Bank (Germany)	Bank of America	Bank of Tokyo, Dai-ichi Kangyo Bank, Industrial Bank of Japan	Midland Bank	Banque Nationale de Paris, Credit Lyonnais	Deutsche Bank, Dresdner Bank, Commerzbank		Banca Commerciale Italiana	Creditanstalt-Bankverein.

Source: Trebesch (2010) and the sources cited therein.

## **D. Sovereign Bond Exchanges**

### **Operational steps in implementing a bond exchange**

The main steps in implementing a sovereign bond exchange are:<sup>15</sup>

- Verify debt claims (payment obligations, legal and other features);
- Identify and contact bondholders, often with the help of advisors;
- Prepare an exchange offer, preferably in consultation with bondholder representatives and with the support of advisors;
- Launch an exchange offer, and communicate it directly to creditors or via advisors or press releases;
- Wait for bondholder feedback/participation; and
- Debt exchange: Issue new bonds and, possibly, retire outstanding bonds.

The initial steps in preparing a bond exchange, therefore, involve gaining a full understanding of the details of all outstanding bonds, including knowing who holds the bonds and possibly who bought CDSs on them. Typically, debtor governments also contact legal and financial advisors early on. Legal advisors may provide insights on possible legal hurdles of a restructuring, can provide an overview of the legal characteristics of bonds, and may help in drafting the bond exchange documentation and terms of the new bonds. Financial advisors can help in identifying and reaching out to bondholders, and they can play an important role in designing the financial terms of the exchange, such as computing different bond exchange options, drafting “carrot” and “stick” features (see below), and assessing the required scope of debt relief. Similarly, member countries also frequently contact the IMF for advice on bond restructuring.

### **Bondholder structure**

The key difference between sovereign bond and bank debt restructurings is the creditor structure, which tends to be much more dispersed, especially if bonds were sold to retail investors. Indeed, some bond restructurings of recent years, such as those of Argentina in 2005 and Ukraine in 2000, affected thousands of individual creditors, with an estimated 600,000 and 100,000 retail investors, respectively. Thousands of minor bondholders were also involved in the recent bond exchanges in Dominica (2004), Pakistan (1999), Uruguay (2003), and Seychelles (2009).

However, bondholder numbers are not always large. In cases like Jamaica (2010), Belize (2007), Grenada (2005), and Ecuador (2000), sovereign bonds were mostly held by a relatively small group of institutional investors. Even more concentrated was the creditor structure in the restructuring of Moldova (2002), where one creditor held 78 percent of the outstanding Eurobonds. Table 4 provides an overview of the creditor structure in recent bond exchanges.

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<sup>15</sup> See also Section III. A above.

## **Bondholder communication and negotiation**

With dispersed creditor structures it can be difficult to identify bondholders and to communicate with them, especially if they are retail investors. The main challenge in this regard is that bond trading occurs over the counter and no central agency registers the holders of bonds at each point in time. Governments undergoing a bond restructuring, therefore, need to identify the holders of bonds to initiate a form of dialogue with them.

In some cases, bondholder consultations have been extensive, to a degree that the exchange offer is jointly developed with bondholder representatives. This was the case in Uruguay (2003), but creditor consultations were also wide-ranging in other debt restructuring cases such as Pakistan (1999), Moldova (2002), Ukraine (2000), Grenada (2005), Belize (2007), Seychelles (2009), and Jamaica (2010). A popular communication strategy is roadshows, in which senior country officials present the proposed debt exchange to investors and ask for feedback, as was done, for example, by the government of the Dominican Republic in 2004. Official press releases and clearly visible notices in leading financial newspapers are a further popular vehicle to keep investors informed.

On the creditor side, large, representative bondholder groups were formed only in a minority of recent cases, notably in Argentina (2005), Grenada (2005), and Belize (2007).<sup>16</sup> Among these, the Global Committee of Argentina Bondholders was the most visible, claiming to represent more than 50 percent of the outstanding private bonds of Argentina, but it was never formally recognized by the Argentinean government. In Belize (2007) and Grenada (2005), creditor committees consisted of only a few major financial institutions (13 and 7, respectively), but these did represent 50 percent or more of the outstanding private debt.

## **Bond exchange offers**

*One of the key objectives in designing an exchange offer is to achieve a high participation rate by bondholders.* Most exchange offers, therefore, contain “carrot” features or “sweeteners” that generate incentives for participation (see the detailed overview in Andritzky, 2006). Sweeteners can take the form of upfront cash repayments, advantageous legal features of the new bonds, or add-ons to the new instruments, such as the GDP-linked warrants in the 2005 Argentinean exchange. Liquidity risk can also generate incentives. Many governments exchange an array of old instruments into a small set of new bonds, e.g., Jamaica, where 356 bonds were replaced by 25 new instruments. These new bonds are likely to trade as benchmark bonds with higher liquidity, making them more attractive for bondholders who hold less liquid claims. Also, regulatory sweeteners can be used, particularly with regard to local bondholders. Argentina, for example, tried to convince domestic banks to participate in its 2005 exchange by allowing them to value the new instruments at par when fulfilling liquidity or capital adequacy requirements.

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<sup>16</sup> There were small bondholder groupings in the Dominican Republic 2005 and the Seychelles 2009 representing only a minority of bondholders. In Ecuador 1999, the government convened the “Creditor Consultative Group” consisting of 8 major debt investors, which however held only two meetings.

Another strategy to generate incentives for participation is to design a menu of exchange options. This means allowing investors to choose among different new instruments when tendering their old claims, thus accounting for differing preferences across creditors. Lim et al. (2005) underline that retail investors tend to prefer new bonds with no face value reduction (cut in principal) and are more willing to accept long maturity and low coupons. In contrast, many institutional investors that mark to market appear to have a preference for bonds with a principal haircut but a combination of shorter maturities and higher coupons.

Exchange offers can also contain “stick” features, which are intended to make the outstanding bonds less attractive. Stick features can be agreed upon by participating creditors via exit consents, a legal vehicle that allows the removal of clauses from the old bonds, such as cross-acceleration clauses or the listing requirement (see section V.C for a discussion of these legal terms). This will effectively reduce the value of the old bond and central bank acceptance as eligible collateral after the exchange and, thereby, encourage bondholders to accept the offer. Overall, the case evidence provided by Andritzky (2006), Enderlein et al. (forthcoming), Rieffel (2003) or Roubini and Setser (2003) indicates that it is crucial to strike the right balance between “stick” and “carrot” features in preparing an exchange offer.



**Table 4. Negotiating with Sovereign Bondholders**

	Creditor Structure	Creditor Representation	Negotiations with Creditors	Participation Rate
<b>Argentina</b> 2005	Very fragmented. Of Argentina's external bonds, 56.5% were held by institutional investors and 43.5% by retail investors. Country distribution: Argentina 38.4%, Italy 15.6%, Switzerland 10.3%, US 9.1%, Germany 5.1%, Japan 3.1%. Approximately 600,000 retail investors affected (450,000 Italians, 35,000 Japanese and 150,000 Germans and Central Europeans)	Several groups formed. In Dec. 2003 creation of the GCAB, representing about 50% of outstanding foreign private sector debt. No group recognized by government (see footnotes)	No regular negotiations. Some informal contacts in 2002; Some meetings in 2003, 2004, 2005	76%
<b>Belize</b> 2007	Rather concentrated. Mostly institutional investors from the region, in particular from Trinidad and Tobago but also from Barbados and Jamaica	Creditor Committee composed of 13 financial institutions from the Caribbean, representing more than 50% of outstanding debt (see footnotes)	The government announced a preemptive restructuring and asked creditors to form a committee in August of 2006. Until early 2007 extensive interactions with creditors	98%
<b>Dominica</b> 2004	Very dispersed creditor group with many small bondholders. The majority of bonds were held by domestic and Caribbean creditors, in particular the Dominica Social Security and the National Bank of Dominica who account for over 50% of eligible debt. Only a handful of external private creditors, including the Kuwait Fund for Arab Economic Development, the Royal Bank of Trinidad and Tobago (RBTT) and the Exim bank from Taiwan Province of China, who together held approximately 20% of eligible debt.	No committee formed	Numerous contacts (1-on-1 and towards groups). Roadshow in Jan 2004 in Barbados, St. Lucia, and Trinidad and Tobago to meet with the wide spectrum of creditors (including domestic).	72%
<b>Dominican Republic</b> 2005	Bonds were widely held by institutional investors exposed to emerging market countries, in particular in New York and London.	Unsuccessful. Attempt to form a committee failed due to lack of support (less than 25% of outstanding debt) and because authorities refused to recognize it	Frequent contacts with bondholders (1 on 1 and towards groups). The authorities held a roadshow with their advisors in New York and London during December 2004, conducting over a dozen meetings with investors that held approximately 60 percent of outstanding principal.	97%
<b>Ecuador</b> 2000	Bonds were widely held by institutional investors, in particular in New York and London.	No recognized bondholder committee. A minority of creditors form the Ecuador Creditors Advisory Group, headed by Gramercy Advisors, which, however, had limited influence and was not recognized by the government	The authorities established a so-called Consultative Group, which consisted of eight representative institutional bondholders with large exposures. However, only two meetings were held and authorities resisted calls for full-fledged negotiations or the establishment of a bondholder committee.	98%

**Argentina:** The GCAB is the Global Committee of Argentine Bondholders formed in December 2003. It was comprised of Task Force Argentina, which represents Italian retail investors holding \$14.5 billion of bonds; the Argentina Bondholders Committee, which represents \$7.5 billion of bonds held by institutional investors; the Argentine Bond Restructuring Agency (ABRA), which holds \$1.2 billion of bonds from German, Austrian and Luxembourg retail investors, and Bank of Tokyo-Mitsubishi and Shinsei Bank, which represent \$1.8 billion of Samurai bonds held by Japanese investors. (Source: WSJ, 30 Jan. 2004). **Belize:** The committee members included AIC Finance Limited, British-American Insurance Company, Caribbean Money Market Brokers, First Citizens Asset Management, First Global Financial Services, Guardian Asset Management, Jamaica Money Market Brokers, National Commercial Bank, RBTT Merchant Bank, RBTT Trust, Republic Bank, Sagcor Life., Trinidad & Tobago Unit Trust Corporation.

		Creditor Structure	Creditor Representation	Negotiations with Creditors	Participation Rate
<b>Ecuador</b>	<b>2009</b>	Little known on bondholder structure. Ecuador bought back many of its bonds on the secondary market prior to the official exchange offer.	No committee formed	No negotiations	
<b>Grenada</b>	<b>2005</b>	Mostly institutional investors from the region, including Republic Bank, Royal Bank of Trinidad and Tobago, T&T Unit Trust Corporation, Sagicor Financial Corporation, Caribbean Money Market Brokers and First Citizens Trust and Asset Management	Creditor committee composed mainly of regional banks holding more than 70% of outstanding private debt (7 institutions, see footnotes)	Regular, extensive dialogue with creditors. Government very transparent on restructuring process. Offer revised to obtain endorsement from creditor committee.	>90%; 97% for external debt
<b>Moldova</b>	<b>2002</b>	Concentrated. The TCW Asset Management Company (TAMCO), held 78 percent of the outstanding Eurobond. The remaining bondholders include several private holders and a US pension fund	No committee, no bondholder group formed	Extensive negotiations with the main creditor, TCW, starting in June 2002. TCW agreed to extend the redemption date of the notes from June 13, 2002 to November 13, 2002 to allow enough time for restructuring negotiations.	100%
<b>Pakistan</b>	<b>1999</b>	The majority of bonds was held by financial institutions and retail investors from the Middle East. US and European investment firms had only small holdings and these instruments were generally not traded in European and U.S. secondary markets. About 30% of restructured bonds were held by domestic investors, including Habib Bank and the National Bank of Pakistan.	No committee, no bondholder group formed	The authorities were able to contact investors holding approximately 40 percent of principal. Extensive informal discussions with this group of creditors.	99%
<b>Seychelles</b>	<b>2009</b>	Very fragmented. The Eurobond was mainly held by retail investors. Lehman Brothers was exposed to promissory notes.	No creditor committee or representative creditor group. A small, informal creditor group headed by Banco Finantia, and joined by Cable & Wireless, and Diageo represented just 9% of the outstanding 2011 notes and endorsed the exchange	Extensive negotiations with bondholders.	89% overall; 84% of holders of Eurobond
<b>Uruguay</b>	<b>2003</b>	More than 50% of bonds held by domestic creditors, mostly retail investors. The Samurai and Euro-denominated bonds had a large retail investor base in Japan and Europe respectively. International USD-denominated bonds were widely held by institutional investors in the United States.	No committee, no bondholder group formed	Extensive consultations and investor roadshow prior to the exchange. A first round of market sounding resulted in an amendment of the original terms of the offer. After the initial launch on April 10, the government organized a second roadshow to explain the offer. Domestically, the authorities maintained close contacts with major institutional investors.	93%
<b>Ukraine</b>	<b>2000</b>	Three of four Ukrainian bonds were held by a limited number of investment banks and hedge funds. The remaining Ukrainian bond issue was widely held by retail investors in Europe, with many small bondholders that had bought the minimum denomination of DM 10,000. According to Finance Ministry estimates, these bonds were held by about 100,000 final investors.	No committee, no bondholder group formed	Extensive informal dialogue with institutional investors. Four investment banks helped to identify retail bondholders and to encourage them to accept the exchange offer.	97%

Sources: Trebesch (2010), complemented with information by Andritzky (2010), Lim, Medeiros and Xiao (2005) and IMF (2003). **Grenada:** The committee members included Republic Bank, RBTT, T&T Unit Trust Corporation, Sagicor Financial Corporation, Caribbean Money Market Brokers and First Citizens Trust and Asset Management.

Once the offer is officially launched, the debtor government usually announces an exchange deadline, as well as a minimum participation threshold for an exchange to take place. This minimum threshold has ranged between 75 percent and 85 percent of outstanding bonds in most cases (see Andritzky, 2010, for an overview). Interestingly, Sturzenegger and Zettelmeyer (2006) show that bondholders tend to wait until the last few days before the deadline to accept an offer. To encourage early participation, sweeteners are therefore sometimes offered only until a certain deadline (e.g., in Uruguay 2003).<sup>17</sup> To achieve higher participation, the exchange deadline is often extended by a few days or weeks. This was the case in all three of Ukraine's debt exchange offers (1998, 1999, and 2000) and in Dominica in 2004, where the deadline of its bond exchange was extended twice and by more than four months. Another way to spur higher participation is via legal means, especially via CACs that ease the restructuring of bonds (see section V). Actual participation rates were very high on average, surpassing 90 percent in most recent sovereign bond exchanges (see Table 4 for an overview).

### E. The Duration of Debt Renegotiations

Debt renegotiation processes can be protracted, sometimes spanning more than 10 years. This section briefly documents differences in restructuring duration across countries and time. We build on a new database by Trebesch (2008), who proposes that the duration of all restructuring processes can be measured in a comparable way and broken down into three general sub-phases (analogous to the stylized timeline of Figure 2). Phase one is the "*starting phase*," which begins with the credit event and lasts until the beginning of formal or informal negotiations with creditors.<sup>18</sup> The second phase is the "*negotiation phase*," which starts with formal or informal negotiations and ends with a principal agreement with and/or exchange offer to banks or bondholders. The third phase is the "*implementation phase*," which starts with the offer and ends with the final agreement and implementation of the debt exchange.

The main advantage of this classification of restructuring phases is that it is general enough to be applied in different eras of debt restructurings and for different types of debt (bond or loan restructurings). Another advantage is that it captures the duration of individual debt restructuring processes from beginning to end and on a monthly basis, as opposed to aggregate debt crisis durations, which are captured, for example, in the annual default data by Standard & Poor's (2006).<sup>19</sup> The focus on individual

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<sup>17</sup> The same logic applies in some of the London Club debt renegotiations. Argentina, for example, introduced "early participation fees" in 1987. Banks accepting the government's restructuring offer within 30 days were given a 3/8 percent fee, but only 1/8 percent thereafter.

<sup>18</sup> Credit events in this database are defined as the month in which (i) the government misses first payments beyond the grace period (default month), or (ii) there is a public announcement to restructure the respective debt instruments.

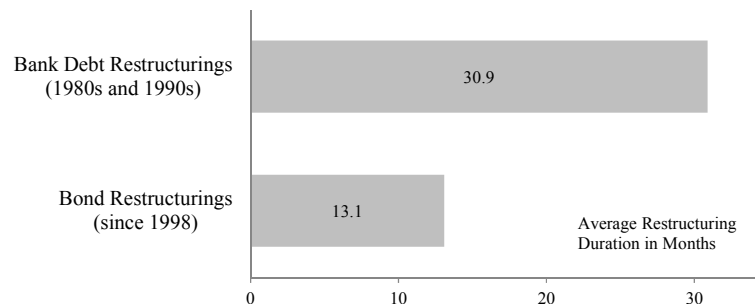
<sup>19</sup> S&P's annual data do not measure negotiation duration but code (i) missed payments and (ii) distressed debt restructurings only. As a result, their data lump together subsequent (or parallel) debt renegotiation processes on different types of debt and involving different restructuring terms.

restructurings allows for a more in-depth insight into the negotiation process for each type of debt and creditor.

Applying the above classification of restructuring phases to the data provides a series of new stylized facts (see Trebesch 2008):

- *Considerable variation in the length of the sovereign debt restructuring process.* The average total duration from the start of debt distress to the finalization of a restructuring is 28 months, with a very large standard deviation of 32 months. In some cases, such as Jamaica (2010), Uruguay (2003), Pakistan (1999), Chile (1990) or Romania (1986), restructurings occurred at record speed, i.e., in only three or four months. Other restructurings, such as Argentina (2001–2005), Jordan (1989–1993) or Peru (1983–1997), took years to resolve.
- *Notable differences across the last decades.* Restructurings during the 1980s and 1990s took on average significantly longer (31 months) than restructurings in the “Post-Brady era” since 1998 (17 months). In particular, it is notable that in recent years only Argentina’s global bond exchange in 2005 and Serbia’s 2004 exchange of Yugoslav-era bank debt took more than 3 years to negotiate. All other restructurings in an emerging market context were implemented more quickly.
- *Differences between bank and bond debt restructurings.* As can be seen in Figure 3, bond debt exchanges since 1998 took an average of only 13 months. This is less than half the average duration of bank debt restructurings, which took more than 30 months on average.

Figure 3. Restructuring Duration by Type of Debt



Note: The figure summarizes the duration of individual debt restructuring processes between emerging market debtor governments and private external creditors since 1980. The sample includes 83 bank debt restructuring deals and 12 sovereign bond restructurings and excludes restructurings in HIPC and those related to debt relief initiatives (only market based deals). The start of debt distress (credit event) is defined as either (i) default (missed payments beyond grace period) or (ii) the announcement/start of debt restructuring negotiations. The process ends with a final agreement and/or debt exchange. Figure and data are taken from Trebesch (2008).

Overall, one can conclude that debt restructuring duration has been decreasing significantly in the last decades, especially when it comes to sovereign bond restructurings. Argentina’s 2005 exchange is clearly an exception.

## F. Pitfalls in the Restructuring Process

Building on the above, this section briefly discusses typical pitfalls in the restructuring process. Why are some debt renegotiations delayed over so many years? What explains the disputes between debtor governments and their debtors? And why do some restructurings fail with low creditor participation? Although we cannot address these questions in depth, we summarize some main insights from new research in the field.

### **Creditor coordination failures, litigation, and holdouts**

The problem of creditor holdouts and litigation is widely seen as the main reason for delayed and inefficient debt restructurings. In a typical holdout scenario, a creditor will refuse to participate in a restructuring offer, so as to enforce better terms later on, possibly by suing the sovereign in a court in London or New York (see section IV for a detailed discussion on litigation). This type of free-riding behavior and other forms of creditor coordination failures are seen as increasingly important stumbling blocks, mainly due to the shift from bank to bond financing in emerging markets (see Pitchford and Wright, 2007, 2008, or Krueger, 2002). Intuitively, large bondholder groups may find it harder to coordinate and agree on a deal, compared to a small group of commercial banks in the London Club process.

However, as shown above, bond restructurings have on average been quicker to implement than bank debt exchanges. In addition, London Club restructurings were frequently plagued by creditor coordination problems as well. Accordingly, Trebesch (2008) underlines that there is no robust evidence that creditor characteristics play a dominant role in the duration of debt restructurings. He finds no correlation between negotiation delays and the number of creditors involved in the renegotiations. In addition, his case archive shows that troublesome holdouts have remained the exception, and that there is no evidence indicating an increasing trend in inter-creditor disputes since the 1980s.

Litigation case numbers following a default or restructuring on sovereign debt have increased notably (see section IV). Nevertheless, the number of cases remains low, with only 109 individual litigation occurrences since 1980 (see Enderlein, Schumacher and Trebesch, 2011). The number of litigation “successes”, i.e., settlements or successful attachments of sovereign assets, is even smaller than that.

Taken together, these facts indicate that creditor coordination and holdouts may be less of a problem than commonly believed. Bi, Chamon and Zettelmeyer (2011) develop a related model, which rationalizes why coordination failures in past bond exchanges have been the exception and not the rule and why participation rates have often exceeded 90 percent, even with dispersed bondholders. The authors argue that holdout strategies and litigation are costly and require specialized knowledge. In addition, countries have often relied on legal mechanisms that help avoid litigation. In effect, professional legal advice can help to shield sovereigns from litigation (e.g., Blackman and Mukhi, 2011).

Nevertheless, there are outlier cases. The global bond exchange in Argentina (2005) and also the restructuring in Dominica (2004) are two recent cases that can be regarded as unsuccessful. Both restructurings suffered from a large share of holdout creditors and

both countries had difficulties in re-accessing international capital markets after the exchange.<sup>20</sup> The two cases illustrate, however, how debtor governments can deal with holdout creditors, namely by renegotiating with them after the exchange. Dominica gradually convinced individual creditors to accept its original exchange offer in the years between 2004 and 2007. Argentina, in turn, launched a new public exchange offer in April 2010, which achieved a 66 percent participation rate, thereby bringing the total participation rate to 92 percent (Hornbeck, 2010). However, many of the remaining 8 percent holdouts, including distressed debt funds, continue their litigation efforts to this day.

### **Debtor policies and political risk**

In addition to creditor behavior, it is well known that debtor country policies, in particular a lack of transparency and insufficient communication with creditors, can contribute to failed or delayed restructuring processes. All available evidence indicates that information sharing and close consultations with banks and bondholders go hand-in-hand with quick and successful restructuring (Andritzky, 2006, Enderlein, Trebesch, and von Daniels, forthcoming, Roubini and Setser, 2004, Sturzenegger and Zettelmeyer, 2006). A frequent issue of disagreement is the disclosure of reserve amounts or of details on prospective exchange offers. Similarly, there have been disputes on non-disclosed debt buyback programs. One example is Peru in 1995, when president Fujimori refused to discuss details on sovereign debt buybacks on secondary markets, calling it a matter of “state security.”<sup>21</sup>

Also, political instability and political economy problems play a role. Elections, wars and conflicts, widespread riots and general strikes, or the resignation of key government members can all cause delays in implementing a debt restructuring. In other cases, restructurings failed because governments unilaterally cancelled agreements that had been signed by the previous party in power. In addition, IMF programs can go off-track, a development that can disrupt the debt restructuring process, e.g., Republic of Congo.<sup>22</sup>

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<sup>20</sup> In the case of Dominica, the holdouts were mainly linked to three institutions, namely the Kuwait Fund for Arab Economic Development, the holders of a bond issued by the Royal Bank of Trinidad and Tobago (RBTT) and the Exim Bank from Taiwan, Province of China (see IMF Country Report No. 06/291, p. 9; IMF, 2004, Dominica: Second Review Under the Three-Year Arrangement, p. 13; IMF Country Report No. 07/1, p. 7). In Argentina, however, holdouts included thousands of investors, including many retail bondholders. These were hard to identify, prone to litigate and asked for special treatment (see Salmon, 2004).

<sup>21</sup> See Financial Times, September 11, 1995; Reuters, October 10, 1995.

<sup>22</sup> In particular, HIPC debt relief is associated with an IMF program, with relief being attained only after reaching the completion point, i.e., after a number of triggers set by the IMF and the World Bank on structural reforms have been met. Typically, one of the triggers is to remain under an IMF program by the completion point.

This may lead to hurdles in creditor talks, or governments can decide to impose unilateral moratoria and abort debt negotiations.<sup>23</sup>

A last important factor for the failure or success of a debt exchange is the size of haircuts. According to the model by Bi, Chamon and Zettelmeyer (2011), excessive haircuts will decrease creditor participation and increase the likelihood that an exchange offer will fail. Their theoretical model suggests that haircuts should stay in line with a government's capacity to pay. Otherwise, this gives small creditors an incentive to coordinate and block an exchange offer.

#### IV. SOVEREIGN DEBT RESTRUCTURINGS 1950–2010: AN OVERVIEW

This section presents a panorama of restructuring experiences since the 1950s. In the first part we summarize insights from a new dataset by Trebesch (2011), which is the first data collection to document all sovereign restructurings of external debt between 1950 and 2010, including both Paris Club agreements and debt exchanges with commercial creditors. To the best of our knowledge, no other dataset exists covering a full sample of cases since World War II.<sup>24</sup>

Appendix I describes the coding approach of the new dataset and also presents a complete list of restructuring cases and their characteristics. We then provide a more detailed picture of restructuring cases since 1998 in part two (subsection B). In the third part we then briefly discuss the development of financial and macroeconomic variables, as well as the evolution of sovereign credit ratings around restructuring episodes (subsections C and D).

##### A. When and How Often Was Sovereign Debt Restructured?

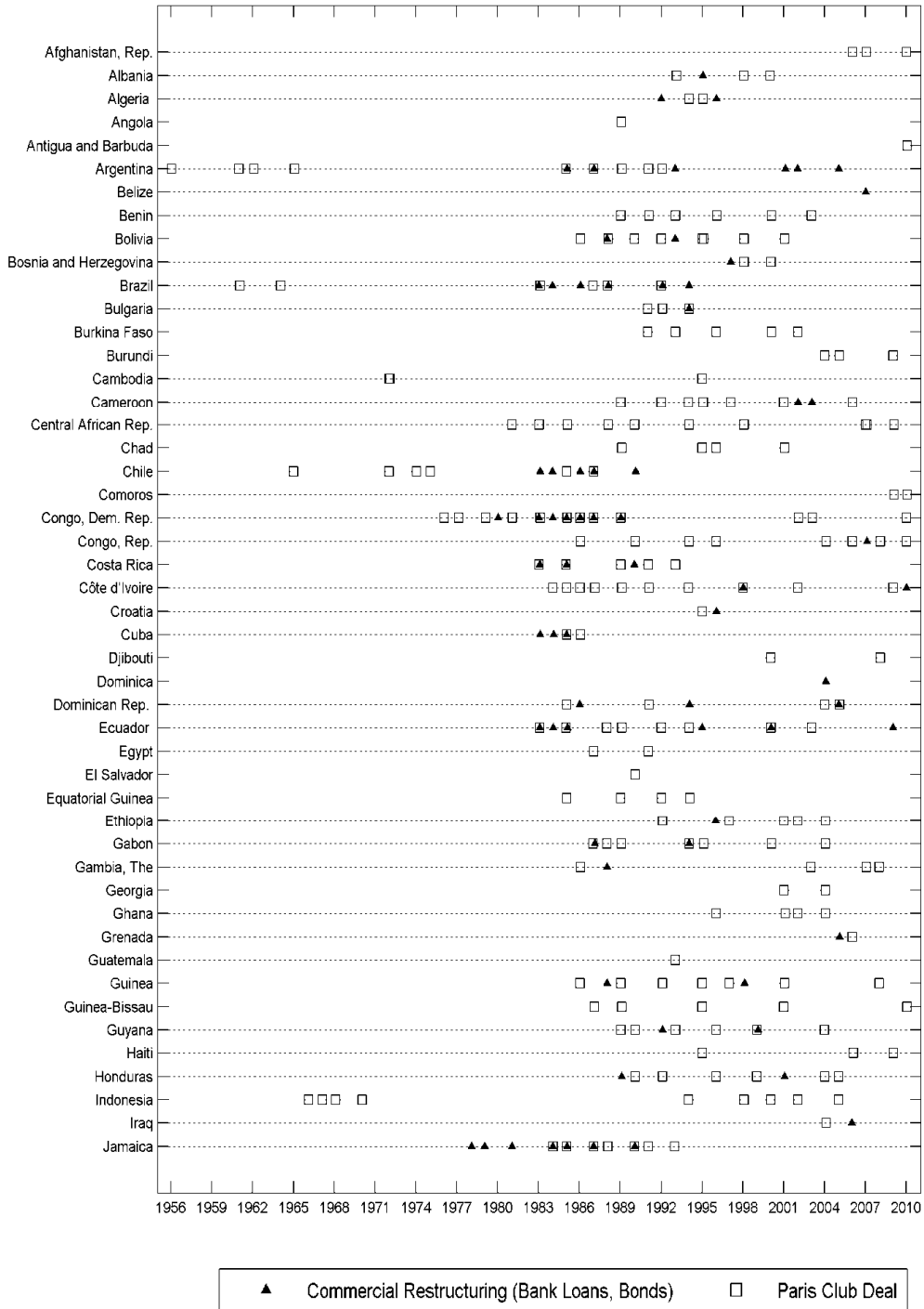
Figures 4, 5, and 6 provide an overview of the occurrence of debt restructurings in the last 60 years, and illustrate a number of new stylized facts. *First, restructuring processes have been widespread both across and within countries, with more than 600 individual cases.* As such, the figures can be interpreted as new evidence for the notion of “Serial Default” by Reinhart and Rogoff (2009).

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<sup>23</sup> Trebesch (2010) contains a detailed list of case anecdotes on this type of government induced restructuring delay. In addition, Enderlein, Trebesch and von Daniels (forthcoming) code a database of “Sovereign Debt Disputes” for a large sample of debt crises since 1980.

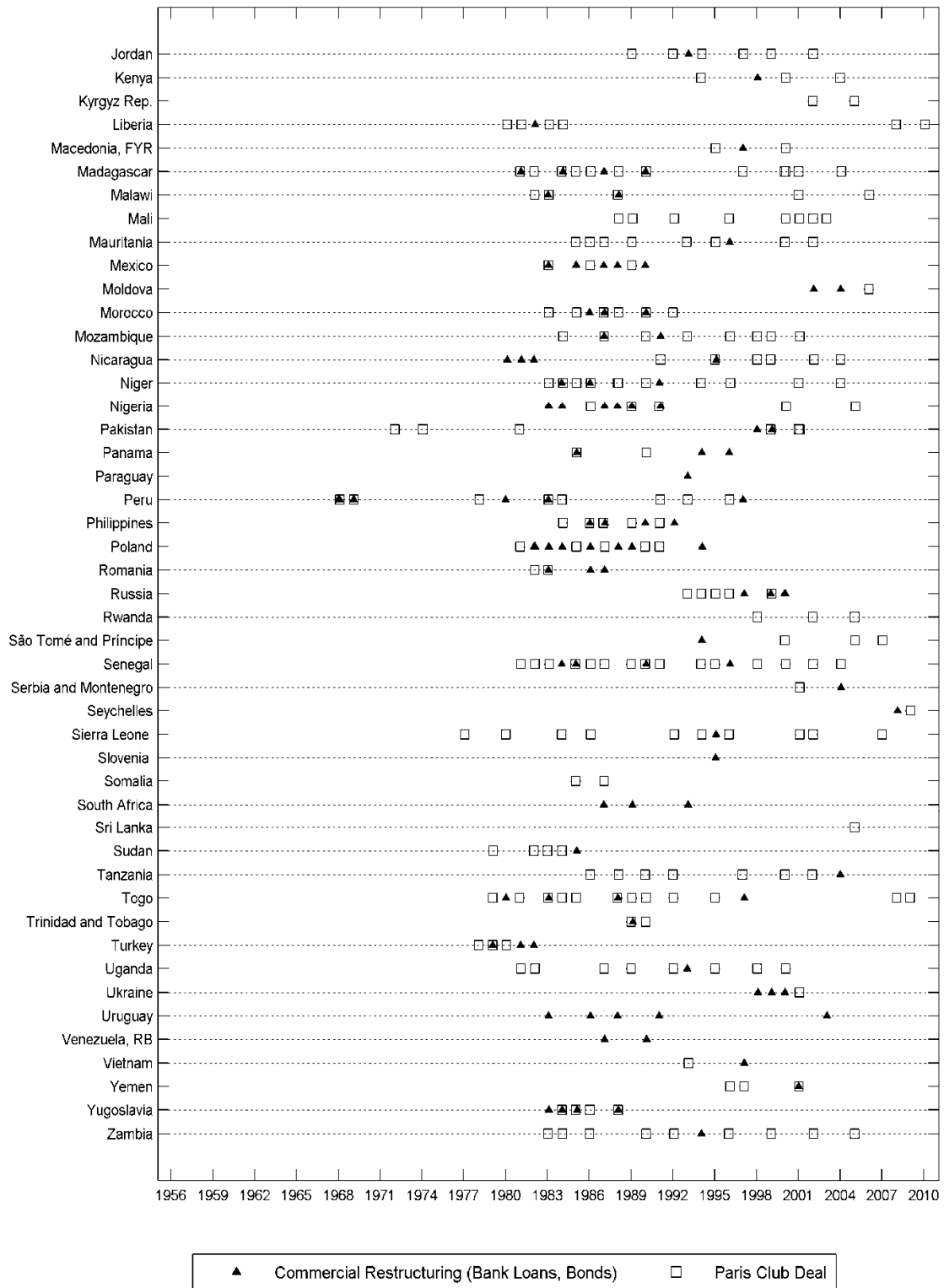
<sup>24</sup> The data are available electronically at <https://sites.google.com/site/christoph-trebesch/data>.

**Figure 4. Foreign Debt Restructurings by Country**  
(1950–2010)



Source: Trebesch (2011).





Source: Trebesch (2011).

Figure 4 illustrates that some developing country governments have implemented more than a dozen debt restructurings in the last few decades, and these have often been preceded by defaults and debt arrears. In contrast, advanced economies, like the United

States, Japan or countries of the European Monetary Union, have not undertaken any restructurings since World War II.

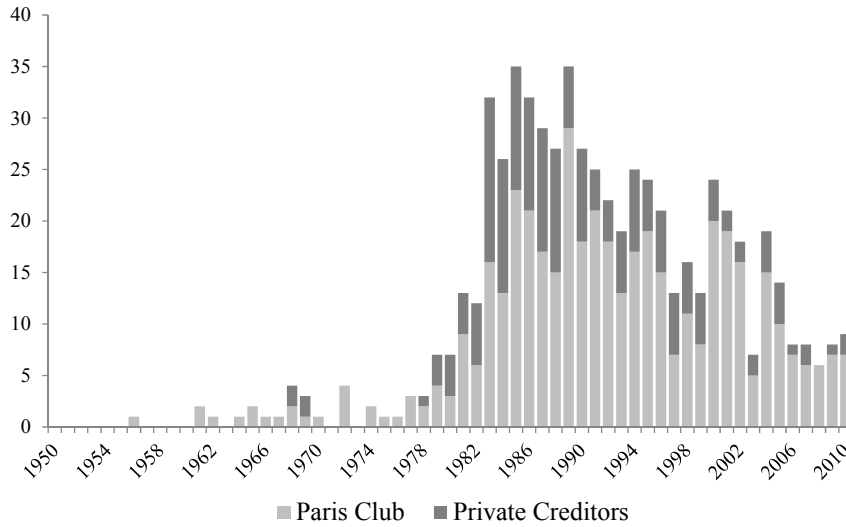
*A second insight is that the number of official debt restructurings by the Paris Club far exceeds the number of private debt restructurings with commercial banks or bondholders, with nearly double as many deals.* Since the 1950s, the Paris Club implemented 447 agreements in 88 countries, while there were 186 restructurings in 68 countries with private creditors. Part of this large difference can be explained by the fact that there simply was not much sovereign lending by private creditors during the 1950s and 1960s. As a result, debt restructurings vis-à-vis banks or bondholders in this period are very rare. Another reason why the number of Paris Club restructuring operations has been larger than commercial operations is associated with the Paris Club's reluctance to grant debt relief until the 1980s. Most Paris Club restructurings before the 1990s implied short-term refinancing and maturity lengthening, but did not address deeper solvency problems. This likely triggered a pattern of serial rescheduling with some debtors.

In terms of restructuring volumes, however, private creditors were more affected, with the debt treated by the Paris Club amounting to US\$545 billion, versus US\$768 billion vis-à-vis private creditors. On average, the amount of debt exchanged in bank or bond restructurings is typically larger than the volume restructured in Paris Club agreements. This is particularly true for restructurings in emerging market economies, such as the Brady deals or recent bond exchanges in Argentina or Russia.

*Third, there have been several clusters of restructuring cases.* The 1980s in particular saw a strong increase in debt restructuring activity with regard to both private and official creditors. The number of debt exchanges increased drastically in 1983, continued to remain very high until 1990, and then gradually declined. Case numbers rose again between 1998 and 2004 due to a new wave of emerging market crises and several debt relief initiatives. Times have been relatively quiet since 2006, with less than 10 debt restructurings per year overall, including only one or two restructurings of sovereign bonds and bank debt per year.

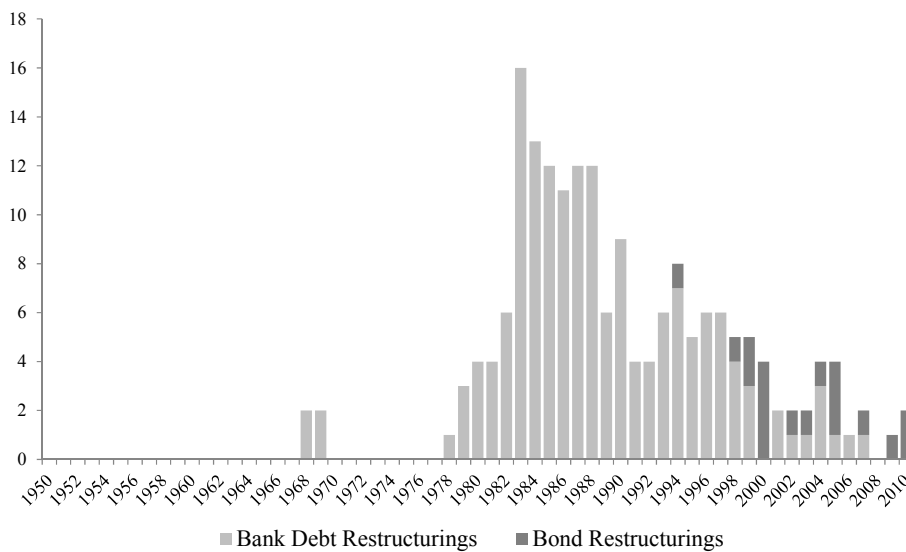
*Fourth, the data show that sovereign bond restructurings reentered the sovereign debt universe only after the Brady plan of the mid-1990s.* Since 1998, with the debt crises in Pakistan, Russia and Ukraine, there have been 17 distressed sovereign bond exchanges with foreign bondholders in 13 countries. In addition, there have been six bond restructurings mainly aimed at domestic creditors (Ukraine (1998), Russia (1998), Argentina (2001), Uruguay (2003), Dominican Republic (2005), and Jamaica (2010)). This does not mean, however, that bank debt restructurings are a phenomenon of the past. Recent loan restructurings include a number of debt buybacks in low-income countries, but also bank debt restructurings such as in Pakistan (1999), Serbia and Montenegro (2004), the Dominican Republic (2005), and Iraq (2006). The next subsection looks at the set of recent bond and bank debt restructurings in more detail.

Figure 5. Debt Restructurings with Paris Club and Private Creditors



Note: The y-axis plots the number of finalized restructurings per year. Source: Trebesch (2011)

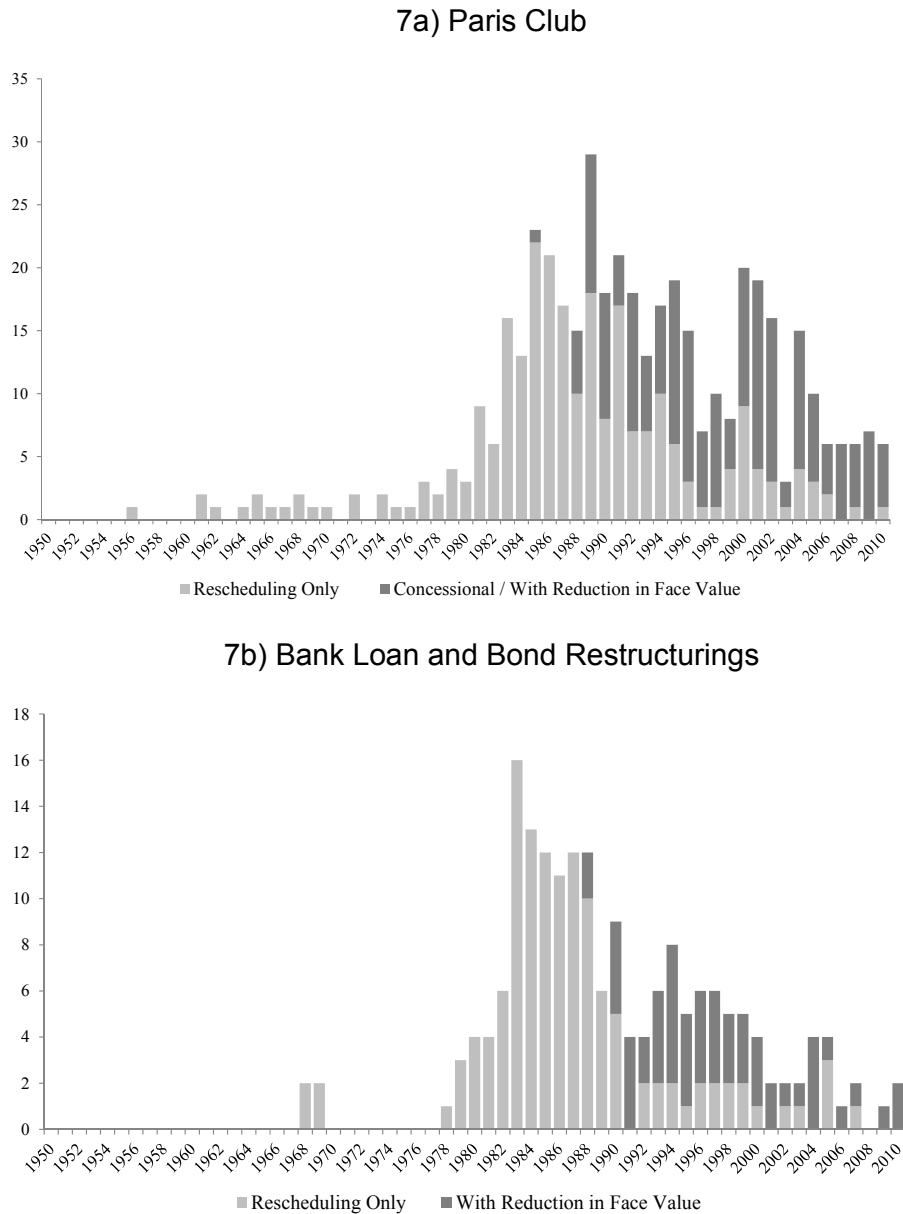
Figure 6. Bank Loan versus Bond Restructurings (1950–2010)



Note: The y-axis plots the number of finalized restructurings per year. Source: Trebesch (2011)

*A fifth stylized fact is that the number of debt restructurings with face value reduction (nominal debt write-downs) has notably increased since the late 1980s. Barely any restructuring in the 1950s, 1960s, 1970s, or 1980s implied a reduction in face value, while the majority of deals in the 1990s and 2000s did. Part of this trend can be associated with several worldwide debt relief initiatives. Another reason is that bank and bond debt exchanges now often involve a menu of options, which contains at least one option with a reduction in face value.*

Figure 7. Restructurings with Face Value Debt Reduction (Nominal Write-Offs)



Note: The y-axis plot the number of finalized restructurings per year. Source: Trebesch (2011).

One can also differentiate past deals by their timing. The recent data collection by Asonuma and Trebesch (2011) shows that most debt restructurings since the 1950s occurred post-default, as they were implemented only after the government went into arrears on all or parts of the debt owed to private creditors (109 cases). However, the remaining 77 deals were preemptive, i.e., prior to a default or moratorium. Of the recent sovereign bond restructurings since 1998 (17 cases), about half of the cases were preemptive, namely Jamaica (2010), Belize (2007), Dominican Republic (2005), Grenada (2005), Moldova (2002), Pakistan (1999), Uruguay (2003) and the two

restructurings in Ukraine (1998 and 2000). In contrast, all of the bank debt restructurings of recent years were post-default cases.

*Finally, we find that 24 distressed restructurings took the form of cash buybacks, meaning that outstanding debt instruments were repurchased against cash. Of these 24 deals, the large majority (20 deals) were supported by bilateral or multilateral donors, in particular through the World Bank's "Debt Reduction Facility." This facility was established in 1989 and provides funds to highly indebted poor countries to buy back the debts owed to external commercial creditors at deep discounts (see World Bank 2007).*

#### **B. Characteristics of Bond and Bank Debt Restructurings Since 1998**

Table 5 provides a detailed overview of recent cases of bank and bond debt exchanges in emerging market economies. The left side of the table shows different duration measures in detail, including the dates of the announcement of a restructuring, the start of negotiations (or informal market sounding), the date of the exchange offers, and the date of the final restructuring. In line with the above, it is evident that many restructurings were implemented within a very short time period. Of the 19 deals listed, nearly half took one year or less.

**Table 5. Characteristics of Main Sovereign Debt Restructurings with Foreign Banks and Bondholders, (1998–2010)**

Case	Preemptive or Post-Default?	Default Date	Announcement of Restruct.	Start of Negotiations	Final Exchange Offer	Date of Exchange	Total Duration (Months)	Debt Exchanged in m US\$	Cut in Face Value	Haircut Estimate (Cruces/Trebesch)	Discount Rate (Cruces/Trebesch)	Outstanding Instruments Exchanged	New Instruments
<b>Pakistan</b> (Bank Loans)	Post-Default	Aug-98	Aug-98	Mar-99	May-99	Jul-99	11	777	0.0%	11.6%	0.132	Trade credits and debt arrears	1 Loan
<b>Pakistan</b> (Ext. Bonds)	Preemptive		Aug-99	Sep-99	Nov-99	Dec-99	4	610	0.0%	15.0%	0.146	3 Eurobonds	1 Eurobond
<b>Ukraine</b> (Ext. Bonds)	Preemptive		Dec-99	Jan-00	Feb-00	Apr-00	4	1598	0.9%	18.0%	0.163	3 Bonds, 1 Loan	1 Eurobond
<b>Ecuador</b> (Ext. Bonds)	Post-Default	Aug-99	Jul-98	Sep-99	Jul-00	Aug-00	25	6700	33.9%	38.3%	0.173	4 Brady Bonds, 2 Eurobonds	2 Eurobonds
<b>Russia</b> (Bank Loans)	Post-Default	Dec-98	Sep-98	May-99	Feb-00	Aug-00	23	31943	36.4%	50.8%	0.125	PRINs, IANs, debt arrears	1 Eurobond
<b>Moldova</b> (Ext. Bonds)	Preemptive		Jun-02	Jun-02	Aug-02	Oct-02	4	40	0.0%	36.9%	0.193	1 Eurobond	1 Eurobond
<b>Uruguay</b> (Ext. Bonds)	Preemptive		Mar-03	Mar-03	Apr-03	May-03	2	3127	0.0%	9.8%	0.090	18 Ext. Bonds	18 + 3 New Benchmark Bonds
<b>Moldova</b> (Gazprom Debt)	Post-Default	mid 2001	Sep-02	Oct-02	Apr-04	Apr-04	34	115	56.3%	56.3%	0.100	Promissory Notes	None (cash settlement)
<b>Serbia &amp; Monten.</b> (Loans)	Post-Default	since 1990s	Dec-00	Sep-01	Jun-04	Jul-04	44 (since announcement)	2700	59.3%	70.9%	0.097	Bank Loans, Arrears	1 Eurobond
<b>Dominica</b> (Bonds/Loans)	Post-Default	Jul-03	Jun-03	Dec-03	Apr-04	Sep-04	15	144	15.0%	54.0%	0.092	2 Bonds, short- and medium-term Loans	3 Bonds
<b>Argentina</b> (Ext. Bonds)	Post-Default	Jan-02	Oct-01	Oct-01	Nov-01	Apr-05	42	43736	29.4%	76.8%	0.104	66 US\$ and ARS denominated Bonds	5 US\$ and ARS denominated Bonds
<b>Dom. Rep.</b> (Ext. Bonds)	Preemptive		Apr-04	Jan-05	Apr-05	May-05	13	1100	0.0%	4.7%	0.095	2 Bonds	2 Bonds
<b>Dom. Rep.</b> (Bank Loans)	Post-Default	Feb-05	Apr-04	Aug-04	Jun-05	Oct-05	18	180	0.0%	11.3%	0.097	Bank Loans, Arrears	1 Loan
<b>Grenada</b> (Bonds/Loans)	Preemptive		Oct-04	Dec-04	Sep-05	Nov-05	13	210	0.0%	33.9%	0.097	5 Ext. Bonds, 8 Dom. Bonds, 2 Ext. Loans	1 US\$ Bond and 1 EC\$ Bond
<b>Iraq</b> (Bank/Comm. Loans)	Post-Default	since 2003	in 2004	Jul-05	Jul-05	Jan-06	20 (since announcement)	17710	81.5%	89.4%	0.123	Loans, Supplier Credit, Arrears	Mostly Cash, 1 US\$ Bond, 1 Loan
<b>Belize</b> (Bonds/Loans)	Preemptive		Aug-06	Aug-06	Dec-06	Feb-07	6	516	0.0%	23.7%	0.096	7 Bonds, 8 Loans	1 Bond
<b>Ecuador</b> (Bond buy-back)	Post-Default	Dec-08	Jan-09	no neg.	Apr-09	June/Nov-09	12	3190	68.6%	67.7%	0.130	2 Eurobonds	None (cash settlement)
<b>Seychelles</b> (Ext. Bonds)	Post-Default	Jul-08	Mar-09	Mar-09	Dec-09	Feb-10	19	320	50.0%	56.2%	0.107	1 Ext. Bond, 2 Ext. Loans, Notes	1 Bond
<b>Cote D'Ivoire</b> (Ext. Bonds)	Post-Default	Mar-00	Aug-09	Aug-08	Mar-10	Apr-10	21 (since announcement)	2940	20.0%	55.2%	0.099	2 Brady Bonds, Arrears	1 Bond

Note: Debt exchanged refers to effective old debt exchanged in the deal, not eligible debt. Similarly, we only list old and new instruments that were actually exchanged. Sources: Cruces and Trebesch (2010), Trebesch (2011) and sources cited therein. The data on preemptive vs. post-default restructurings is from Asonuma and Trebesch (2011).

Two figures indicate the scope of debt relief, namely the (i) cut in face value in percent of all debt restructured; and (ii) the size of haircuts, as estimated by Cruces and Trebesch (2011). Both figures are computed by averaging the loss across all the instruments exchanged. While the cut in face value can be calculated in a straightforward way and without making assumptions, it is more challenging to estimate the scope of investor haircuts. In essence, Cruces and Trebesch (2011) follow the methodology suggested by Sturzenegger and Zettelmeyer (2008) but extend it back to the 1980s and 1990s, thus covering 180 deals. Specifically, their methodology builds on equation (2) and compares the present value (PV) of new debt instruments in the exchange (plus possible cash repayments) with the PV of the old outstanding debt (including past due interest on the old debt). To discount future cash flows of new and old instruments, Cruces and Trebesch (2011) design a procedure to impute exit yields that vary across countries and time and go as far back as 1978. These estimated market discount rates take into account both the global price of credit risk as well as debtor country conditions. The resulting haircut estimate can be interpreted as measuring the loss realized in the exchange from the perspective of a participating creditor (“investor losses”).

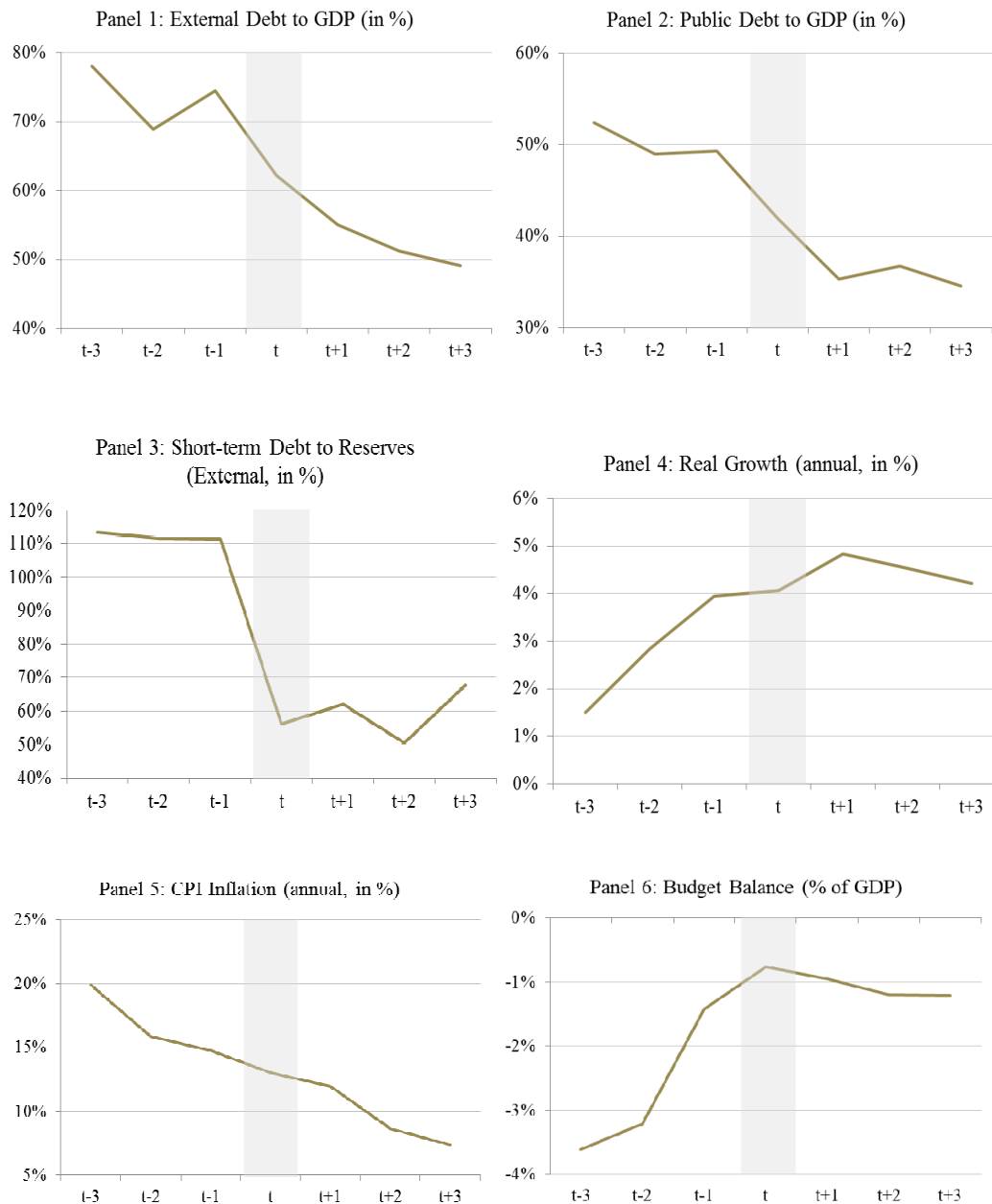
### **C. Financial and Macroeconomic Conditions During Restructuring Episodes**

How did financial and macroeconomic conditions evolve around debt restructuring episodes? We address this question briefly by plotting median values of a set of variables for a six-year interval around debt restructuring years. The result is shown in Figure 8 below, while exact annual figures are plotted in Table A2 of Appendix I. When interpreting these figures, it is important to underline once more that a restructuring can occur many years after the first payment default of a country. In fact, restructuring episodes often mark the end of a crisis and not its beginning (see also Levy-Yeyati and Panizza, 2011).

As expected, restructuring periods are associated with a notable drop in total public debt to GDP, from a median of over 50 percent to about 35 percent, as well as an even stronger decline in the ratio of total external debt to GDP, from a median close to 80 percent to below 50 percent. The ratio of external short-term debt to reserves also shows a steep drop from a median of more than 110 percent to just over 55 percent in a single year.

Besides the positive changes in financial indicators in the run-up to debt restructurings and immediately thereafter, we find that macroeconomic conditions improve as well. Median real growth is only around 1.5 percent three years before final agreements, but increases to between 4 and 5 percent in the period after. In a similar vein, we find that median inflation decreases from around 20 percent to just 7.5 percent. Lastly, the median budget balance improves from -4 percent to around -1 percent of GDP.

Figure 8. Financial and Macroeconomic Indicators in Restructuring Periods



Note: The Panels plot median values for a six-year time interval around the restructuring year. The sample considered here covers 44 “final restructurings” with banks and bondholders since the 1980s (see the list in Table A2 in the Appendix) and excludes low income and highly indebted poor countries as defined by the World Bank. The data are taken from the IMF’s IFS dataset, from the World Bank’s GDF and WDI datasets, and from country data by the Economist Intelligence Unit.

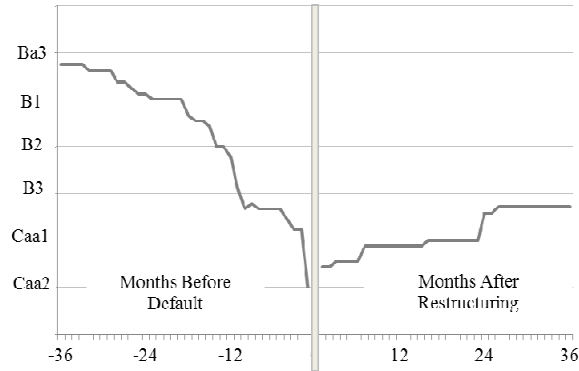
#### D. Evolution of Credit Ratings During Restructuring Episodes

In-line with macroeconomic conditions, we also find ratings to improve in the aftermath of debt restructurings, although at a slow pace. Figure 9 shows the evolution of Moody’s ratings across nine recent bond restructuring episodes (for which ratings data was available). As can be seen, ratings decline markedly, by more than four



notches, in the three years prior to a sovereign default event. Ratings start to recover after restructurings, but gain only 1.7 notches, on average, in the three subsequent years.

Figure 9. Ratings Evolution During Sovereign Restructuring Episodes



Note: The graph shows ratings evolution over time, averaged across nine recent bond restructuring episodes shown in Table 6. Source: Moody's (2011)

Table 6. Sovereign Ratings in Nine Recent Bond Restructurings

Country	Default Date (by Moody's 2011)	Restructuring Date	Rating one year before default	Rating just prior to default	Rating just after restructuring	Rating one year after restructuring
Pakistan	Jul. 1999	Dec. 1999	B3	Caa1	Caa1	Caa1
Ecuador	Aug. 1999	Aug. 2000	B1	B3	Caa2	Caa2
Argentina	Nov. 2001	Apr. 2005	B1	Caa3	Caa1	B3
Moldova	Jun. 2002	Okt. 2002	B3	Caa1	Ca	Caa1
Uruguay	Mai. 2003	May 2003	Ba2	B3	B3	B3
Dominican Rep.	Apr. 2005	May 2005	B3	B3	B3	B3
Belize	Dec 2006	Feb. 2007	Caa3	Caa3	Caa1	Caa1
Ecuador	Dec 2008	Jun. 2009	Caa2	Caa1	Ca	Caa3
Jamaica (Domestic)	Feb. 2010	Feb. 2010	Ba2	Caa2	Caa2	Caa2

Source: Moody's (2011)

Table 6 shows the Moody's rating data in more detail. It is evident that ratings recover only slowly after restructurings. After one year, most sovereign bonds retained a C-rating, meaning that they were judged to be of poor standing and subject to very high credit risk. It is also evident that restructurings rarely come as a surprise. All sovereigns in the list had low ratings in the speculative range one year prior to the default or restructuring event. The best rating just prior to the default was B3, which is the lowest B-category rating. One notable outlier case is Uruguay, which had investment grade status (Baa3) up to March of 2002, but then restructured its debt only 14 months later.

## V. LEGAL ASPECTS OF SOVEREIGN DEBT RESTRUCTURINGS

### A. Governing Laws

Sovereign loans or bonds can be classified under different governing laws. Typically, international bonds are issued under foreign laws in a financial center such as New York, London, or Tokyo. New York law and English law are by far the most popular governing laws for international bond issues, although there have been a number of issues under German, Luxembourg, Japanese, and Italian law as well. In contrast, domestic bonds are usually issued under domestic legislation.

The governing law of a bond plays a major role for debt restructurings as it predefines the contractual provisions for restructuring, including in particular whether the bonds contain collective action clauses or not. The jurisdiction is also crucially relevant in case litigious creditors file a claim against the debtor government in a commercial court (see section V.C).

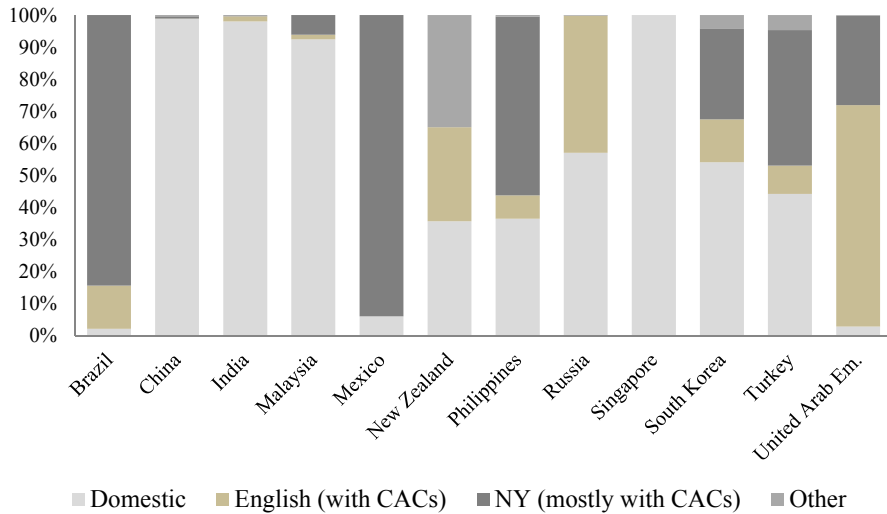
Table 7 and Figure 10 provide an overview of governing laws for bond issuances in emerging markets. As can be seen, a large majority of outstanding emerging market bonds issued in international markets (as of 2009) were under New York law, with London law coming second. These two governing laws continue to dominate sovereign and quasi-sovereign lending in large parts of the world; including many large emerging markets (see Figure 10).

**Table 7. Emerging Market Sovereign Bonds by Governing Law**

	New York	English	German	Japan	Total
In billions of U.S. dollars	272	117	14	8	411
By Number of Issuances	435	140	28	28	631

Note: The table summarizes outstanding bond issues in 43 emerging market and developing countries as of March 2009 (central government bonds only). Source: Dealogic; and IMF staff estimates.

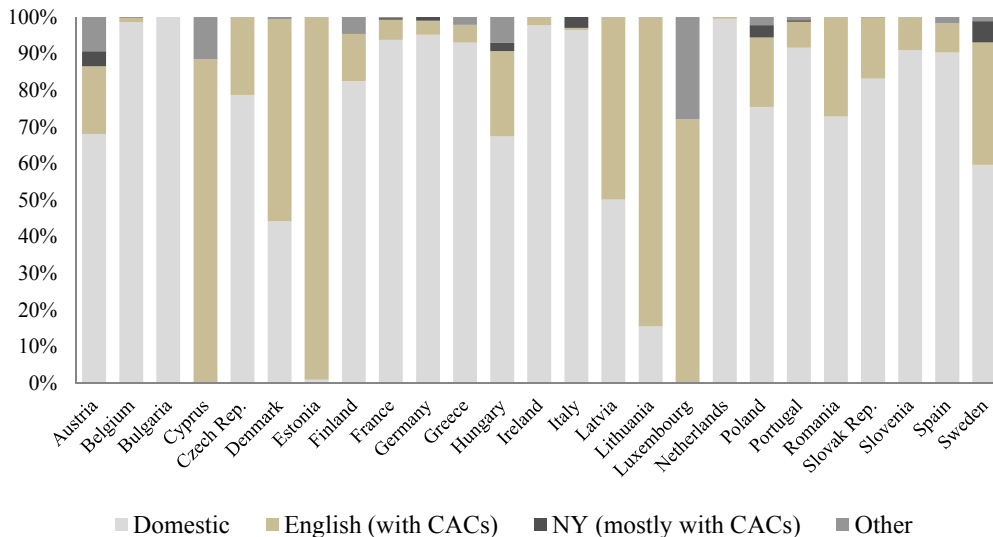
Figure 10. Bond Issuance in Main Emerging Markets 2003–2010, by Governing Law



Note: The figure plots the share of bond issuances by governing laws between 2003 and 2010. The shares are based on issuance volumes in current US\$ figures and are calculated from sovereign and quasi-sovereign debt, i.e. bonds issued by the central government and by government owned companies. Source: Dealogic and own calculations.

The picture looks very different for European Union (EU) countries. As can be seen in Figure 11, the majority of EU countries issued more than 80 percent of their public bonds under their own laws between 2003 and 2010.

Figure 11. Public Bond Issuance in EU Countries 2003–2010, by Governing Law



Note: The figure plots the share of public bond issuance by governing law between 2003 and 2010. The shares are based on issuance volumes in current US\$ figures. The data include sovereign and quasi-sovereign debt, i.e., bonds issued by the central government and by government owned companies. Source: Dealogic and own calculations.

Among those countries that issued at least part of their central government bonds under foreign law, English law is clearly the most widespread form. In particular, new EU member countries, including the Baltic countries, Cyprus, Poland, Romania, and Slovakia, issued considerable volumes of their central government debt under English law, while EMU countries, like Greece, Portugal, and Spain issued only a minor part, of 5 percent or less, under this law. New York law plays a negligible role. Only Austria, Hungary, Italy, Poland, and Sweden issued a non-negligible volume of public bonds under New York law, but these volumes are small compared to total issuances.

## **B. Collective Action Clauses**

CACs have regained considerable attention in the EU public debate in recent months. The clauses specify how creditors are represented in negotiations, define majority-voting procedures to alter the financial terms of the outstanding instruments, and can limit the incentive or ability of individual creditors to initiate litigation against the debtor.

More specifically, the clauses commonly referred to as CACs can be classified into two broad categories (see IMF, 2002a):

- *“Majority restructuring” provisions*, which allow a qualified majority of bondholders of an issuance to change the bonds’ financial terms (principal, interest, and maturity) and to bind in all other holders of that issuance, either before or after default. Traditionally, English-style CACs required the calling of a bondholder meeting. A supermajority was reached if 75 percent of those represented at the meetings (in person or by proxy) voted in favor.<sup>25</sup> However, for most recently issued bonds with CACs, voting does not require representation at a meeting. A supermajority is reached when a certain percentage of total amounts outstanding agree (e.g., 75 percent).
- *“Majority enforcement” provisions*, which can limit the ability of a minority of bondholders to enforce their rights following a default. In practice, this means that a qualified majority can prevent individual bondholders from (i) declaring the full amount of the bond due and payable (“acceleration” - see section C below), and (ii) commencing litigation against the sovereign. As discussed in IMF (2002a), litigation may best be discouraged if majority enforcement provisions are combined with a trust structure. For bonds issued under a trust deed, the right to initiate litigation is effectively delegated to the trustee, with some limitations, and the trustee will only file suit if requested to do so by a minimum share of bondholders (between 20 and 25 percent). In addition,

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<sup>25</sup> For the vote to be valid, traditional English-style CACs contained quorum requirements, which foresaw that at least 50 percent of outstanding bonds should be represented at the first meeting. If this threshold is not reached, the chairman will adjourn the meeting. At the meeting following the adjournment, the quorum requirement is lowered to 25 percent of outstanding bonds. This, and the fact that the voting threshold of 75 percent in English-law bonds referred to those represented at the meeting (and not to total amounts outstanding) means that it would theoretically be possible to amend a bond’s terms with the vote of just 18.75 percent of its holders (75 percent of 25 percent) (see Buchheit and Gulati 2011).

litigation may be discouraged in this context due to sharing clauses, which ensure that any amounts recovered via litigation have to be shared with all bondholders on a pro rata basis (based on their share of the outstanding bond).

The use of CACs is now a well-established market practice for international bond issues. Bonds issued under English law have included some type of CACs for more than a century. Also, bonds under Luxembourg law (most Brady bonds) or Japanese law (“Samurai bonds”) typically include CACs. However, CACs were largely absent in bonds issued under New York law prior to 2003 and continue to be absent in the majority of bonds under German or Swiss law.<sup>26</sup> It should be underlined that the absence of CACs in U.S. issues (prior to 2003) or German issues has been a matter of market convention rather than a legal requirement. In the US, CACs were frequently used in corporate bonds prior to the 1930s, while in Germany the Federal Ministry of Finance (2004) underlined that there has never been a legal impediment to the inclusion of CACs in its sovereign bonds.

A breakthrough of including CACs in bond issues under New York law occurred in 2003. Before that, official sector bodies such as the Group of Ten (1996, 2003) and the G7, as well as the US Treasury, had promoted their more widespread use (Taylor, 2002). Ultimately, in February 2003, it was Mexico’s sovereign bond issue which attracted considerable attention as being the very first of a new generation of issues in the New York market to actually include CACs. Other countries quickly followed suit, including Uruguay and Brazil (April 2003), Korea and South Africa (May), Belize (June), Italy (July), and Turkey (September). Since then, the inclusion of CACs in New York bonds has become the norm. During the same period, EU countries agreed to update their bond documentation on internationally issued bonds to include CACs (ECFIN, 2004).

For domestic bonds, however, the inclusion of CACs continues to be the exception rather than the rule, especially in continental Europe. Most government bonds of EU countries, for example, contain no CACs (see Figure 11, for a distribution of governing laws). Specifically for the case of Greece, Buchheit and Gulati (2010) conclude that only a small minority of outstanding public bonds contain CACs, mostly those issued internationally under English law.

It is often argued that the presence of CACs can facilitate creditor-debtor negotiations in a restructuring situation, since they reduce the hurdle of having to achieve unanimity on a restructuring agreement (via the majority restructuring clause) and can limit the potential threat of litigation from “holdout” creditors.

However, the actual use of CACs in past debt restructurings shows mixed results. One example of a successful application is Ukraine (2000), where the authorities took advantage of CACs in the three Eurobonds governed under Luxembourg law. This helped in the implementation of the restructuring and eliminated potential holdout problems.<sup>27</sup> Also in the case of Moldova (2002) and Uruguay (2003), CACs under

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<sup>26</sup> The German legal framework was amended in 2009, mainly with regard to corporate bond issuances. The inclusion of CACs is now explicitly permitted, including for bonds issued domestically.

<sup>27</sup> Holders of these bonds were invited to tender their instruments, and at the same time to grant an irrevocable proxy vote to be cast at bondholder meetings. This insured that bondholders who had  
(continued)

English law reportedly contributed to a quick restructuring. In Pakistan, however, the authorities decided not to invoke the CACs imbedded in their English law Eurobonds in 1999 because of a concern that this might not be approved in a bondholder meeting and that convening such a meeting might result in a less favorable outcome than a voluntary exchange (see IMF, 2001b). Notably, CACs were also embedded in some of the instruments exchanged by Dominica in 2004<sup>28</sup> and Argentina in 2005, but they did not prevent the serious holdout problem both countries faced after the restructuring. These examples and the case of Pakistan show that the presence of CACs alone does not guarantee a smooth restructuring process. The detailed contractual provisions (the type of CACs) and other legal and non-legal characteristics of the restructuring are important as well. Along these lines, the IMF (2000, p. 122) has pointed out that “some market participants have argued that the official sector has exaggerated the importance of CACs.”

Also, some studies doubt whether CACs alone are sufficient to solve creditor coordination problems and avoid holdouts. For example, Bi, Chamon and Zettelmeyer (2011) conclude that “CACs did not represent an improvement over what could already be achieved using exit consents, if CACs are also voted separately for each bond series.” Also, the empirical paper by Bradley, Cox and Gulati (2010) argues that “the CAC contractual solution aimed at some broader and more general holdout problem appears to have had little effect [...] for now, the market appears to attach little positive value to the use of CACs.”

Existing research finds little indication that including CACs has significant effects on borrowing costs in the emerging market context. Market participants do not appear to demand a sizable interest premium for bonds that include CACs (see Becker et al., 2003, Eichengreen and Mody, 2004, Richards and Gugliatti, 2003). However, the impact should depend on the details of the design of CACs. For example, the more CACs reduce creditor rights compared to current legal practice, the higher the likelihood of price effects

In particular, if CACs are to be combined with aggregation clauses, the effects may be significant. However, there are only very few outstanding sovereign bonds that contain both CACs and aggregation clauses, and there is barely any empirical evidence on the impact of aggregation clauses on borrowing costs and restructuring mechanics. The theoretical analysis by Bi, Chamon and Zettelmeyer (2011), for example, indicates that the combination of CACs and aggregation clauses yields “a more powerful instrument than exit consents.” Further, if CACs contain “non-standard” features and are designed in a way that facilitates restructurings, this may have an impact on ratings, but may also influence bond prices and liquidity.<sup>29</sup>

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tendered proxies could not change their minds and reject the proposed amendments at the meetings without incurring substantial civil liability (see IMF, 2001b for details).

<sup>28</sup> CACs were included in two Dominican bonds issued in the late 1990s for which Citibank and RBTT Merchant Bank acted as trustees (IMF Country Report No. 04/286, September 2004)

<sup>29</sup> A recent report by Fitch (2010b) states that “Fitch currently does not make a rating distinction between securities that contain CACs and those that do not. However, if the CACs were to include  
(continued)

## C. Further Key Bond Clauses

### Amendment clauses/exit consents

*Exit consents, also known as exit amendments, are a legal technique that is used to amend the non-payment terms of old bonds in an exchange ('stick feature' to render the old bonds unattractive or illiquid).* More specifically, exit consents allow a simple majority of bondholders to modify bond provisions, such as a waiver of sovereign immunity, financial covenants or listing requirements. By stripping away favorable bond features and creditor rights, the old bonds become less attractive, thus inducing bondholders to participate in the exchange into new bonds (“poisoning the well behind you”).

*Exit consents can be particularly useful for restructuring bonds that do not contain CACs to alter payment terms.* Instead of changing the financial characteristics of old bonds via majority restructuring provisions, exit consents can be used to alter *non-payment terms*, for example legal features that affect the bond’s liquidity or the holder’s ability to litigate. Most commonly, exit consents include (i) the de-listing of the outstanding bonds to reduce liquidity, (ii) the removal of cross-default clauses, and (iii) the removal of acceleration clauses (see below for an explanation of these clauses).

The decision to use exit consents has to occur in agreement with the issuer and often takes place in the context of a bondholder meeting. After the exchange, non-participating bondholders will generally not be able to reverse the amendments without the consent of the sovereign issuer. This can considerably reduce the leverage of holdouts, as they may be left with a less liquid bond with unattractive legal features and a low secondary market value.

Exit consents were first used in Ecuador’s 2000 exchange of a sovereign bond issued under New York law (see Buchheit and Gulati, 2000). The terms of the exchange offer required each participating bondholder to also agree to a list of amendments of nonpayment terms. Also, the exchange of Uruguay in 2003 involved exit consents; however, their scope was narrower than in the case of Ecuador. The Uruguay exit consents were mainly aimed at avoiding litigation and limited the possibility of attaching any future payments on the new bonds via a court ruling (waiver of sovereign immunity). Additionally, they deleted the cross-default and cross-acceleration provisions (see below). In comparison, Ecuador requested amendments on a broader range of terms.<sup>30</sup> According to the IMF (2003a, p. 23) the use of exit

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“nonstandard” clauses or automatic restructuring triggers as some commentators have speculated, the ratings of bonds containing such CACs would be lower if they rendered the bonds materially more vulnerable to restructuring.” The EU communiqué on including CACs to all sovereign bonds issued in euro-area member countries after July 2013, underlines that new CACs will be consistent with CACs under New York and English law (European Council 2011, p. 31).

<sup>30</sup> Specifically, these terms included “the deletion of the requirement that all payment defaults must be cured as a condition to any annulment of acceleration, the provision that restricts Ecuador from purchasing any of the Brady bonds while a payment default is continuing, the negative pledge covenant,  
(continued)

consents in the Ecuador case, was perceived as part of a “take-it or-leave-it” strategy, while in Uruguay, participants could opt out of the exit consents.<sup>31</sup>

More recently, non-payment terms have been amended in the bond restructurings of Dominica (2004), the Dominican Republic (2005), Argentina (2005), and Belize (2007). The exchange prospectus of Argentina, for example, points out several times that the country might delist the old securities from the secondary markets. However, as of August 2011, this delisting has not taken place. Furthermore, it should be underlined that exit consents under New York law have generally withstood legal challenges in U.S. courts. For example, U.S. courts have refused to invalidate exit consents that removed important bondholder rights and protections in a few corporate restructurings, including financial covenants (see IMF, 2001b, for more details).

### **Acceleration**

*Acceleration clauses are a standard feature in sovereign debt contracts and entitle creditors to “accelerate” unmatured principal following a default event (see Buchheit and Gulati, 2002).* This means that in the case of any missed payments, all principal and accrued interest become immediately due and payable. Typically, the decision to accelerate payments requires a minority vote of at least 25 percent of outstanding principal. This practice follows the general rule for corporate bonds issued in the United States (see Buchheit and Gulati, 2002). Depending on the drafting of terms, an acceleration can also be revoked or vetoed (“de-accelerated”) by a majority of bondholders, provided that the default has been “cured.” One example was the debt exchange in Ecuador 2000, which was made conditional on bondholders revoking the acceleration decision on their old bonds (see Sturzenegger and Zettelmeyer, 2007, p. 60).

### **Cross-default and cross-acceleration**

*A default event on one debt contract can trigger a default on another agreement.* This is called cross-default. In essence, cross-default clauses can strengthen the principle of inter-creditor equity and act as a deterrent to selective default, i.e. the decision to pick and choose which bondholders or banks are repaid and which ones are not. During the 1980s, cross-default clauses in sovereign loan contracts protected banks from selective defaults on parts of a syndicated loan. For example, if a sovereign defaulted on a loan tranche towards a small bank, this triggered remedies on the loans towards other, possibly larger banks. Also, Eurobonds and Brady bonds issued since the 1990s typically contain cross-default clauses in their events of default provisions. This means that missing a payment on even a minor coupon payment can result in a situation in

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and the covenant to maintain the listing of the defaulted instruments on the Luxembourg Stock Exchange.” (IMF, 2001, p. 35).

<sup>31</sup> Ultimately, more than 90 percent of participants in the Uruguay exchange approved the use of exit consents. Only one small Brady bond did not reach the necessary approval rate of 50 percent to activate the exit consents (see Uruguay “Article IV Consultation and Third Review Under the Stand-By Arrangement 2003” available at: <http://www.imf.org/external/pubs/ft/scr/2003/cr03247.pdf>).



which the government is deemed in default vis-à-vis the majority of its bank or bond creditors, which acts as strong deterrent. Note, however, that many bonds provide for a minimum amount (e.g., 25 percent) to trigger cross-default provisions.

*Cross-acceleration is an analogous concept, meaning that the acceleration on one debt contract may accelerate other (third party) debt contracts as well.*<sup>32</sup> The reason why exit consents are often used to remove this type of clause from the old bond contracts is to protect new bondholders from legal remedies by non-participating holdouts. Once the cross-default and cross-acceleration clauses are removed, any non-payments or disputes related to the old bonds will no longer trigger default and acceleration on the new bonds.

### **Aggregation clauses**

Authors such as Eichengreen and Mody (2000) and Liu (2002) argue that CACs, exit consents, and other innovations in individual debt contracts might be insufficient to deal with the broader problems of information-sharing and creditor coordination. These provisions can only bind bondholders *within* the same issue. However, they do not affect bondholders *across* other bond issuances, nor do they apply to other types of debt such as bank debt and trade credit. As a result, a sovereign needs to convince the holders of each instrument individually to participate in a restructuring.

A possible improvement, discussed already in the 1990s by the Group of Ten<sup>33</sup>, is to introduce “aggregation clauses,” possibly as a supplement to majority action clauses. In essence, these are contractual provisions that would allow the aggregation of creditor claims across all bonds and other debt instruments for voting purposes. Depending on the exact drafting of the clause, a supermajority of bondholders could then be enabled to amend the payment terms of a multitude of individual bond series at the same time.

In practice, the use of aggregation clauses remains limited, as bonds with such clauses remain the exception in sovereign bond markets. Uruguay introduced them in its 2003 bond exchange and was followed by Argentina 2005 and several smaller issuers, including Belize and the Dominican Republic (see Gelpern, 2005). The aggregated CACs in the bonds of Argentina and Uruguay both contain a dual voting threshold structure with two tiers of voting. More specifically, a modification of terms must be approved by a total of 85 percent of bonds of all affected series (aggregate of at least two bonds), as well as by 66 percent of outstanding bonds of each affected series (issue-by-issue) (see Buchheit and Gulati, 2011a). However, aggregation clauses have not been called yet in any sovereign debt workout of recent years.

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<sup>32</sup> Also cross-acceleration clauses may require a minimum vote share to be triggered.

<sup>33</sup> The Report of the G10 Working Group on Contractual Clauses was published in 2002 and is available at: [www.bis.org/publ/gten08.pdf](http://www.bis.org/publ/gten08.pdf)

**Table 8. Legal Characteristics of Sovereign Bond Restructurings**

(1999–2009)

	Pakistan 1999	Ecuador 2000	Ukraine 2000	Moldova 2002	Uruguay 2003	Dominica 2004	Argentina 2005	Dom. Rep. 2005	Grenada 2005	Belize 2007	Seychelles 2009
<b>Creditor Structure</b>	Dispersed	Concentr.	Dispersed	Concentr.	Dispersed	Dispersed	Dispersed	n.a.	Concentr.	Concentr.	Dispersed
<b>Dominant Governing Law</b>	English	New York	Luxembourg, German	English	New York	English	New York	New York	New York	New York	English
<b><i>CACs and Exit Consents</i></b>											
CACs in original bonds	Yes	No	Partly	Yes	Partly	Partly	Partly	No	No	Partly	Yes
CACs used in exchange	No	No	Yes	Yes	Yes	n.a.	No	No	No	Partly	Yes
CACs included in new bonds	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Exit consent used	No	Yes	No	n.a.	Yes	Yes	Yes	Yes	No	Yes	No
<b><i>Holdouts and Litigation</i></b>											
Holdouts (in %)	1	2	3	0	7	28	24	6	3	2	16
Settlement with Holdouts (including the continuation of debt service on old instruments)	Yes	Yes	n.a.	n.a.	Yes	Yes	Yes	Yes	No	Yes	n/a
Litigation Cases (filed in the US or UK)	0	2	only domestic	0	1	1 (plus domestic)	more than 50 (incl. retail)	0	1	0	0

Sources: Andritzky (2006, 2010), Cruces and Trebesch (2011), Enderlein, Schumacher and Trebesch (2011), IMF Staff and Country Reports, Sturzenegger and Zettelmeyer (2006).

#### **D. Creditor Litigation Against Debtor Governments**

Litigation in front of commercial courts has become a fallback option for private creditors not willing to accept a default on their claims or a restructuring package proposed by governments. Recent contributions, including Goldman (2000), Krueger (2002), Shleifer (2003), and Sturzenegger and Zettelemeyer (2006) suggest that creditor litigation and “runs to the courthouse” are increasingly common. They are now widely regarded as a main obstacle to sovereign debt restructurings and debt relief initiatives in low-income countries.

Most lawsuits related to international debt contracts are filed either in New York courts or London courts, although lawsuits are now increasingly being initiated in other creditor countries such as Germany, Italy or Switzerland, as well as in domestic courts of debtor countries such as after the Russian debt crisis of 1998 (see Sturzenegger and Zettelmeyer, 2007 and Waibel, 2011).

By its very nature, cross-border litigation and the related enforcement of claims towards sovereign debtors is cumbersome. The enforcement of creditor rights is limited for two main reasons. First, there is no sovereign bankruptcy regime comparable, for example, to chapter 11 for US corporations. Sovereign debt is typically not backed by any collateral and only few attachable government assets are located outside national borders. Second, legal principles such as sovereign immunity, the act of state doctrine or the principle of international comity (reciprocity) protect sovereign assets even when they are located in foreign jurisdictions.

However, due to statutory changes and case law development, these legal principles have been weakened since the 1950s, thus strengthening creditor rights (see Fisch and Gentile 2004 and Sturzenegger and Zettelmeyer 2006 for a historical account). The change in legal doctrine has been an important precondition behind the increasing number of litigation cases in the last three decades and the emergence of so-called “vulture creditors.”

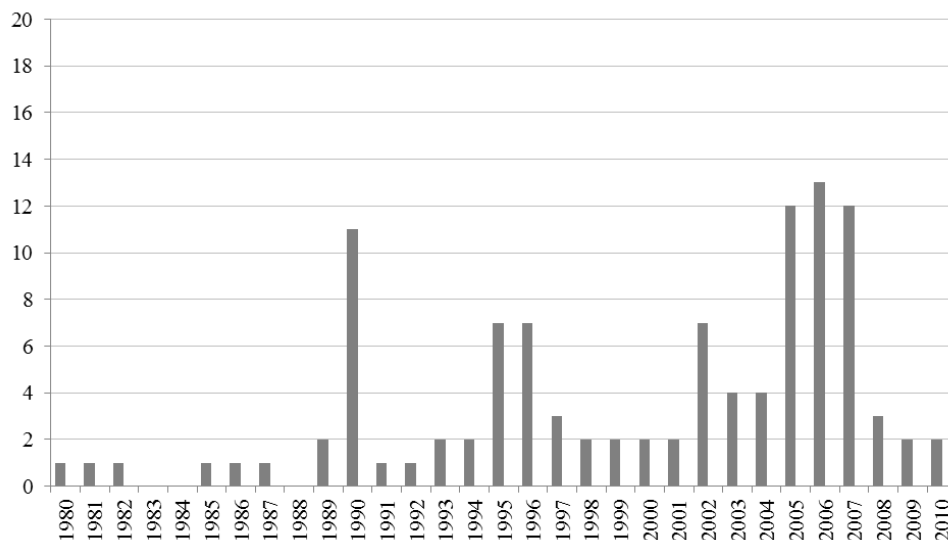
In a stylized litigation scenario, a “vulture” buys sovereign debt claims at a deep discount on secondary markets, but then sues the debtor governments for full debt repayment, i.e., for 100 percent of the nominal value plus accumulated interest. This strategy is risky and can take many years to pay off. Nevertheless, it has become an attractive business model for a small number of investor funds who have specialized in suing sovereign debtors to make a profit. Prominent examples of successful litigation cases include the case of Elliott against Peru in 1998 and the lawsuit by the Dart family against Brazil in the mid-1990s (these cases are discussed in detail by Fisch and Gentile, 2004). Other recent examples include the Republic of Congo, where litigating creditors threatened Congolese assets abroad and oil payments.

While dozens of lawsuits were initiated after recent emerging market debt defaults, e.g., in Argentina, the poorest countries have also been subject to increasing creditor litigation in commercial courts. According to recent estimates, the volume of claims filed against HIPC countries alone has surpassed US\$2 billion, which is higher than the volume of debt relief that should have been provided by commercial creditors to these countries (IMF and World Bank, 2006). The volume of claims often accounts for a considerable share of GDP and the government’s annual budget. Notable examples are the Republic of Congo or Sao Tomé and Príncipe, where the debt claims under litigation correspond to about 15 percent

of GDP (IMF and World Bank, 2006). Yet, despite its growing relevance, data on creditor litigation against sovereigns is scarce.

Enderlein, Schumacher and Trebesch (2011) provide a new comprehensive database on litigation cases in the sovereign debt area.<sup>34</sup> The data reveal two main stylized facts. First, it turns out that most sovereign debt litigation cases have little to do with a default or restructuring. Only a minority of creditor lawsuits involve sovereign bonds or loans, while most cases relate to other types of government liabilities, such as unpaid energy bills or trade invoices. Second, the dataset confirms the common view that the number of default-related lawsuits in New York and London has been increasing since the 1980s. More than half of all cases were initiated after the year 2000, despite the fact that the number of sovereign defaults and restructurings has gone down in the last decade. However, the overall number of cases is rather small. Between 1980 and 2010, a total of 109 cases were filed against debtor governments in connection to a default on sovereign bonds or loans. Figure 12 shows the distribution of cases across time.

Figure 12. Creditor Litigation after Defaults/Restructurings: New Cases Filed per Year



Note: The figure shows the number of initiated creditor litigation cases against debtor governments for each year between 1980 and 2010. Only lawsuits relating to sovereign bonds or loans are considered and only those filed in the United States and the United Kingdom. The spike in 1990 is due to the large number of cases initiated against Peru in the run-up to its Brady deal, while the increase in case numbers after 2001 relates to the dozens of lawsuits following Argentina's default (Enderlein, Schumacher and Trebesch, (2011).

<sup>34</sup> The authors code all lawsuits filed by banks, bondholders, and other professional investors against debtor governments in the period after 1980 in two jurisdictions, New York and the United Kingdom. The main coding source was a systematic search in the legal databases (NexisLexis, PACER). This was complemented with publicly available lists on litigation cases, in particular by the IMF and the World Bank in its annual HIPC implementation report, Sturzenegger and Zettelmeyer (2006), the Emerging Market Traders Association, and the Institute of International Finance.

## VI. DOMESTIC SOVEREIGN DEBT RESTRUCTURINGS

This section presents the experience of restructuring domestic sovereign debt and “quasi-sovereign” debt, as well as debt restructurings in monetary unions.

Due to data constraints, there is limited evidence on the occurrence, causes and effects of domestic debt defaults and restructurings. Here, we build on a series of recent contributions, in particular Reinhart and Rogoff (2009), and the case studies in Erce and Diaz-Cassou (2010) and Sturzenegger and Zettelmeyer (2006). To our knowledge, no empirical studies exist on the case of restructurings in monetary unions. For this reason we rely on the case archive collected by Enderlein, Trebesch and von Daniels (forthcoming) and Trebesch (2010), as well as IMF staff reports and other country sources.

The available evidence shows a large number of parallels between domestic debt restructurings and external debt restructurings. The negotiation process and the basic restructuring mechanics are essentially the same. One difference is that domestic debt is often adjudicated domestically, so that investors may be constrained to litigate in domestic courts and may not be able to file suit in London or New York.<sup>35</sup>

A second notable difference is that investors in domestic instruments are normally mostly residents. Domestic banks, insurance companies, and pension funds often hold the majority of outstanding domestic public debt, also because they may act as primary dealers or because governments require them to hold a minimum fraction of public debt. A restructuring of domestic debt instruments will therefore directly affect the balance sheets of domestic financial institutions and, relatedly, the country’s overall financial stability (see Box 2 for a recent example and section VIII.D, for further discussion on ‘top-down’ risk spillovers).

This said, there have been cases, like Russia (1998) or Ukraine (1998), in which foreigners held substantial amounts of domestic debt instruments. Similarly, we have shown that domestic investors are often the largest investor group of external bonds, e.g., in Uruguay in 2003. Therefore, the type of instrument (foreign vs. domestic currency) does not necessarily predefine the type of investor affected by the exchange (foreign vs. domestic creditors). The case of Pakistan (1999) illustrates this point. Although there was no domestic debt restructuring, more than one-third of debt affected by the external debt exchanges was held by residents.

A third important difference is that exchange rate considerations and currency mismatches play a lesser role in domestic debt than in external debt restructurings.<sup>36</sup> Depreciations and currency crises do not directly affect the debt servicing profile in domestic currency, and

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<sup>35</sup> Note that, under certain circumstances, it may be possible to sue a debtor over domestic bonds in jurisdictions other than domestic ones. Unless the bond contract explicitly provides for submission to exclusive jurisdiction of domestic courts, bondholders could bring suits in other courts as well.

<sup>36</sup> Although domestic debt can also be denominated in foreign currency.

debtor governments do not need to tailor the exchange offer in a way that accounts for exchange rate risks. However, financial sector stability considerations often play an important role in domestic sovereign debt restructurings.

### **A. Evidence on Domestic Debt Restructurings**

Reinhart and Rogoff (2009) have provided the first comprehensive dataset on incidences of domestic debt default and restructurings. For the period 1800 to 2007, they identify 70 cases of overt (de jure) domestic default, including outright payment suspensions and cases of unilateral principal and interest reduction. They also count more than 150 cases of de facto domestic currency default, defined as episodes with inflation above 20 percent per annum. Most of the overt domestic default and restructuring cases occurred after 1980, often in parallel with external debt defaults. One example is Argentina, which defaulted on its domestic debt in 1982, 1989–90 and 2002–2005, the same years that the country renegotiated its external debt. A further interesting stylized fact by Reinhart and Rogoff (2008) is that output declines associated with domestic debt default appear to be worse than for external debt crises. On average, the output decline in the year prior to a domestic default is 4 percent, compared to only 1.2 percent in the year before external defaults.

More detailed evidence on the process and outcome of domestic debt restructurings is provided by Erce and Diaz-Cassou (2010) and Sturzenegger and Zettelmeyer (2006). Erce and Diaz-Cassou (2010) focus on a sample of recent debt crises and show that seven out of eleven external restructurings were preceded or followed by domestic debt restructurings. Thus, it seems that “twin restructurings” of external and domestic debt have become the norm in recent years. As with external debt restructurings, there are only few pre-emptive restructurings that occur without a prior payment default, namely Ukraine in 1998, Uruguay in 2003, Dominica in 2004, and Jamaica in 2010.

The database by Trebesch (2008) indicates that domestic debt restructurings were implemented fairly quickly, especially when compared to external debt. Argentina’s domestic debt was restructured in November 2001.<sup>37</sup> In contrast, the global exchange of external bonds took nearly four years, until 2005. Russia’s domestic GKO instruments were restructured within 6 months (between August 1998 and March 1999), while the restructuring of external bank loans took until the year 2000. In Ukraine, the domestic debt exchange was implemented in less than two months, with separate offers for resident and nonresident holders (see Sturzenegger and Zettelmeyer 2006 for details). In Jamaica, it took about two months.

As to the size of haircuts, domestic residents do not appear to have been treated systematically better (or worse) than foreign residents, although there are a few exceptions. Sturzenegger and Zettelmeyer (2006) underline that discrimination in favor of domestic creditors could, in principle, take two forms. First, domestic and foreign residents can be

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<sup>37</sup> As early as June 2001, the Argentinean authorities undertook a debt swap of both domestic and external debt.

offered different deals, as was the case in Russia and Ukraine. Second, the government can offer “carrot” features or “sweeteners” that are available only to domestic debt holders.

In practice, external creditors were clearly discriminated against only in the cases of Belize 2007 and Ecuador 1998–2000 and 2008–2009. In Belize, the government did not include any domestic instruments in the restructuring; although domestic instruments represented about 12 percent of total sovereign debt (see Erce and Diaz-Cassou, 2010, p. 17). In Ecuador 1998–2000, the authorities restructured both short- and long-term bonds held by foreigners, but not medium- and long-term domestic debt. In a similar vein, Ecuador’s default and debt buyback of 2008–2009 only affected two outstanding international bonds, but no domestic debt. Another recent case, Jamaica 2010, shows signs of discrimination against domestic creditors. In fact, the restructuring explicitly excluded all Eurobonds issued in international markets (see Box 2). All other recent cases do not indicate any obvious creditor discrimination.

Creditor participation seems to be somewhat lower in domestic debt exchanges, compared to external debt exchanges. Russia’s GKO bond offer for residents and non-residents was accepted by 95 percent and 85 percent of bondholders, respectively, while the exchange of external PRINs and IANs reached a participation rate of 99 percent. In Ukraine, the exchange of domestic debt achieved less than 85 percent of participation, compared to 97 percent for international bonds. Also, Argentina achieved only 65 percent participation for its domestic bond exchanges of late 2001/early 2002. Only Uruguay achieved a 99 percent participation rate in its domestic bond exchange, which can be partly attributed to moral suasion on the part of the government as well as to regulatory incentives.

### **Box 2. The Domestic Restructuring in Jamaica 2010**

Jamaica’s domestic debt exchange of early 2010 is widely seen as a quick and orderly debt restructuring, even though it is too early to know its medium- and long-term consequences. The exchange exemplified, in particular, how a distressed sovereign may tackle the trade-off between debt sustainability and financial sector stability. The restructuring implied substantial debt relief, but limited losses for the domestic financial sector, which held much of the affected debt (see Grigorian 2011, for a detailed account). The main aim of Jamaica’s debt exchange was to reduce the government’s unsustainable debt burden, as annual interest payments had reached 60 percent of fiscal revenue, or 16 percent of GDP. In addition, the country faced large borrowing needs in the years 2010 to 2014. However, 65 percent of direct government debt was held by domestic financial intermediaries, including commercial banks, security dealers, pension funds, and insurance companies. Large creditor losses may have thus threatened financial stability and, possibly, triggered the failure of individual institutions. With these constraints in mind, the government adopted several contingency plans. In particular, it established a Financial Sector Support Fund (FSSF) and conducted stress tests to identify bank vulnerabilities and tailor the debt exchange proposal accordingly. The FSSF was backed by US\$1 billion from multilateral disbursements and was to provide temporary liquidity support, if needed, to banks or funds that were to experience difficulties as a result of the debt exchange.

The restructuring offer was launched in mid-January and affected the entire stock of domestic public debt, while Eurobonds placed in international markets were intentionally left out. Investors could choose from a menu of new fixed, floating, and inflation- and US\$-indexed securities, subject to allocation rules. Overall, 345 domestically-issued bonds were exchanged into 24 new instruments with longer maturities and lower interest rates, but with no cut in face value. The

bonds amounted to 65 percent of GDP or 47 percent of public debt.

The exchange largely achieved its short-term goals. It reduced rollover requirements, substantially lowered interest payments (from an average yield of 19 percent before to an average yield of 12.5 percent after the exchange) and resulted in a public debt portfolio with a higher share of liquid, fixed rate instruments. The exchange was implemented quickly, reached a participation rate of 99 percent, and did not put pressure on the currency or the capital account. In addition, all available evidence indicates that the financial system also successfully withstood the effects of the debt exchange, although financial sector GDP declined due to the drop in interest income. The establishment of the FSSF encouraged participation and fostered confidence. Ultimately, no institution requested or received support from the FSSF. Despite this, it remains to be seen whether the debt restructuring has provided sufficient debt relief to ensure public debt sustainability in the medium and long run.

## B. Evidence on Restructurings in a Monetary Union

Historically, there have been only a few instances of sovereign debt restructurings within a monetary union. In recent years, three of the six independent members of the East Caribbean Currency Union (ECCU)<sup>38</sup> underwent a default and debt renegotiation, namely Antigua and Barbuda (ongoing), Dominica (2004), and Grenada (2005). Other examples are the 1998 and 2009 restructurings of Côte d'Ivoire, the largest economy of the West African Economic and Monetary Union.<sup>39</sup>

Although the three restructuring cases in the Eastern Caribbean (EC) did not put the ECCU at risk, debt sustainability may, however, be a concern for the viability of the ECCU in the future.<sup>40</sup> The monetary union may, of course, have had indirect effects, as a substantial part of the restructured debt was denominated in EC dollars and owed to banks in the region.<sup>41</sup>

Similarly, there are no indications that the debt restructurings in Côte d'Ivoire were substantially influenced by the monetary union context. Côte d'Ivoire uses the Central African Franc (CFA), which is currently pegged to the Euro and was previously pegged to the French Franc. The CFA was drastically devalued (by 50 percent) in 1994 but has since remained at a stable exchange rate to the Euro. According to Standard & Poor's (2006), the government of Côte d'Ivoire has been in a state of continuous default since 1983, with only

<sup>38</sup> The Eastern Caribbean Currency Union is composed of Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines, and maintains a US\$ peg established in 1976.

<sup>39</sup> The members of the West African Economic and Monetary Union include Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger and Senegal.

<sup>40</sup> A recent IMF report (IMF, 2011a) concludes that continued fiscal deficits, high debt levels, as well as stress in the financial sector, are threatening the underpinnings of the currency union and the currency board. Despite the debt relief operations, all member countries remain highly indebted, with debt to GDP ratios of 60 to over 100 percent.

<sup>41</sup> As of today, only 13 percent of public debt in the six ECCU countries is owed to foreign commercial banks (see IMF, 2011a).



one year without missed payments (1999). The latest default occurred in January 2011; only two years after the country had successfully restructured its Brady bonds in 2009. Further, we find very few references to the country's currency peg or to other CFA countries in the debt renegotiation talks or background documents with the London and Paris Club.

### C. Restructuring “Quasi-Sovereign” Debt

The financial crisis has given rise to widespread debt problems of corporations around the world, including many government-related corporations with “quasi-sovereign” status. Debt owed by public or quasi-public enterprises occupies the middle ground between private and sovereign debt. Moody's (2005) defines a government related issuer (or “quasi-sovereign”) as an issuer which is fully or partially owned by the government, but which does not have taxing authority. S&P (2010) adds that some entities with little or no government ownership might also be considered as a government related entity, if they have systemic importance or if they play a critical role as providers of public goods.

Neither Standard & Poor's nor Moody's consider the default or restructuring by a public enterprise as a sovereign default. This is because these entities are legally separate from the government. Nevertheless, when rating sovereigns, the size of contingent liabilities is taken into account. In fact, government support for public enterprises can take many forms. Besides guarantees, transfers or bail-outs, governments can also provide support by facilitating debt renegotiations with lenders or by providing better access to finance. A default by a state-owned corporation can therefore affect sovereign creditworthiness, and the government's own reputation as a debtor.

Historically, the number of defaults by public enterprises and other sub-national entities has been limited. A recent study by Fitch (2010a) lists only 9 cases of outright defaults of state-owned corporations, provinces or cities between 1998 and 2008. While the actual number is probably higher, there is no evidence that defaults by state-owned corporations have become a mass phenomenon. Recently, however, two cases of quasi-sovereign debt restructurings have gained particular attention, namely Dubai World and Ukraine's Naftogaz, which are summarized in Box 3. In addition, a number of older cases are discussed in Claessens (2005), in chapters of the volume by Pomerleano and Shaw (2005), and in Grigorian and Raeli (2010).

#### **Box 3. Recent “Quasi-Sovereign” Debt Restructurings**

##### **Dubai World**

In late November 2009, the government of Dubai announced that the state owned holding company Dubai World and its real estate subsidiary Nakheel Properties would halt debt repayments and restructure its debt. The standstill announcement affected \$26 billion worth of bilateral bank loans, syndicated loans, and bonds and effectively abolished the perceived implicit sovereign guarantee of Dubai World. It also resulted in a substantial increase in the borrowing costs of Dubai, and in the region as a whole (see Khamis and Senhadji, 2010). The financial turmoil was contained through support from the Government of Abu Dhabi and the UAE Central Bank. In parallel to the restructuring offer, the government of Dubai also announced a new legal

insolvency framework based upon internationally accepted standards for transparency and creditor protection. The process, therefore, took place under the umbrella of a widely accepted corporate insolvency law regime and was subject to decisions of an independent tribunal.

The subsequent creditor negotiations resembled those of sovereign debt restructuring processes in many ways. A creditor committee was formed, representing about 90 financial institutions and headed by British and Japanese banks. The committee reached a principal agreement in May 2010 and a successful debt restructuring was implemented in September, implying a lengthening of maturities by five to eight years, lower interest rates, but no outright face value reduction. One month later, a last holdout creditor was convinced to sell its debt stake, so that the deal ultimately reached a creditor participation rate of 100 percent.

#### **Ukraine's Naftogaz**

In September 2009, the cash-strapped Ukrainian gas company Naftogaz announced plans for a debt restructuring of a US\$500 million bond coming due at the end of the month. Naftogaz subsequently refused to make the principal repayment, thus triggering a failure-to-pay credit event.

The exchange offer implied a maturity extension of five years and a higher 9.5 per cent coupon. Although a group of investors had threatened to block the restructuring, the vast majority of bondholders accepted the offer by October 8<sup>th</sup>, which was the early participation deadline. Ultimately, over 93 percent of bondholders accepted the offer, with the remaining holders being bound in via collective action clauses contained in the old bonds. In addition, Naftogaz succeeded in renegotiating its debt owed to Western banks and other bilateral creditors, with all old claims being exchanged into a new Eurobond of \$1.6 billion, which is guaranteed by the government. The company itself was restructured from a state-owned entity into a public joint-stock company with shares owned by the government. Overall, the bond restructuring techniques used in the exchange resembled more closely those in corporate debt exchanges rather than in sovereign practice (Lareya, 2010).

## **VII. CREDIT DEFAULT SWAPS AND SOVEREIGN DEBT RESTRUCTURINGS**

Credit default swaps (CDSs) have become a key financial instrument in sovereign debt markets. This section outlines the general characteristics of sovereign CDSs, in particular with regard to the settlement process, and discusses how CDSs may affect debt restructuring processes, in particular the implications of creditor incentives in monitoring debtors and accepting/rejecting an exchange offer.

In essence, a CDS is a credit derivative contract between two counterparties, which is comparable to an insurance policy on a bond or loan. In a CDS, the “protection buyer” agrees to pay a quarterly premium to the seller of the CDS who, in exchange, commits to cover the losses in case of a credit event, be it due to a default, bankruptcy or distressed exchange. The CDS buyer thereby protects him/herself against the occurrence of a default or restructuring. Most CDSs are documented using standard forms promulgated by ISDA, although some are tailored to meet specific needs.

The volumes of CDS contracts outstanding have increased manifold in the last 5 years, and there is now a relatively liquid secondary market for sovereign CDS trading in Europe and the US (Duffie, 2010).

### A. The Settlement of Sovereign CDS Contracts

As stated, sovereign debt restructurings that are non-voluntary are a sufficient condition to trigger a credit event, so that the buyer of credit protection is entitled to terminate and settle the contract. Originally, bonds used to always be delivered physically when a credit event occurred. However, settlement now tends to be implemented via an ISDA regulated credit event auction involving cash settlement. Cash settlement is particularly useful for cases in which the number of CDS contracts exceeds the underlying bonds available for delivery.

As described in Markit (2010), credit event auctions allow investors to freely choose between either physical settlement or cash settlement, which is calculated as the difference between the face (par) value of the debt due, i.e., not the market price that was acquired, and the recovery value. The recovery value is estimated from market prices over a prespecified period after default, by computing  $(1 - \text{Recovery}) \times \text{Notional}$ .

For settling CDS contracts, the “cheapest-to-deliver” (CTD) notion is key. In essence, it refers to the right of the contract holders to deliver different types of underlying bonds at specific delivery or expiry points. The price of the CDS will always tend to factor the CTD bond, because investors will want to deliver the underlying bond that is available at the lowest price.<sup>42</sup> In the case of a sovereign restructuring, restructured and non-restructured bonds can trade at very different levels, both leading up to the auction and afterwards. In addition, it might be the case that a long bond is deeply discounted compared to a shorter bond. This can introduce a significant element of recovery risk. Thus, it is important to keep the exact conditions in mind under which settlement can occur. The importance of the cheapest to deliver was also highlighted in recent research. Singh (2003 and 2004) suggests that CTD bonds are a good proxy for a stochastic recovery value during distress, while Andritzky and Singh (2005, 2006) show the use of CTD in the context of emerging markets.

So far, there is only very limited experience with settling sovereign CDS contracts. In fact, there has only been one example in which the ISDA auction process has been used to determine the recovery rate for sovereign CDS, namely the case of the latest Ecuadorian default (see Singh and Spackman, 2009). Payments on Ecuador's CDS were triggered on December 15, 2008, when President Rafael Correa refused to meet an interest payment due on the country's 2012 global bond. Following the credit event, ISDA announced in late December that it would launch its first sovereign CDS auction, which was implemented on January 14, 2009. The auction allowed those who could not obtain a bond for physical delivery to settle their contracts via cash. In the auction, the recovery rate was set at 31.75 percent, which was approximately in line with the price of the CTD bonds.

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<sup>42</sup> That is, the price of the CDS,  $(1 - \text{Recovery}) / \text{Notional}$ , could be proxied by  $(1 - \text{CTD}) / \text{Notional}$ .

## **B. Potential Distortions: Insurable Interest and the “Empty Creditor” Problem**

Policymakers have raised concerns that “naked CDSs” may distort incentives in a debt distress situation of both corporate and sovereign debtors. “Naked CDSs” refer to CDS purchases in which the investor does not actually own the underlying bond to which the contract refers. In simple terms, it means purchasing an insurance against the event of a sovereign's default without owning the respective sovereign bond. This raises a potential ground for moral hazard in that the holder of a naked CDS may have an interest in the borrower triggering a credit event. This is particularly problematic if this investor is in a position to increase the borrower's likelihood of default. In the sovereign context, this could be a rather hypothetical situation, as an individual investor will unlikely be able to influence a government's overall economic policy stance or its decision to restructure or not. Nevertheless, naked CDSs are normally used to hedge a correlated risk.

A second, more serious form of moral hazard could arise if the protection buyer does not hold a “naked CDS,” but is hedging a significant volume of his credit risk vis-à-vis the debtor. The lender who is protected against a default may no longer be as concerned with monitoring the borrower's credit quality, and could even have fewer incentives to avoid a debt restructuring. A premature default may even be beneficial to the hedged bondholder if he can collect on the CDS protection at a gain. Hu and Black (2008) call this the “empty creditor” problem, referring to an investor who has an incentive to push the debtor into inefficient bankruptcy or liquidation. This, in turn, would heavily influence restructuring occurrences and outcomes (see also Bolton and Oehmke 2010, and Yavorsky 2009). For example, empty creditors may have less incentive to negotiate in good faith or over a long period of time, and may work to avoid voluntary restructurings that would not trigger the CDS. Debt renegotiations may, thus, be seriously disrupted.

Academic research so far has not provided much evidence for the “empty creditor” hypothesis in the case of distressed corporations. Bedendo, Cathcart and El-Jalel (2010), for example, find no evidence that the availability of credit insurance via CDS contracts influenced the restructuring process of distressed firms during the 2008–2009 crisis, in particular the choice between bankruptcy and private workout. Mengle (2009) comes to a similar conclusion by surveying the related literature, and also questions the plausibility of the “empty creditor” hypothesis on logical grounds.

Taken together, it is difficult to assess whether the empty creditor problem will be a major concern for sovereign debt markets and restructuring processes in the near and distant future. Better data and well-founded research is necessary. However, policymakers should keep in mind that the presence of CDSs can have immediate effects on the behavior of sovereign creditors during distress periods. In case of a restructuring, it may thus be beneficial for the government to diligently gather information on the CDS positions of all its creditors and negotiation counterparts.<sup>43</sup>

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<sup>43</sup> Hu and Black argue that the problem could be mitigated by the required disclosure of CDS positions of those investors holding a significant fraction of the referenced borrower's debt.

## VIII. COSTS AND IMPLICATIONS OF SOVEREIGN DEBT RESTRUCTURINGS: A SURVEY

Sovereign restructuring can be costly for both the government and its creditors, as well as for the private sector of a debtor country. First, defaults and restructurings may have adverse consequences for the debtor government's access to capital post-crisis, leading to higher interest premia and exclusion from capital markets. Second, it has been shown that sovereign debt crises are associated with a notable decline in trade and output. Third, there has been considerable debate regarding the degree to which sovereign restructurings affect banks and domestic investors, possibly endangering financial stability. Fourth, authors, e.g., Cole and Kehoe (1998) and Sandleris (2008), have suggested that there may be reputational spillovers from sovereign default and restructurings on other fields of the economy, in particular for foreign direct investment (FDI) and private sector access to credit. Finally, the restructuring of sovereign debt can be costly from an administrative point of view. The following sections briefly summarize the empirical evidence on each of these aspects.<sup>44</sup>

### A. Borrowing Costs and Exclusion from Capital Markets

The theoretical literature on sovereign debt assumes that defaults and restructurings will have costly consequences *within* credit markets (see, e.g., the seminal model by Eaton and Gersovitz, 1981). Many recent contributions assume that defaults lead to temporary or permanent exclusion of sovereigns from capital markets and/or an increase in their borrowing costs (see, amongst other, Aguiar and Gopinath, 2006; Amador, 2009; Arellano, 2008; Asonuma, 2010; Mendoza and Yue, 2008; Tomz and Wright, 2007; and Yue, 2010).

The empirical support for this proposition is mixed. Most of the empirical contributions of the past thirty years come to the conclusion that default premia in sovereign credit markets are negligible, particularly in the medium and long run. A typical finding is that defaults affect risk spreads only in the first and second year after the restructuring (Borensztein and Panizza 2009). Moreover, Gelos et al. (2004) and Richmond and Dias (2009) show that most defaulters regain access to new credit within one or two years after a crisis. These recent findings have confirmed those of earlier studies<sup>45</sup> and have led many to conclude that banks and bondholders have very short memories.

In contrast to this work, a recent study by Cruces and Trebesch (2011) finds that debt restructurings can indeed have a substantial and longer lasting impact on post-crisis market access conditions. The effect largely depends on the outcome of restructurings, in particular

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<sup>44</sup> A more in-depth discussion can be found in Panizza, Sturzenegger, and Zettelmeyer (2009).

<sup>45</sup> For example, a small group of papers used data of the 1970s and 1980s to analyze the impact of recent and historical sovereign defaults on the spreads of syndicated loans. The influential studies by Lindert and Morton (1989) and Özler (1993) and a new, rigorous paper by Benczur and Ilut (2009) all find that the average default penalty is not sizable, and leads to an average increase in spreads of, at most, 50 basis points in years one or two after the crisis. Additional evidence, going back farther in history, is provided by Jorgensen and Sachs (1989).

the size of haircuts, or creditor losses. Building on a new dataset on haircuts in all 180 restructurings with banks and bondholders since 1978, the authors show that the size of haircuts is a main predictor for post-restructuring bond spreads. A one standard deviation increase in the haircut (20 percentage points) is associated with post-restructuring bond spreads that are 170 basis points higher as compared to the baseline, after controlling for fundamentals and country and time-fixed effects. The effect decreases over time but is still significant in years six and seven after the restructuring, implying higher spreads of 50 basis points.<sup>46</sup> The authors also find that the haircut size is highly correlated with the duration of capital market exclusion. *Ceteris paribus*, a one standard deviation increase in haircuts is associated with a 50 percent lower likelihood of being able to re-access international capital markets in any year after the restructuring.<sup>47</sup>

## B. Effects on Output and Trade

Several studies have estimated the extent of output losses in times of sovereign default and debt restructuring. Sturzeneger (2002) estimates output losses at around 2 percent of GDP, a figure which has also been used to calibrate theoretical models (see e.g., Asonuma 2010). De Paoli, Hoggarth, and Saporta's (2009) findings suggest that output losses in the wake of sovereign default may be even larger, of around 5 percent a year, and up to ten years, depending on the duration of arrears and negotiations. The authors find that the size of output costs largely depends on whether debt crises occur simultaneously with banking and currency crises. "Twin" or "triple crises" are associated with much larger output costs than debt crises alone. Another recent study, by Levy-Yeyati and Panizza (2011) comes to the conclusion that defaults tend to follow, not precede, output contractions. The authors come to this novel result by using quarterly data for defaults occurring between 1982 and 2003, instead of annual data as in previous studies.

Rose (2005) finds a relationship between sovereign restructurings and declines in trade flows. Rose employs a gravity panel framework that covers 1948 to 1997. He regresses bilateral trade flows on a binary variable capturing Paris Club debt restructurings and finds very strong effects: trade falls bilaterally by about 7 percent per year after a restructuring, an effect lasting for about 15 years, on average. Rose acknowledges that he is not able to identify "whether the effect of default on international trade appears because of a natural shrinking of trade finance, because creditors seek to punish and deter default, or some other reason" (Rose, 2005, p. 205). To gain additional insights, Martinez and Sandleris (2008)

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<sup>46</sup> The estimates result from an unbalanced fixed effects panel data regression with robust, country-clustered standard errors. The dependent variable is the monthly average country spread to US treasury bonds (EMBIG stripped spread) with a country sample of Argentina, Algeria, Colombia, Brazil, Bulgaria, China, Chile, Côte d'Ivoire, Croatia, Dominican Rep, Ecuador, Egypt, El Salvador, Hungary, Indonesia, Lebanon, Malaysia, Mexico, Morocco, Nigeria, Panama, Pakistan, Peru, Philippines, Poland, Russia, Serbia and Montenegro, South Africa, South Korea, Thailand, Tunisia, Turkey, Ukraine, Uruguay, Venezuela, Vietnam.

<sup>47</sup> These estimates result from a Cox proportional hazard model for duration of reaccess for a sample of 60 restructuring cases and using annual data. See Cruces and Trebesch (2011) for details.

adopt Rose's approach and data, but augment his gravity equation to allow identifying potential bilateral punishment by creditor countries. In particular, they add a dummy for bilateral creditor-debtor relationships<sup>48</sup> that is intended to capture the specific effect of a default on bilateral trade between a defaulting country and the creditors affected by the default (incremental "bilateral" effect). This variable is included jointly with a "general" default dummy, which should capture the impact of a default on trade between a debtor country and *all* its trade partners. Martinez and Sandleris (2008) argue that in the presence of creditor punishment, bilateral trade with creditor countries should fall more than trade with other countries. Their results, however, provide no evidence for such an effect. While they find a general decline in trade after Paris Club debt restructurings (lasting 5 years), the dummy for bilateral default effects has a positive coefficient.

A number of additional studies have analyzed the trade-default relationship further. Mitchener and Weidenmier (2005) adopt the Martinez and Sandleris framework for the classical gold standard period. Instead of using agreement dates, they collect data on the onset of sovereign defaults from 1870 to 1913. Similar to Martinez and Sandleris (2008), their estimations yield an insignificant bilateral effect of default on trade flows, strengthening the overall evidence against trade punishment by creditor countries during that period. Finally, there are a few related articles on the specific effect of crises on trade credit (see, e.g., Love, Preve and Sarria-Allende, 2007; Ronci, 2005; and Wang and Ronci, 2005).

### **C. Effects on Banks and the Financial Sector**

A sovereign debt restructuring can strongly affect the financial position of banks, pension funds, insurance companies, mutual funds, and other financial institutions, particularly if these hold the affected instruments or if they are exposed via CDS positions. For these reasons, a restructuring can endanger financial stability and, in the worst case, trigger bank failures and bank recapitalization needs. These effects can additionally result in a credit crunch and less domestic lending, as well as in cross-border risk spillovers.

More specifically, banks and financial institutions can be affected by a sovereign restructuring in a variety of ways (see also IMF 2002c). First, the asset side of banks' balance sheets can suffer directly to the extent that it contains restructured assets. "Buy and hold" investors of long-term government bonds are likely to be the most affected investor group, while institutions that mark-to-market may use the opportunity to adjust their portfolios in anticipation of a restructuring.<sup>49</sup> Second, on the liability side, banks can experience deposit withdrawals and the interruption of interbank credit lines. This can negatively affect their ability to mobilize resources at a time of stress. Past restructuring

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<sup>48</sup> The bilateral variable identifies those creditor countries that participated in a respective Paris Club restructuring. The dummy thus captures creditor-debtor relationships on a country pair level for each restructuring.

<sup>49</sup> This adjustment may include a reduction in exposures of bonds under a prospective restructuring.

episodes have also triggered interest rate hikes, thereby, increasing the cost of banks' funding and affecting their income position. Finally, some debtor countries, particularly in advanced economies, have a large retail base among investors in sovereign debt, so that a restructuring may curb household savings too.

During the debt crises of the 1980s and early 1990s foreign banks and investors were most affected because developing country debt during this time was to a large extent held by Western banks. The effects of emerging market defaults on Western banking systems have first been analyzed by Cornell and Shapiro (1986) and Bruner and Simms (1987). These studies assess the impact of the 1982 Mexican debt default, and of rumors about it, on Western banks' financial market valuations. They find a significant and long-lasting negative effect, especially for those banks with large exposures to Mexican debt. Slovin and Jayant (1993) show that this negative effect was more pronounced for capital deficient banks than for banks with larger capital adequacy buffers. In a similar vein, Musumeci and Sinkey (1990) and Karafiath et al. (1991) document a negative market value effect, as well as contagion across banks, after the Brazilian debt moratorium of 1987. Unal et al. (2003) show that the announcement of the Brady plan in 1989 led to a significant drop in the stock prices of US banking multinationals, while Japanese bank stocks were less affected.

More recently, Fissel et al. (2006) find that the Mexican peso devaluation in December 1994 and the Asian financial crisis in 1997 were associated with a notable decline in the market value of large Western banking companies, although the stocks subsequently recovered relatively quickly. This was not the case after the August 1998 Russian debt default, which was associated with a stark and long-lasting drop in US bank valuations and a rapid widening of default spreads on bank debt for the top 25 bank holding companies in the United States. In a similar vein, Arezki et al. (2011) find that sovereign rating downgrades have significant spillover effects both across countries and financial markets, including on corporate CDS prices, and on bank and insurance sector stocks.

Other papers do not focus on bank valuation or spread effects, but specifically on the link between debt crises and banking crises. Levy-Yeyati et al. (2010) find that sovereign distress affects the behavior of depositors and can contribute to bank runs. In a similar vein, Borensztein and Panizza (2009) provide indicative evidence that debt crises may trigger systemic banking crises. More recently, Gennaioli, Martin and Rossi (2010) reassess the link between government default and domestic financial markets in a panel of emerging and developed countries from 1980 to 2005. The authors find that public defaults are followed by large and systematic drops in aggregate financial activity. They also find that the post-default credit crunch is stronger for countries in which banks hold more government debt.

Notably, debt crises in recent years have also affected *domestic* financial sectors. Two main examples are the defaults of Russia and Ecuador during 1998–2000, which contributed to the effective collapse of the domestic banking systems in these countries. In Russia, the large Moscow-based commercial banks were affected most, owing also to their significant exposures to domestic treasury bills and currency mismatches on their balance sheets. This resulted in insolvency and the default of some banks on their external obligations. Box 4 provides a detailed overview. In Ecuador, the sovereign default had already been preceded



by a systemic banking crisis, yet the restructuring process led to a further significant dent in banks' capital.

In the recent restructuring case of Jamaica in 2010, the government adopted a preventive and early financial sector contingency plan. Specifically, the government, with the help of international financial institutions, introduced a facility to support banks or funds affected by the sovereign restructuring. This case is discussed in detail in Box 2 above.

#### **Box 4. Effects of Russia's 1998 Debt Crisis on the Domestic Banking Sector**

The Russian crisis of 1998 is a prominent example of how a sovereign default and restructuring can contribute to a severe banking crisis. Here, we summarize the detailed accounts by Sturzenegger and Zettelemyer (2006, chapter 4) and Kharas et al. (2001).

In comparison with other emerging markets, Russia's financial sector was particularly vulnerable to sovereign default risk. Over the years prior to 1998, domestic banks and funds had become a main source of government financing so that they were heavily invested in all types of government debt (GKOs, OFZs, Eurobonds, and MinFins). On the eve of the crisis, the total exposure surpassed 40 percent of GDP, with large portions being held by a small group of Moscow-based banks. One example is Russia's main deposit bank, the state-owned Sberbank, which held a full 55 percent of its assets in government securities. The exceptionally high exposure meant that a default on domestic debt would effectively wipe out the entire banking sector's capital. In addition, banks also depended on the value of dollar-denominated government debt as collateral for much of their foreign-currency borrowing. After July 1998, Russian banks faced rising collateral requirements and increasing problems to refinance their foreign loans. As a result, they started to offload their holdings of domestic government bonds, which led to a considerable worsening of the crisis.

In mid-August of 1998 the government announced a broad set of emergency measures, including its decision to default and restructure and to devalue the ruble. The immediate result was a bank run, and widespread bank insolvencies. Long lines of depositors formed in front of financial institutions, and the payments system collapsed for nearly four weeks. Sturzenegger and Zettelmeyer (2006, p. 103) report that only three of the eighteen largest Moscow-based banks had positive capital in the aftermath of the crisis. Nevertheless, banks were allowed to continue to operate under Russian law, as long as they retained their ability to process payments.

As a crisis response, the central bank intervened heavily to halt the bank run through a massive injection of liquidity. In addition, the authorities addressed bank insolvencies through regulatory forbearance and the coordinated closure and debt restructuring of a large number of banks. In late 1998, banks also benefited from the government decision to impose a forced payment moratorium on all foreign currency liabilities of Russian financial institutions. Ultimately, the banking crisis was resolved successfully, with additional help coming from the sound economic recovery after 1999.

#### **D. Effects on FDI Flows and Private Sector Access to Credit**

A small branch of literature analyzes potential risk spillovers from the sovereign to the private sector, in particular with regard to two types of spillovers: (i) foreign direct investment, and (ii) private sector access to external credit (issuance and pricing of corporate foreign bonds and syndicated loans).

The recent study by Fuentes and Saravia (2010) shows that countries that undergo a debt restructuring see their FDI flows reduced by up to 2 percent of GDP per year. Their results

suggest that the effect depends on the creditor-borrower relationship. According to their findings, the reduction in FDI does not come from every country that could be a potential source of capital flows, but from countries directly affected by the default, based on Paris Club data.

As to private sector access to credit, Arteta and Hale (2008) find that sovereign debt crises and restructurings with official creditors have a strong negative impact. After controlling for fundamentals and external shocks, the drop in foreign loans and bond issuance by domestic firms amounts to more than 20 percent. Their analysis was among the first to provide direct evidence on the domestic costs of sovereign default, an issue that has been at the core of recent theoretical work. The findings by Arteta and Hale were complemented by Das, Papaioannou and Trebesch (2010, 2011). They find a drop of up to 40 percent in private sector external borrowing compared to what it would have been otherwise. Defaults on debt to private creditors are found to have a stronger impact than defaults to official creditors. In addition, they find that other risk measures, such as higher sovereign bond spreads and lower sovereign ratings, also have a strong negative impact on private sector foreign borrowing, even without a formal default.

Beyond private sector credit and FDI, there are only few related papers on “top-down” spillovers from the sovereign to private firms.<sup>50</sup> A small empirical literature shows that sovereign risk and defaults influence emerging market firms both in normal times and during crisis episodes. Borensztein et al. (2007) show that sovereign ratings are strong determinants of corporate ratings. With regard to stock markets, Cruces (2007) finds sizable sovereign risk related to equity premia. According to his results, corporations in countries with credit ratings in the default range are forced to pay much higher expected rates of return compared to companies based in non-default countries.

### **E. Fees and Negotiation Costs**

In sovereign bond restructurings, debtor governments generally face expenses for their financial and legal advisors and for negotiating and communicating with bondholders, e.g., due to roadshows or travel expenses. Restructuring can also imply administrative deadweight loss, as government staff and senior officials in the country may need to invest months of work into preparing and implementing a debt exchange.

During the 1980s, BAC negotiation costs were paid by debtor governments, including all bankers’ expenses and those of the BAC’s legal counsel. Beyond direct negotiation costs, debtors also paid restructuring fees of between 0.25 percent and 2.25 percent of the amounts restructured. Overall, fees paid to banks tended to be higher (>1 percent) in the

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<sup>50</sup> There is a larger literature on private sector contingent claims and “bottom-up” risk transfers (see e.g., Gray, Bodie, and Merton (2007), Gapen et al. (2008), or Honohan and Laeven (2005)). See also the approach by Celasun and Harms (2007, 2008).

early 1980s and came down in the late 1980s. Apparently, lower restructuring fees were charged in debt workouts after 1989 (Rieffel, 2003, p. 129).

Box 5 summarizes the above literature survey on the costs and consequences of defaults and debt restructurings.

### **Box 5. Costs of a Restructuring and Default**

#### *Borrowing costs and exclusion from capital markets*

New research indicates that the consequences of restructurings depend on the size of creditor losses. An increase in haircuts by 20 percentage points is associated with borrowing costs that are at least 50 basis points higher during the six years after the restructuring, and a lower likelihood of re-accessing capital markets.

#### *Output and trade costs*

The academic literature agrees that debt crisis years are associated with a drop in GDP of between 2 and 5 percent per year. The size of this effect depends on the duration of the crisis, and whether it occurs simultaneously with banking and currency crises. Bilateral trade flows fall up to 7 percent after Paris Club restructurings, and for more than 10 years. However, it is difficult to conclude that these are causal effects, rather than correlations.

#### *Financial Sector Implications:*

Restructurings affect the holders of government papers, in particular banks, pension funds, and insurance companies. Debt exchanges can thereby endanger financial sector stability and contribute to a credit crunch. While bank bailouts have in the past contributed to sovereign funding pressures, debt restructurings have also contributed to banking sector distress, causing bank failures and bank runs, such as in Russia in 1998.

#### *FDI Flows and Private Sector Access to Credit:*

Recent research finds evidence for “top-down” risk spillovers from the sovereign to the private sector. Restructurings are associated with a drop in FDI of up to 2 percent of GDP per year. In addition, debt crises can be associated with a decrease in external borrowing. Corporate external loan and bond issuances have dropped by up to 40 percent. The size of this effect depends on the speed of restructuring and is stronger for defaults to private creditors.

#### *Negotiation Costs and Fees:*

The expenses for financial and legal advisors can be substantial. Financial institutions may also demand fees to administer the exchange. During the 1980s, fees reached up to 2 percent of restructured volumes.

## **IX. CONSIDERATIONS IN DECIDING ON A SOVEREIGN DEBT RESTRUCTURING**

This section discusses considerations that have played a role in government decisions on a sovereign debt restructuring. After providing a brief overview of some key concepts in a sovereign debt restructuring in Box 6, we review the literature on “early warning signals” and present the most commonly used indicators of sovereign risk. Then, we summarize the most widely used approaches to assess debt sustainability and the potential need for a restructuring. Lastly, we present some idiosyncrasies in recent sovereign debt restructurings and outline the role of financial sector linkages and contingent liabilities, as well as of the debt structure and creditor composition.

### Box 6: Key Concepts in Sovereign Debt Restructuring

#### 1) “Illiquidity” vs “Insolvency”

A popular categorization of default and restructuring cases is to assess whether they are the result of illiquidity or insolvency. Illiquidity refers to a situation in which the sovereign has insufficient financial means to roll-over its debt in the short term. An entity is illiquid if, regardless of whether it satisfies the solvency condition, its liquid assets and available financing are insufficient to meet its maturing liabilities. Typically, liquidity crises are faced by countries with a high ratio of short-term debt to reserves, with large financing needs relative to revenues and a loss in access to fresh capital.

Insolvency, in contrast, is a situation in which the country’s overall debt burden has become unsustainable, that is, when future primary surpluses will not be large enough to pay back the debt. More technically, solvency requires that the current debt stock plus all future expenditures in present value terms exceed the present discounted value of all revenues.<sup>51</sup> An insolvent country may not be able to repay even with the “maximum feasible domestic adjustment.”<sup>52</sup> In such a situation, a debt restructuring involving a debt reduction may be necessary to restore solvency.

As highlighted by the IMF (2002b) “the distinction between solvency and liquidity is sometimes blurred because illiquidity may be manifested in rising interest rates in the limiting case that no further financing is available, the marginal interest rate becomes infinite, which eventually calls into question the entity’s solvency.”

#### 2) “Unwillingness” vs “Inability” to Pay

A further important distinction is between a government’s inability and its unwillingness to pay (e.g., Reinhart and Rogoff, 2009 and S&P, 2006). Willingness to pay is a qualitative concept that is often linked to political and institutional factors in the debtor country. Domestic political considerations can affect willingness to pay, as policymakers may tend to retain scarce resources for socioeconomic needs of domestic constituents rather than continuing to repay external creditors in times of distress. A country may also be unwilling to pursue (large) fiscal adjustments or enact reforms to achieve debt sustainability. This can result in situations in which a government defaults and restructures its debt, even if it has the financial capacity for full repayment. Panizza et al. (2009, p. 668) argue that the distinction of ability vs. willingness to pay is of limited usefulness “since even crises that are triggered by a bad shock could be viewed as “willingness to pay” crises in the sense that, with sufficient adjustment (e.g., a large decline in consumption), repayment would be feasible.”

#### 3) Default in “Good” and “Bad” Times

<sup>51</sup> Similarly, one can define solvency based on the governments’ intertemporal budget constraint, which states that the initial debt stock must be smaller than (or equal to) the sum of the present discounted value of primary surpluses in the future.

<sup>52</sup> As explained in a recent IMF manual by Escolano (2010, p. 11), “the maximum feasible primary balance is not known with certainty (until after it is reached) and it varies across countries, and political and economic conjunctures.” Blanchard (1984) contains a related discussion.

Another strand of literature distinguishes whether defaults (and restructurings) occur in “good” or “bad” times. “Good times” are typically defined as years with output above trend and “bad times” are years with below-trend GDP. Aguiar and Gopinath (2006), for example, predict that defaults are countercyclical and will occur after a series of bad output shocks. The recent paper by Levy-Yeyati and Panizza (2011) provides evidence in support of this assumption, as defaults in the last decades tend to follow output contractions. This result is confirmed in Tomz and Wright (2007), who use a much larger sample (1820–2004). They find output and default to be negatively correlated; however, the relationship is less close than expected. Only 62 percent of the default episodes in their sample occurred when output was below trend, while about a third of defaults occurred in “good times.” Thus, one can conclude that GDP growth alone is not a sufficient predictor of the occurrence of debt crises.<sup>53</sup>

### A. Warning Signals: Determinants of Restructurings and Default

A popular way to assess the vulnerability of a sovereign debtor is to focus on central economic variables, risk ratios, and market indicators of sovereign risk. Roubini (2003) underlines that the most widely used sustainability indicators include external debt to GDP (or public debt to GDP) and the ratio of public debt (or debt service) to government revenues. A fairly large literature on the determinants of default and restructurings has assessed the role of these and other risk indicators.

#### (i) Sovereign Risk Indicators: Bond Spreads, CDS Prices, and Credit Ratings

Market indicators have in the past influenced the timing and occurrence of sovereign debt restructurings. When markets perceive a government as less likely to repay in the future, this can have effects on country borrowing costs and, thereby, the risk of default. Common risk indicators include secondary market bond spreads or the price of sovereign CDSs. These indicators, as well as changes in sovereign ratings, can play a crucial role for debtor policies in distress. For example, governments may react to an increase in risk perceptions by announcing additional fiscal tightening. However, when borrowing costs surpass a critical threshold, defaulting can also become more likely.

Under extreme circumstances, a sudden change in investor perceptions may even act as a default trigger. Debt crises and restructurings can indeed be self-fulfilling and caused by contagion, as shown by a small body of related literature (see Cole and Kehoe, 1996, 2000, and Chamon, 2007). In case of a “debt run” or the effective exclusion from capital markets, countries may in fact have no alternative than to halt payments. This risk is especially high when governments face large liquidity/roll-over risks (see also Detragiache and Spillimbergo, 2001).

#### (ii) Risk Indicators and Triggers of Restructurings and Defaults

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<sup>53</sup> Nevertheless, GDP growth may be important for the timing of restructurings. The model by Bi (2008) predicts that it can be beneficial for both creditors and the debtor country to delay any restructuring until output recovers (“waiting for a larger cake”).

In their article on “rules of thumb” for sovereign debt crises, Manasse and Roubini (2008) identify the debt/GDP ratio and liquidity indicators, such as the ratio of short-term debt to reserves, as key risk indicators of debt crises. The authors categorize crises episodes into three types: (i) episodes of insolvency with high debt and high inflation; (ii) episodes of illiquidity, which are associated with excessive short-term liabilities relative to foreign reserves; and (iii) episodes of macro and exchange rate weaknesses, e.g., due to large overvaluations or negative growth shocks (see also Box 6). In a similar vein, Sturzenegger and Zettelmeyer (2006, p. 6) categorize default and restructuring clusters in the last 200 years. They find that debt crises were triggered by one or more of the following factors: (i) a worsening of the terms of trade; (ii) a recession in the core countries that acted as providers of capital; (iii) an increase in international borrowing costs, e.g., due to tighter monetary policy in creditor countries; and (iv) a crisis in an important country that causes contagion across trade and financial markets.<sup>54</sup>

Additional explanatory factors include macroeconomic volatility (Catao and Kapur, 2006), banking crises, and contingent liabilities (e.g., Reinhart and Rogoff, forthcoming) or political and institutional factors (Kohlscheen, 2007; van Rieckeghem and Weder, 2009; and Enderlein, Trebesch and von Daniels, forthcoming). From a more historical perspective, Reinhart, Rogoff and Savastano (2003) identify the occurrence of past defaults as a main predictor of missed payments and restructuring events. They argue that some debtor countries may be “debt intolerant,” in that they are less able to sustain high levels of debt to GDP without defaulting. In simpler terms, one may link debt crises to either “mismanagement” due to internal debtor country problems and/or to “misfortune” due to external shocks such as wars, natural disasters or commodity price drops (see Sovereign Insolvency Group, 2010)

Box 7 summarizes the evidence and provides an overview of risk thresholds identified by the relevant literature.

### **Box 7. Risk Indicators for Restructuring and Default**

- 1) *Market Risk Indicators*: An increase in sovereign bond spreads, CDS prices, and rating downgrades are typically seen as key predictors of default and restructuring risks. Pescatori and Sy (2007) suggest that bond spreads exceeding 1,000 basis points should be categorized as episodes of severe debt distress. Relatedly, market sentiment can play a major role for debtor policies in distress, including the decision to restructure or not.
- 2) *Debt Ratios (Debt/GDP)* are among the most widely quoted predictors for default risk. However, history shows that debt crises have occurred at a large range of debt ratios and there are no obvious cutoff points. Nevertheless, the literature provides helpful insights:
  - The article on “Debt Intolerance” by Reinhart, Rogoff and Savastano (2003) suggests that the

<sup>54</sup> Relatedly, Beim and Calomiris (2001) construct a qualitative dataset and identify common triggers of default and restructuring events. Of 48 episodes between the 1970s and 1990s, they relate 40 cases to interest rate shocks, 38 cases to oil price shocks or other commodity price swings, 3 cases to civil unrest and 3 to wars or natural disasters. Furthermore, 6 cases are associated with the collapse of the Soviet Union.

critical debt/GDP ratio depends largely on the country's record of default and inflation.

According to the authors,

- the debt/GDP threshold for “safety from default” may be as low as 20 percent for some countries; and
  - the risk thresholds are much higher (above 60 percent of debt/GDP) for advanced economies and for EM countries that have never defaulted.
- For a subsample of more recent debt crises, Finger and Mecagni (2007) show that most occurred at a debt to GDP level exceeding 39 percent.

3) A wide range of risk indicators is analyzed in “*Rules of Thumb for Sovereign Debt Crises*” by Manasse and Roubini (2008). The authors suggest the following “danger zones” in the EM context:

- External debt to GDP: > 50 percent
- Short-term debt to reserves: > 130 percent
- Public debt to revenues: > 215 percent
- Inflation > 10.5 percent
- Growth < - 5.5 percent
- Political Uncertainty no upcoming election

4) “*Fiscal Space*” is a concept that was recently revived by Ostry et al. (2010). The authors suggest a “debt limit” at which debt becomes unsustainable due to sharply increasing interest rates. This debt limit is computed by estimating fiscal reaction functions of 23 advanced economies.

- Fiscal space is defined as the difference between each country’s debt limit and its debt ratio projected for 2015.
- With historical interest rates, the estimated debt limit for advanced economies ranges from about 150 to 260 percent of GDP, with a median of 192 percent. Assuming more realistic interest rates, the debt limit decreases, particularly for some countries, with a median of 183 percent of debt/GDP.
- A key determinant of fiscal space is the differential of interest rate and output growth. If a country’s interest rate exceeds its annual growth, the remaining fiscal space shrinks rapidly.

5) *Advanced Economies vs. EMs*: Cotarelli et al. (2010) compare vulnerability indicators of advanced economies to those of defaulting EM countries in the two years prior to default. As of April 2010, the main indicators compare as follows:

- Primary Deficit: Current median of -7.4 percent for advanced economies vs. only -0.4 percent for defaulting EM countries.
- Interest Payments to GDP (nominal): Median of 2.6 percent for advanced economies vs. a high median of 4.3 percent for defaulting EM countries.
- Real Interest rate minus Real Growth: Median of 0.8 percent for advanced economies vs. a high median of 4.3 percent for defaulting EM countries.

These figures show that in today’s advanced economies, the main challenge for debt sustainability are large primary deficits rather than the interest bill or the interest-growth differential.

*In summary*, one can broadly associate the occurrence of debt restructurings with the existence of one or more of the following circumstances:

- High bond spreads, high CDS prices and credit rating downgrades;
- A high level of indebtedness (stock of debt);
- Fragile debt composition: a large share of foreign currency and short-term debt, as well as floating-rate debt;

- External shocks (e.g., oil, interest rate, commodity prices, conflicts);
- Currency overvaluation; and
- Low growth rate.

## **B. Assessing Debt Sustainability**

The IMF’s advice on a potential debt restructuring is usually based on an assessment of the country’s debt sustainability. According to the IMF (2002b, p. 4), debt sustainability is defined as “a situation in which a borrower is expected to be able to continue servicing its debts without an unrealistically large future correction to the balance of income and expenditure.” This definition implies that governments cannot indefinitely accumulate debt faster than their capacity to service these debts.

Sustainability incorporates the concepts of solvency and liquidity, without making a sharp distinction between them (see Box 6). From a solvency angle, debt sustainability implies that a government must be able to generate primary surpluses that are sufficient to cover its debt-service obligations in the long run. From a liquidity angle, sustainability requires that governments must be able to roll-over debt and raise sufficient financing in each period to close any financing gaps. A key factor for both aspects is the cost of financing. In principle, when interest rates increase above the economy’s rate of growth, solvency is at stake in the long run and countries may face a liquidity crisis in the short run.

The definition also implies that there are social and political limits to adjustment. Debtor countries are not expected to adopt “unrealistically large corrections.” IMF (2002b, p. 4). Not all fiscal adjustment paths are realistic, because political and other constraints will influence a country’s willingness to pay (as opposed to ability to pay). The key question in assessing sustainability is, therefore, whether a government can *plausibly* generate and maintain primary surpluses that shield the country from a default or restructuring in the medium and long run.

Any debt sustainability analysis (DSA) inevitably involves elements of judgment and requires making projections on key variables such as growth, inflation, and interest and exchange rates, which are inherently difficult to predict. Also, political and socioeconomic risks, as well as contingent liabilities, have to be accounted for, which adds to the challenge. Nevertheless, debt sustainability tools can help in making a more informed assessment, even in the face of high uncertainty. In the following subsections, we present simple, static DSA tools and then discuss more sophisticated methods, such as the IMF’s debt sustainability template and recent advances in sustainability analysis.

### **Static Debt Sustainability Analysis: Estimating the “Fiscal Gap”**

The traditional literature on debt sustainability is vast and has been summarized in a comprehensive survey by Chalk and Hemming (2000). Here we will focus on one widely-used approach in the traditional DSA literature, which calculates a “debt stabilizing primary balance”, or fiscal gap, employing a stylized model with perfect foresight and constant values of real growth and nominal interest rates (see Buiter, 1985 and 2010; Blanchard, 1990; and Sturzenegger and Zettelmeyer, 2006). In the model, sustainability is achieved if the steady state primary fiscal balance is sufficiently high to stabilize the debt to GDP ratio



at its current level. The model's appeal is that the "sustainable" long-run primary balance can be easily calculated and compared to the country's current primary balance. The required adjustment, the fiscal gap between the two measures, can then be viewed against the country's fiscal policy track record. Note, however, that the model does not allow making a judgment on whether or not stabilizing the current debt/GDP ratio is an appropriate target.

To derive the model's core equation, the long-run debt sustainability condition, we start with a basic identity, the *government budget constraint*, written as:

$$D_{t+1} - D_t = i_{t+1}D_t - S_{t+1} \quad (1)$$

This equation simply states that the net issuance of debt at the end of period t+1 (total public debt  $D_{t+1}$ , minus the "old" debt,  $D_t$ ) must be equal to interest payments, given by the nominal interest rate in t+1,  $i_{t+1}$ , multiplied by the old debt stock  $D_t$ , minus the primary balance in that period  $S_{t+1}$ . When expressing equation (1) as a percentage of GDP and rearranging terms, we obtain:

$$d_t = d_t \frac{(i_{t+1} + 1)}{(g_{t+1} + 1)} - s_{t+1} \quad (2)$$

where  $g_{t+1}$  is the growth of real GDP from t to t+1 and  $d$  and  $s$  stand for ratios of public debt and the primary surplus to GDP, respectively. When solving forward and imposing the condition that the debt stock to GDP has to converge to 0 in present value terms,<sup>55</sup> one can solve equation (2) as:

$$d_t = \sum_{r=t+1}^{\infty} R_{t+1,r} s_{r+1} S_{t+1} \quad (3)$$

where  $R_{t+1,r} = \prod_{s=t+1}^r \frac{g_{s+1}+1}{i_{s+1}+1}$ . This equation represents the government's *lifetime budget constraint* and simply states that the initial debt stock must equal the sum of all future primary surpluses in present value terms.

As an illustrative experiment, we next assume a steady-state economy with constant interest rate and growth rates. Then, equation (3) becomes:

$$d_t = \sum_{r=0}^{\infty} \left( \frac{g+1}{i+1} \right)^{r+1} s_{t+1+r} \quad (4)$$

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<sup>55</sup> This condition assures that a debtor cannot assume debts that are growing faster than its ability to service them. Sturzenegger and Zettelmeyer (2006, p. 309) call this the "transversality condition."

If, in addition, we assume that  $i > g$  and that the primary surplus  $s$  is constant over time, then, equation (4) is reduced to:

$$s = d_t \left[ \frac{i + 1}{g + 1} - 1 \right] = d_t \left[ \frac{i - g}{1 + g} \right] \quad (5)$$

This equation gives the *debt stabilizing primary balance*  $s$  in a steady state. Based on predicted values of  $d_t$ ,  $i$  and  $g$  one can, thus, calculate the permanently required budget balance  $s$ , which can be viewed against the country's current fiscal policy stance. If the current primary balance is lower than the required steady state surplus  $s$ , fiscal policy is unsustainable because  $d_t$  will continue to increase indefinitely. The size of the difference between  $s$  and the actual primary balance indicates the degree of fiscal adjustment that is needed. A judgment can then be made as to whether such an adjustment is realistic, given the country's policy record and its current political and economic environment.

*The model also provides a simple rule of thumb: The debt-stabilizing primary balance approximately equals the nominal interest–real growth differential times the debt ratio.* While very simplistic, one can therefore roughly assess the debt sustainability for any country based on only those three variables.

Table 9 builds on equation (5) to illustrate the required permanent surplus for different levels of indebtedness and for fixed permanent rates of  $i$  and  $g$ . As can be seen, the debt-stabilizing primary balance  $s$  approximately equals the nominal interest–real growth differential times the debt ratio. This means that in a low real-growth scenario of only 1 percent per annum, the required surplus quickly becomes very high as the debt/GDP ratio and/or nominal interest rate increase. For example, a nominal interest rate of 5 percent per annum and for a country with a debt-to-GDP ratio of 90 percent, the steady state debt-stabilizing surplus is a high 3.6 percent.

**Table 9. Static Solvency Analysis: Primary Surplus (in percent of GDP) Required to Keep the Debt Ratio Stable**

Debt/GDP	Growth at 1% p.a.			Growth at 3% p.a.	
	i = 3%	i = 5%	i = 7%	i = 5%	i = 7%
30%	0.6	1.2	1.8	0.6	1.2
40%	0.8	1.6	2.4	0.8	1.6
50%	1.0	2.0	3.0	1.0	1.9
60%	1.2	2.4	3.6	1.2	2.3
70%	1.4	2.8	4.2	1.4	2.7
80%	1.6	3.2	4.8	1.6	3.1
90%	1.8	3.6	5.3	1.7	3.5
100%	2.0	4.0	5.9	1.9	3.9
110%	2.2	4.4	6.5	2.1	4.3
120%	2.4	4.8	7.1	2.3	4.7
130%	2.6	5.1	7.7	2.5	5.0
140%	2.8	5.5	8.3	2.7	5.4
150%	3.0	5.9	8.9	2.9	5.8

Note: Debt stabilizing primary balances calculated from eq. (5), as percent of GDP.

The necessary adjustment is lower when real growth is stronger, but even at a 3 percent real growth rate, the country needs to generate a permanent surplus of 1.7 percent to achieve sustainability. The table illustrates the strong impact of real growth rates and nominal interest rate increases. As can be seen, a nominal interest rate jump from 5 percent to 7 percent or a real growth reduction from 3 percent to 1 percent makes it significantly more difficult to achieve debt sustainability for a given level of indebtedness.

Based on a related DSA approach, Cotarelli et al. (2010) estimate the scope of fiscal adjustment required to achieve debt sustainability in today's advanced economies. According to their estimates, the average cyclically adjusted primary balance to stabilize the current debt-to-GDP ratio requires a surplus of 1 percent of GDP. With a median deficit of 5.3 percent of GDP in 2010, advanced economies would thus need to increase their primary balances by over 6 percentage points relative to GDP on average, a very large adjustment.

### Advanced Debt Sustainability Analysis

While useful and easy to interpret, the traditional static solvency analysis has obvious limitations. The main shortcomings of the approach outlined above can be summarized as follows:

- First, static DSA is based on an arbitrary definition of sustainability, namely that of stabilizing the debt-to-GDP ratio. However, stabilizing the debt ratio may not be sufficient when the debt-to-GDP ratio is already at a high level, leaving a country vulnerable to shocks. The model can be augmented by defining a “safe” debt/GDP

threshold. But there is no agreement on obvious cut-off points for sustainable vs. unsustainable debt ratios (see IMF, 2011b).

- Second, it only allows for a constant path of debt accumulation. However, high deficits and debt levels may be temporarily appropriate in some circumstances, while it is unlikely that a country should try and maintain a stable debt-to-GDP ratio at all times. In fact, there is an infinite number of primary surplus paths that could make the sustainability equation (3) hold, with the question being whether at least some of these paths are feasible.
- Third, the models do not account for the maturity structure or currency composition of the debt (foreign vs. domestic indebtedness), which can be crucial for debt sustainability.
- Finally, the DSA approach does not incorporate uncertainty or volatility in the underlying macroeconomic parameters, relying instead on steady state assumptions. A particularly important source of uncertainty is associated with contingent claims, such as those resulting from explicit or implicit guarantees of bank debt or of bonds and deposits. These, however, are not explicitly incorporated in the traditional DSA. A further risk not taken into account is an increase in the cost of financing, possibly due to contagion effects or a sudden stop in capital flows to the country.

A common aim of advanced DSA models is to account for uncertainty and unexpected shocks. For example, the framework suggested by the IMF (2003b) combines a projected baseline scenario with stress tests that simulate temporary adverse shocks of key variables in isolation (interest rates or economic growth). This represents an improvement over the analysis above because macroeconomic variables are allowed to vary over time, and uncertainty is explicitly addressed via sensitivity analysis. The stress tests provide a probabilistic upper bound for the country's debt dynamics under various assumptions regarding policy variables, macroeconomic developments, and costs of financing. The revised DSA approach outlined in IMF (2005 and 2008) applies stress tests with smaller but more persistent shocks and uses stochastic simulations. These simulations are based on cross-country data and provide a basis for judging the likelihood of alternative scenarios and calibrating the size of shocks accordingly. Furthermore, the basic set of standard DSA indicators is complemented, as appropriate, by country-specific scenarios. Box 8 contains a more detailed description of the IMF revised DSA approach.

### **Box 8. The IMF's Revised Debt Sustainability Analysis**

This Box summarizes the main elements of the IMF's framework for debt sustainability analysis (DSA). As in the traditional DSA literature, the IMF revised approach focuses on the evolution of the ratio of public and external debt to GDP as key indicators of country solvency. To account for the large differences in country environments, the IMF has developed two types of frameworks, one for market-access countries and one tailored for low-income countries. Here, we focus on the DSA framework developed and refined for middle-income countries with market access (see IMF, 2003b, IMF, 2005 and IMF, 2011b). This framework is relevant in the context of the European Stability Mechanism, which relies on debt sustainability analyses consistent with IMF practices to decide on the scope of financial assistance and on a potential debt restructuring in a member state.

At the core of the IMF's DSA template is a five-year central forecast, or baseline, which is based

on projections of key variables that affect the evolution of public debt, in particular the primary account, GDP growth, interest and exchange rates, and inflation. To account for the country's track record, the DSA template requires decomposing the historical change in the debt stock into the following six contributing factors: (i) the primary balance, (ii) the nominal interest bill, (iii) the capital loss from any nominal exchange rate depreciation, (iv) the inflation correction, (v) the real interest bill, and (vi) the real growth contribution.

Departing from this central projection, the template foresees the implementation of sensitivity tests that are broadly comparable across countries. One alternative scenario presents the evolution of the debt ratio under a "historical scenario", i.e., the assumption that all key variables are at their respective 10-year historical averages throughout the five-year projection period. A second sensitivity test is the no-policy-change scenario. This scenario is presented as one in which a primary balance is kept constant in future years (and equal to the projection for the current year).

The template also foresees stress tests by assuming shocks to individual variables. These include a two-standard-deviation shock to real GDP growth, the real interest rate, and the primary balance, while leaving the remaining variables as in the baseline scenario. Additional tests include a combined shock to all three of these variables of one standard deviation; a one-time 30 percent depreciation of the real exchange rate; and an increase in debt equal to 10 percent of GDP, which may arise as a result of public sector contingent liabilities.

These tests provide a set of alternative scenarios showing the dispersion of debt paths under different assumptions on key variables. The idea is to gain additional indications of the country's vulnerability to a payments crisis. Nevertheless, it should be kept in mind that even the most careful DSA is subject to a high degree of uncertainty. For example, the stress tests are normally based on 10-year historical averages and standard deviations, which can be problematic if countries underwent major transitions or a financial crisis in the near past. Stress tests have also showed a large degree of dispersion of simulated debt paths, so that the empirical value remains limited. Moreover, the correlation of shocks in the relevant variables is often not taken into account. Thus, while providing orientation, the IMF's DSA toolset should by no means be used as the sole basis for assessing debt sustainability and for deciding on the timing and scope of a potential debt restructuring.

There have been several extensions to the IMF approach (see Burnside, 2005). One example is the contribution by Celasun, Debrun, and Ostry (2006) which integrates fiscal reaction functions and introduces uncertainty via simulation methods. Specifically, they use stochastic properties of key macroeconomic variables to simulate debt dynamics using Monte Carlo simulation techniques and to derive the probability distribution of debt stocks at given moments in the future. Gray et al. (2007) apply a contingent claims approach, by focusing on the value and volatility of sovereign assets, as well as a sovereign distress barrier that is derived from the schedule of promised payments on debt. Their key contribution is to extend the conventional DSA framework to include a "bottom-up" analysis of the evolution of sovereign asset values based on underlying processes for key macroeconomic variables.

In the academic literature, Barnhill and Kopits (2003) develop a Value-at-Risk methodology to assess how macroeconomic volatility and contingent liabilities (e.g., oil revenues) affect the government's net worth and, relatedly, its debt sustainability. Mendoza and Oviedo (2006) develop a theoretical framework in which borrowing limits can be endogenously determined. In essence, they show how the behavior of stochastic revenue flows affects the government's ability to borrow. There is also empirical evidence indicating non-linear effects in debt sustainability assessments. Abiad and Ostry (2005) and

Mendoza and Ostry (2008) provide cross-country evidence that the marginal response of the primary balance to debt is weaker at high levels of debt. This suggests that, as the debt-to-GDP ratio increases, it may be more difficult to generate a primary balance that is sufficient to ensure sustainability.

### C. Idiosyncrasies in Recent Sovereign Debt Restructurings

Deciding on a restructuring or default is a difficult and multifaceted decision, with economic, legal, and political factors all playing a role. Box 9 below briefly summarizes the circumstances of defaults and restructurings in some recent cases.

#### Box 9. Experiences of Countries that Have Decided to Restructure<sup>56</sup>

**Russia 1998–2000:** During 1997 and early 1998, oil prices dropped and the Russian government faced a substantial decrease in export revenues, resulting in increased domestic borrowing. By mid-July 1998, debt service payments exceeded US1 billion and interest rates in domestic GKO bond markets had been steadily increasing. With mounting financial pressure, the authorities launched a voluntary exchange program to convert short-term ruble-denominated debt into longer-term foreign currency denominated bonds. The exchange program, however, was ineffective and achieved only low creditor participation. In addition, the adjustment program agreed with the IMF went off track. With reserves at precarious levels, and a loss of access to IMF funds, the authorities declared a unilateral moratorium on debt service payments on August 17, 1998. Shortly after, the government initiated debt renegotiations with domestic and private creditors, resulting in a domestic debt restructuring in May 1999 and a foreign debt exchange in August 2000.

**Ecuador 1999–2000:** In August 1999, Ecuador announced a payment suspension on its Brady bonds, five years after the Brady deal put an end to its debt crisis of the 1980s. The August default occurred after several adverse shocks hit the domestic economy, including flood damage caused by the El Niño weather phenomenon, a drop in capital inflows, and a systemic banking crisis, which erupted in 1998 and 1999. Government and Central Bank support to failing banks contributed to a currency crisis in early 1999, and a sharp fall in reserves. This, together with a high public debt burden of about 100 percent to GDP, made it increasingly difficult to service upcoming debt payments. After going into arrears, the government prepared an IMF supported exchange offer, which was publicly launched in July 2000.

**Argentina 2002–2005:** The Argentinean economy entered a recession in 1998 that ended up in the declaration of default in early 2002. In the late 1990s the country faced a rigid currency board and several negative external shocks (e.g., Russia and Asian crises, US dollar appreciation, Brazil's devaluation, and low export prices). In October 2001, the banking system had lost 9% of deposits and credit spreads reached 1,600 bps. As capital outflows continued, the authorities froze bank accounts in December 2001 and soon thereafter declared a default on the entire government debt stock. The debt exchange was carried out between January and April 2005.

**Grenada 2004–2005:** Grenada's debt restructuring in late-2005 was implemented about one

<sup>56</sup> This Box builds on the case studies in Andritzky (2006), Buchheit and Karpinsky (2006), Moody's (2010), IMF (2002c), Porzecanski (2010), Trebesch (2008) and Sturzenegger and Zettelmeyer (2006).

year after Hurricane Ivan caused severe economic damage, amounting to more than 200 percent of the country's nominal GDP. Amongst other serious consequences, an estimated 90 percent of houses on the island were destroyed or damaged, thus heavily affecting livelihoods and the country's tourism sector. The government announced a debt exchange offer in December 2004, with the main intention of buying time to rebuild the country's key industries. The offer opened in September 2005 and foresaw an exchange of outstanding commercial debt into new 20-year bonds at par. By November, the offer had achieved a participation rate of 97 percent.

**Dominican Republic 2005:** Contingent liabilities played a major role in the recent debt crisis of the Dominican Republic. In 2002 and 2003, large-scale fraud and losses were discovered in several major banks, resulting in bank runs and a systemic financial crisis. The government responded with an extensive support program, which was largely financed by foreign bond placements. The rescue efforts contributed to a depreciating currency, rising inflation, and an increase in the debt to GDP ratio from around 26 percent in 2002 to 54 percent at the end of 2003. During the same period, reserves fell from over 151 percent of short-term debt to just 31 percent. After a new president was sworn in in August 2004, the government adopted a comprehensive crisis resolution strategy, which also entailed the restructuring of external debt. After a period of close creditor consultations, the government launched a bond exchange offer in April 2005, which involved no principal haircut but an extension of maturities by five years.

**Ecuador 2008–2009:** Ecuador's default of November 2008 is often seen as an exceptional case. It occurred at a ratio of public debt to GDP of only 23 percent, and was not triggered by a severe economic crisis. The government decided to suspend payments on two global bonds maturing in 2012 and 2030, after an audit commission declared these debts as "immoral," "illegal" and "illegitimate". Between April and November 2009, the government then launched several rounds of debt buyback, which repurchased the two bonds against cash at a steep discount of 65-70 percent on their face value. Despite creditor attempts to block the offer, the offers reached an overall participation rate of 95 percent of outstanding bonds, amounting to about one-third of total external debt.

#### **D. The Role of Financial Sector Linkages and Contingent Liabilities**

Financial sector linkages and contingent liabilities have in the past played a central role in a government's decision to restructure or not, particularly in countries with large financial sectors. This section discusses (i) restructuring spillovers on the domestic financial sector, (ii) cross-border risk spillovers, and (iii) the role of contingent liabilities, in particular with regard to bank recapitalization.

##### **Spillovers on the domestic financial sector**

As outlined in section VIII B above, a sovereign debt restructuring can increase the funding costs of domestic banks and corporations and lead to financial losses, particularly for those institutions that hold government debt or which sold CDS protection on them. In severe crisis situations, a restructuring may even trigger a run on the domestic banking system and a rush to sell other domestic financial assets, as occurred in Russia in 1998 (see Box 4). All of these factors augment the real economic costs of the restructuring.

- More specifically, domestic financial institutions may be affected by a sovereign restructuring through two main channels:

First, *direct losses due to holdings of sovereign bonds*, be they de facto losses as a result of a potential debt restructuring, or mark-to-market losses. Compounding factors in this regard

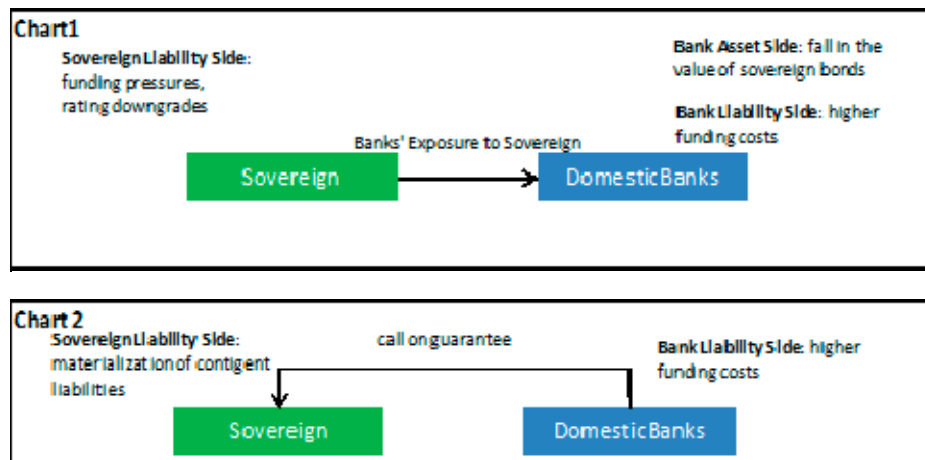
are (i) the amount and maturity of sovereign bonds held, (ii) the amount of public debt insured via CDS markets, and (iii) the use of government securities for collateralization in interbank markets.

- Second, *increases in bank funding costs*. These could have the strongest impact on the banks with relatively weak fundamentals, high upcoming debt redemptions and/or high sovereign risk exposures. As the pricing of debt securities hinges on the perceived credit metrics, a widening of sovereign and bank CDS spreads signals higher re-financing costs for banks.

On the other hand, bank funding pressures could result in a calling of *government guarantees on bank bonds*, thus increasing the debt burden for the sovereigns further. Figure 13 illustrates these spillover channels.

Figure 13. An Illustration of Sovereign-Bank Risk Spillover Channels

(arrows indicate the direction of risk transfer).



### Cross-border risk spillovers

In addition to domestic spillover effects, there can be considerable cross-border feedback channels, as banks and financial institutions can also be exposed to sovereign default risks of foreign countries, be it directly via their holdings of foreign government debt or indirectly via their exposure to the banking sector of the defaulting country.

In the early 1980s, regulators were highly concerned about the effects of the Latin American debt crisis on the solvency of major U.S. and European banks. Rieffel (2003, p. 156) shows that, in 1982, U.S. banks were heavily exposed to developing country debt, on the order of 182 percent of their total aggregate capital. Rieffel underlines that a write-off of 30 percent on the value of these sovereign loans would have effectively wiped out the capital of most major U.S. banks, with unpredictable effects for the international trade and payment system. In this situation, Western governments responded with a coordinated crisis resolution effort, jointly with the IMF and the Paris Club. As illustrated in section IV, the banks agreed on new bridge lending to these countries, and on a series of short- and



medium-term debt rescheduling agreements throughout the 1980s. The avoidance of outright debt reduction until 1989 shielded banks from painful write-downs, and allowed them to gradually reduce their exposure to developing country debt over the years.<sup>57</sup>

In more recent sovereign debt crises, the exposure of Western banks and investment funds have been more limited, also because restructurings did not occur in clusters but in individual countries only, and often in small economies such as Belize, Ecuador or the Seychelles. Among the larger recent restructurings, German banks and funds were those most heavily exposed to the Russian default of 1998, while U.S. financial institutions and European retail investors were most affected by the Argentinean default and debt exchange of 2001 to 2005.

However, serious concerns on cross-border bank exposure have reemerged in the context of the current Euro area crisis. According to EU-wide stress test results, EU banks held about a third of the peripheral euro area sovereign debt. A detailed analysis is provided in Blundell-Wignall and Slovik (2010). They show that European banks have considerable cross-border exposures of sovereign and banking debt-to-euro peripheral countries, often in excess of 5 percent of their Tier 1 capital.

### **Contingent liabilities and bank recapitalization**

A third type of financial sector linkage that can play a central crucial role for the decision and timing of a restructuring relates to contingent liabilities, especially contingent liabilities from the domestic financial sector. The current banking crisis in Ireland, and recent quasi-sovereign default cases such as Dubai World or Naftogaz (Box 3) illustrate that private sector risks can affect the country's overall debt sustainability (Figure 13 above). In some cases, contingent liabilities may even contribute to the decision to restructure sovereign debt, such as in Ecuador 1999–2000 or in the Dominican Republic 2005. In other cases, however, a restructuring may impair the financial position of domestic or foreign institutions to a degree that this threatens financial stability and raises pressures for bank recapitalization and official sector bail-outs. Two examples are the Russian crisis of 1998 (Box 4) and the recent Jamaican restructuring of 2010 (Box 2).

Table 10 provides a condensed overview of the risks related to government liabilities. In particular, the table differentiates between explicit liabilities, which are legal obligations that governments must settle, and implicit liabilities which are obligations that are not legally binding, but which are nevertheless likely to be borne by governments, either due to public expectations or due to political pressures.

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<sup>57</sup> U.S. banks reduced their exposure from 182 percent of capital in 1982 to 95 percent in 1986 and 63 percent in 1988 (see Bowe and Dean 1997).

**Table 10. Risks to Debt Sustainability: Contingent and Non-Contingent Liabilities**

	<i>Non-contingent liabilities</i>	<i>Contingent liabilities</i>
	(the existence of government obligations does not depend upon particular events)	(the existence of obligations depends upon the realization of particular events)
<i>Explicit</i>  (government obligations have a legal basis)	<ul style="list-style-type: none"> <li>• Government debt</li> <li>• Government expenditure commitments (legally enforceable)</li> <li>• Provisions (e.g., clearly defined accrued pension rights not backed by a fund)</li> </ul>	<ul style="list-style-type: none"> <li>• Government individual guarantees on the debt issued by public and private entities</li> <li>• Government umbrella guarantees (e.g., on household mortgages)</li> <li>• Government insurance schemes (e.g., on bank bonds, bank deposits, returns from private pension funds)</li> </ul>
<i>Implicit</i>  (government obligations do not have a legal basis and arise as a consequence of expectations created by past practice or pressures by interest groups)	<ul style="list-style-type: none"> <li>• Future welfare payments (e.g., pension payments related to pension rights which have not matured yet, future health care payments)</li> <li>• Future government expenditures related to recurrent operations (e.g., capital stock refurbishment)</li> </ul>	<ul style="list-style-type: none"> <li>• Bailout of defaulting public or private sector entities (e.g., public corporations, banks or other private financial institutions, pension and social security funds)</li> <li>• Disaster relief</li> <li>• Environmental damage</li> <li>• Military financing</li> </ul>

Note: Adapted from Brixi, Polackova and Schick (2002)

### **E. Additional Considerations: Debt Structure and Creditor Composition**

This section briefly discusses additional factors affecting the likelihood of default and debt restructurings, in particular the role of sovereign debt structure, and the holders of the debt.

#### **Debt structure**

Many studies have highlighted the importance of debt portfolio structures for the likelihood and timing of default and debt renegotiation. Among them, the paper by Cotarelli et al. (2010) argues that the debt structure should play an important role for the decision for or against a sovereign debt restructuring.

The authors suggest that the debt structures in today's advanced economies make these countries less crisis-prone than the emerging economies that defaulted in the past. They emphasize, in particular, the favorable debt profile with regard to currency composition, fixed vs. floating rate debt, and the maturity structure:

- *Currency composition.* The last decades have shown that a high share of external debt in government debt portfolios can significantly increase the risk of sovereign default. In the past, emerging economies issued large shares of public debt in foreign currency, making them vulnerable to exchange rate shocks and currency mismatches. Major depreciations endangered debt sustainability, mostly because governments continue to collect most of their revenue in domestic currency. However, the debt of advanced, industrialized countries is largely denominated in domestic currency. Currency crises may thus only have indirect effects on debt sustainability.
- *Floating rate debt.* A high share of floating rate debt can increase the likelihood of severe debt distress. The reason is that any increase in marginal interest rates, e.g., due to a global credit crunch, will affect the country's average borrowing costs. Advanced economies, however, have a comparatively low share of floating rate or indexed debt. Most outstanding bonds and loans feature fixed interest rates so that the transmission effect of higher marginal rates is slowed down.
- *Maturity structure.* A third risk factor is the maturity structure of debt portfolios. Longer average maturities imply less rollover risks and, thereby, a lower likelihood of debt distress when credit markets shut down. In recent years, emerging economies have been successful in lengthening the average maturity on their debt. Overall, their maturity structure is now only slightly shorter than for advanced economies.

These facts may indicate that advanced economies face lower debt management risks than emerging economies. However, sovereign debt portfolio risks are not always easy to assess. We can conclude that appropriate public debt management remains crucial for preventing and dealing with debt restructurings (Chamon et al., 2005).

### **Creditor composition**

Relatedly, and as noted in section C above, the creditor structure may also influence a government's decision on when and whether to restructure. For example, if sovereign bonds are mostly held by private domestic financial institutions, this may act as a deterrent to a restructuring, due to the risk of contingent liabilities and bank bailouts. In fact, the fiscal alleviation effect associated with a present value debt reduction may be largely outweighed by the costs of a related bank recapitalization program. If the debt, however, is mostly held by foreign investors and major multinational banks, these concerns may be less pressing politically. In addition, the timing and process of a restructuring may differ depending on the share of debt held by official (bilateral) creditors and/or multilateral creditors, as these creditors may be approached in a different way than banks or private sector bondholders.

## **X. THE SCOPE OF DEBT RELIEF—HAIRCUTS**

This section discusses considerations in deciding on the scope of debt relief in a restructuring. While simplistic, it aims to give some orientation on a highly delicate

question that depends heavily on country and crisis characteristics and for which no generally applicable answers exist. The following considerations are particularly important:

- *The amount of debt relief should be tailored to ensure a return to debt sustainability.* A debt sustainability analysis can, therefore, help to assess how much domestic adjustment is economically necessary, as well as how much is politically/socially feasible. This, in turn, will help to determine the debt relief needed to put the country back on a sustainable growth and fiscal path. The IMF's DSA framework has played a crucial role in many past debt renegotiations between sovereigns and their creditors and it can, thus, provide some guidance. However, any DSA should not be interpreted in a mechanistic or rigid fashion and cannot be the sole basis for calculating the appropriate haircut. Rather, the DSA results must be assessed against relevant country-specific circumstances, including the particular features of a given country's debt, its policy track record, and its policy space.
- *The size of the losses will affect creditor balance sheets.* In the early 1980s, for example, the negotiated haircuts in most debt restructurings were low (often less than 20 percent, see Cruces and Trebesch 2011). One reason for this was that Western banks faced considerable solvency risk due to their exposure to developing country sovereign debt (see Section IX C). Similar concerns apply today in Europe, as European banks hold significant amounts of sovereign debt of Euro-periphery countries on their books. A restructuring with large haircuts may, thus, become a source of systemic instability in the financial sector, if appropriate remedial measures are not taken.
- *Governments may face a trade-off between the short- and long-term effects of debt relief.* A high haircut implies a large degree of debt reduction now, which, however, may be punished by markets with higher borrowing costs in the future. New evidence in this regard is provided by Cruces and Trebesch (2011), as mentioned above. According to their estimates, a one standard deviation increase in haircut size leads to higher borrowing costs of at least 170 basis points in year 1 and 50 basis points in years 4 and 5 after the restructuring.

#### **A. Restoring Solvency: Haircuts in a Static Sustainability Model**

One way to compute the scope of debt relief is to build on the simple static solvency model outlined above. For illustrative purposes, we return to equation (5). It allows computing the maximum sustainable debt ratio  $d_t$ , for constant values of the nominal interest rate  $i$ , real growth  $g$ , and a projected primary surplus  $s$ .<sup>58</sup> As an illustrative example, let us assume a constant annual primary surplus of 2 percent to GDP, a 1 percent real GDP growth rate  $g$ , and a nominal interest rate  $i$  of 5 percent. At these values, the maximum steady-state debt-to-GDP ratio that is sustainable can be calculated as follows:

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<sup>58</sup> This approach is suggested in Sturzenegger and Zettelmeyer (2006, p. 325)

$$d_t = s \left[ \frac{1+g}{i-g} \right] = 2 \left[ \frac{1+0.01}{0.05-0.01} \right] = 50.5 \text{ percent} \quad (6)$$

Now we can pose the following question: With an actual debt-to-GDP ratio of, say, 120 percent, what is the required haircut to achieve this steady-state? Based on this highly stylized model, the required haircut can be computed as  $1 - (50.5/120) = 57.9$  percent. Thus, in a steady-state world with perfect foresight and assuming the above parameter values, the debt stock would have to be reduced by approximately 58 percent to reach a permanent debt-to-GDP ratio of 50.5 percent.

Table 11 illustrates the results of this simple illustrative example for a permanent surplus of 2 percent and a range of actual debt-to-GDP ratios. As in Table 9, it can be seen that the nominal interest rate-real growth differential plays a crucial role for the debt dynamics and, accordingly, for the required haircut at different debt ratios. For example, in a high real growth scenario of 3 percent per annum and with nominal interest rates at 5 percent, the sustainable debt ratio exceeds 100 percent, so that debt relief is required only at very high debt ratios.

While illustrative, it is obvious that these figures have to be viewed with considerable care. The results are derived from a highly stylized model that does not account for country circumstances, uncertainty, or exchange rate and interest rate risks. The figures should, thus, not be seen as a benchmark for any real-world restructuring process.

**Table 11. Required Haircuts in a Static Solvency Model**

Parameter Assumptions	Growth = 1% p.a., Permanent Surplus = 2%		Growth = 3% p.a., Permanent Surplus = 2%	
	i= 5%	i= 7%	i= 5%	i= 7%
	Max. Debt/GDP ratio that is sustainable at these values:			
	50.5%	33.7%	103.0%	51.5%
Actual Debt/GDP	REQUIRED HAIRCUT to achieve a stable debt ratio			
30%	-	-	-	-
40%	-	15.8%	-	-
50%	-	32.7%	-	-
60%	15.8%	43.9%	-	14.2%
70%	27.9%	51.9%	-	26.4%
80%	36.9%	57.9%	-	35.6%
90%	43.9%	62.6%	-	42.8%
100%	49.5%	66.3%	-	48.5%
110%	54.1%	69.4%	6.4%	53.2%
120%	57.9%	71.9%	14.2%	57.1%
130%	61.2%	74.1%	20.8%	60.4%
140%	63.9%	76.0%	26.4%	63.2%
150%	66.3%	77.6%	31.3%	65.7%

Note: The table is based on equations (5) and (6) and computes the size of haircuts required to stabilize the debt/GDP ratio in a highly stylized model of static debt sustainability. The parameter  $i$  stands for the annual interest rate paid on sovereign debt.

## B. Targeting a Specific Debt-to-GDP Threshold

Another approach to decide on the scope of debt relief is to target a debt-to-GDP ratio that may be chosen ad-hoc, or based on historic data, simulations, or debt sustainability ratios. For example, a recent report to the European Parliament (Gros, 2010) suggests the Maastricht fiscal criteria as a benchmark. Haircuts may be set in such a way that the public debt of the country concerned is equal to 60 percent of the country's GDP. For a country with a debt-to-GDP ratio of 150 percent this would imply a haircut, on the entire stock of its public debt of 60 percent ( $1-60/150=0.6$ ).

Some private sector analysts have also suggested arbitrary thresholds to target the scope of debt relief. For example, a recent report by Citibank (see Buiters, 2010) suggests using the average Euro Area debt to GDP ratio during 2009 as a benchmark, which is just over 79 percent. Thus, a country with a debt-to-GDP ratio of 150 percent would need to impose a haircut on the entire stock of its public debt of 47 percent ( $1-79/150=0.47$ ).

Relatedly, Buchheit and Gulati (2011b) underline that a country's creditor composition plays an important role for the fiscal implications of a restructuring with private bondholders. Intuitively, the smaller the share of debt owed to bondholders, the smaller the debt relief effect of a bond exchange and related haircut. Put differently, the more a debtor government relies on official funding sources, such as IMF credits, the more difficult it will be to achieve a certain debt sustainability level via a market based bond restructuring only. This intuition can be broken down into the following simple formula:

$$\text{Effective Haircut} = \frac{\text{Actual} \frac{\text{Debt}}{\text{GDP}} - \text{Target} \frac{\text{Debt}}{\text{GDP}}}{\text{Eligible} \frac{\text{Debt}}{\text{GDP}}} \quad (7)$$

Where *Actual Debt/GDP* is the total public debt of a country, *Target Debt/GDP* is the targeted debt ratio after the restructurings and *Eligible Debt/GDP* refers to the debt of the targeted creditor group, i.e., those creditors affected by the restructuring.

For illustration, let us assume a bond restructuring of a debtor country with total public debt of 150 percent of GDP (*Actual Debt/GDP*). Two-thirds of the country's public debt (100 percent of GDP) is owed to private bondholders while the remaining debt of 50 percent of GDP is owed to the IMF, governments bilaterally, and other entities that are legally protected against debt restructurings. Next, assume that the country decides to target a Debt/GDP ratio of 90 percent (*Target Debt/GDP*), e.g., as the calculated ratio that ensures long-term debt sustainability. To reach that target ratio, the country could in principle impose a 40 percent haircut on its entire stock of public debt ( $1-90/150=0.4$ ). In case that this is not possible, it could decide to only impose a haircut on its private bondholders, so that the *Eligible Debt/GDP* amounts to 100 percent of GDP. With reference to the simple formula above, this would translate into an *Effective Haircut* on its bonds of 60 percent, resulting from  $(150-90)/100=0.6$ .

### C. Market Measures as Benchmark

Market-based measures such as bond spreads, CDS prices, or ratings can provide further points of reference to decide on the scope of debt relief.

Among others, Roubini (2010) underlines the important role of bond prices at the point of the exchange. For creditors that mark to market, any exchange offer is likely to be benchmarked against the trading price of the old instruments (and not to the nominal claims).<sup>59</sup> Roubini argues that any debt exchanges in which the present value of the new instruments is higher than or equal to the traded price of the old instruments has a high likelihood of success, meaning that participation rates will be high. The rationale is that an offer that implies no further loss compared to the market value can be attractive to investors, because the new instruments are likely to carry a lower risk of default compared to the old instruments and, possibly, lower liquidity risk. This argument is closely related to Bi, Chamon and Zettelmeyer (2011), who construct a theoretical model in which the likelihood of holdouts and litigation increases with the size of the haircut. Excessive haircuts will result in lower participation and, thus, in costly delays or a failure of the exchange.

A different approach is to use information by rating agencies as a benchmark. Rating agencies have started to publish recovery ratings and/ or loss-given-default estimates for sovereign issuers. Standard & Poor's first released recovery ratings for non-investment grade sovereigns in 2007, by assigning a rating which ranges from 1 (very high-recovery, in the range of 90 percent to 100 percent), to the lowest rating 6 (negligible recovery, 0 percent to 30 percent). As discussed in detail in Standard & Poor's (S&P) (2007), their recovery ratings are based on simulated default scenarios and stress tests on key macroeconomic variables and debt indicators pre- and post-default. The recovery ratings take into account the sovereign's ability to resume payments after default, the sovereign's recovery incentives, and the role of official (non-commercial) creditors. Table 12 provides S&P's sovereign recovery rates as of end-November 2010.

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<sup>59</sup> However, this is not the case for holding-to-maturity portfolios.

**Table 12. Recovery Ratings of Sovereign Issuers Rated by Standard & Poor's**

Recovery Rating 2	Recovery Rating 3	Recovery Rating 4
Substantial recovery 70%-90%	Meaningful recovery 50%-70%	Average recovery 30%-50%
Colombia	Belize	Albania
Costa Rica	Brazil	Argentina
Morocco	Dominican Rep.	Belarus
Uruguay	Egypt	Ecuador
	El Salvador	Gabon
	Guatemala	Georgia
	Indonesia	Ghana
	Jamaica	Greece
	Latvia	Grenada
	Macedonia	Lebanon
	Pakistan	Senegal
	Panama	Serbia
	Peru	Seychelles
	Philippines	Sri Lanka
	Romania	Ukraine
	Turkey	Venezuela
	Vietnam	

Source: Standard & Poor's, November 30, 2010

In late 2010, S&P did not provide recovery ratings for investment grade issuers in the Euro area, except for Greece. In April 2010, when S&P lowered the Greek rating to BB+, it also assigned a recovery rating of '4'. This rating implies the expectation that, in the event of a debt restructuring or payment default, the recovery for private debtholders will be in the range of 30 percent to 50 percent. In other words, S&P projected the haircut, given default, to range between 50 percent and 70 percent, which was very high in historical comparison (Cruces and Trebesch, 2011, estimate that the mean present value haircut was 37 percent in the period 1978–2010).

Finally, the academic literature has suggested estimating recovery rates based on bond spreads and CDS prices. Pan and Singleton (2008), in particular, exploit the term structure of sovereign CDS spreads to estimate both the occurrence of credit events and the loss or recovery rate in case of default. To do so, they use CDS data for Mexico, Turkey, and Korea and apply maximum likelihood estimations and Monte Carlo simulations. Earlier contributions include Andritzky (2006) and Andritzky and Singh (2006), who also use CDS and bond price data to estimate default intensity and recovery rates. It should be noted, however, that the state of research in this area is arguably not yet developed enough for reliable use in a policy context.

## **XI. REFORMING THE RESTRUCTURING PROCESS: A SUMMARY OF PROPOSALS**

The debate on reforming the international financial architecture was recently revived, including new calls for a statutory bankruptcy procedure for sovereigns. This section



briefly summarizes what motivates the debate, presents four of the most prominent proposals to improve sovereign debt workouts, and goes on to discuss the content and challenges of a code of conduct for debt restructuring processes.

Many authors take a strong view on why the international financial architecture needs reform, or why it does not. Reform proponents view the current market-based regime as disorderly, inefficient, and overly costly (see the many papers discussed in Rogoff and Zettelmeyer, 2002). A central concern relates to creditor collective action problems, in particular debt runs, holdouts and litigation (Krueger 2002). The resulting inefficiencies are said to cause deadweight losses, reputational damage for debtors, and unnecessary delays, both in initiating debt restructurings and in concluding them. As suggested by authors such as Weder di Mauro and Zettelmeyer (2010) and Gianviti et al. (2010), a well-designed statutory system could reduce some of these problems, increase transparency, lower creditor moral hazard, minimize the need for official sector bailouts, and be better suited to tackle the cross-border externalities of a default. A statutory regime could also explicitly include third-party countries that provide financial support and wish to protect their financial systems.

Other contributions, like Eaton (2002), the Group of Ten (1996), Rieffel (2003), Roubini (2010), and Shleifer (2003) are skeptical and argue that it may be difficult to implement a better system via statutory means. A common view is that a formalized sovereign bankruptcy framework could result in “regulatory overkill” and is unlikely to solve the main shortcomings of the current system. For example, Roubini (2010) argues that the fear of litigation has been exaggerated and that no legal mechanism is necessary for effective negotiations or to declare a debt standstill. Similarly, Rieffel (2003) states that the system of restructuring sovereign bonds has been successful so far and needs further time to develop “organically.” Relatedly, Eichengreen and Portes (1995) suggested that a contractual approach is the more promising avenue for reform. The argument in favor of a contractual approach is simple. Instead of creating a statutory framework “top-down”, it could suffice to alter the documentation of bond and loan contracts to regulate the restructuring process in a more efficient way. Initially, the focus was placed on including CACs in bond documentation, so as to facilitate debt exchanges (Group of Ten, 1996). More recent proposals suggest including clauses for dispute resolution via arbitration (Paulus, 2010) or clauses for the appointment of trustees to represent bondholders in times of crisis (see Häselser, forthcoming). In the following section, we will present four main reform proposals in detail.

### **A. Proposals for a Sovereign Insolvency Framework**

Oechsli (1981) was among the first to propose a formal legal framework for sovereign debt workouts. He draws a close analogy to Chapter 11, the U.S. bankruptcy code for corporations, as a model to guide sovereign restructuring procedures. As outlined by Rogoff and Zettelmeyer (2002), many later papers have followed this path, by evoking the analogy to corporate workout procedures, or by drawing parallels to Chapter 9, the U.S. bankruptcy code for municipalities (See Raffer 1990). The large number of statutory proposals include, among others, Barnett, Galvis, and Gouraige (1984), Cohen (1989), Sachs (1995), Schwarcz (2000), and Paulus (2002). In addition, there are a number of

important theoretical contributions on the issue, including Ghosal and Miller (2003), Pitchford and Wright (2007), Bolton and Jeanne (2007, 2009) and Jeanne (2009). To this day, however, it is the IMF proposal on a sovereign debt restructuring mechanism (SDRM) that remains the best-known reform concept, despite the fact that it was never implemented.

Here, we summarize main elements of the SDRM and compare it to three more recent proposals that have gained prominence. First, we show similarities and differences with the blueprint on a European Crisis Resolution Mechanism (ECRM) suggested by the think-tank Bruegel, which has received considerable attention (Gianviti et al. 2010). Second, we summarize two proposals that rely on dispute resolution via means of arbitration: (i) the Sovereign Debt Tribunal suggested by legal scholar Christoph Paulus (2010), and (ii) the proposal on a Fair and Transparent Arbitration Process (FTAP) by Raffer (2005) and many NGO activists (e.g., Kaiser, 2010).

The four proposals can be ranked according to their level of formalization. At one extreme is *Bruegel's ECRM proposal*, a full-fledged statutory framework which is legally binding on the European level and which would require its own EU treaty. According to Gianviti et al. (2010), the mechanism would consist of three main building blocks: (i) a legal body to be responsible for sorting out disputes; (ii) an economic body for guiding the negotiations, assessing debt sustainability and providing expertise; and (iii) a financial body for providing interim financing.

*The SDRM proposal* is less comprehensive and differs from the ECRM model in several important ways. First, it did not foresee an automatic payment suspension once the mechanism had been initiated. Second, the SDRM was not anchored in a supranational legal body. Instead, a Dispute Resolution Forum (DRF) was to be created, similar to a court-like arbitration panel. Third, the SDRM proposal envisaged a substantial role for the IMF, while the ECRM does not rely on formal IMF participation. According to the SDRM model, the IMF would have been responsible for interim financing, as well as for assisting in the restructuring process and for assessing debt sustainability.<sup>60</sup> Finally, the IMF's proposal was intended for debt crises globally, and not targeted to a single, institutionally advanced region such as the EU.

A main feature contained in both the SDRM and the ECRM is the possibility of majority voting by creditors. According to the proposals, a supermajority of creditors (e.g. 75 percent) should be enabled to make decisions on behalf of all creditors, thus binding in potential holdouts. Aggregation occurs across all creditors' claims. This is different from CACs, which pertain only to individual instruments, so that voting on a restructuring has to take place bond by bond.

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<sup>60</sup> In its first draft, the SDRM proposal also gave the IMF the power to approve or reject the debtor country's restructuring plan or a debtor request for a payment standstill, but this requirement was later dropped (Krueger, 2002, IMF, 2003).

**Table 13. Reforming the Debt Restructuring Process: A Comparison of Proposals**

	<b>SDRM</b> (IMF 2002, 2003)	<b>Bruegel's ECRM Proposal</b> (Gianviti et al. 2010)	<b>Sovereign Debt Tribunal</b> (Paulus 2010)	<b>FTAP</b> (Raffer 2005, Kaiser 2010)
<b>Type of Framework</b>	Statutory framework, with elements of arbitration	Statutory mechanism within the EU	Formalized arbitration framework (Contractual)	Case by case arbitration (Ad hoc)
<b>Basic Setup</b>	The SDRM is a statutory mechanism with two main elements: (i) It enables a 75% majority of creditors to accept or reject a restructuring offer, thereby binding in potential holdouts; (ii) It also introduces an arbitration body, the Debt Resolution Forum (DRF), which must approve a government's restructuring plan and facilitates the resolution of debt disputes.	Creation of a European Crisis Resolution Mechanism (ECRM), with three separate bodies: (i) a legal one in charge of adjudication, (ii) an economic one to provide economic expertise, and (iii) a financial to provide financial assistance. Creditors can form a supermajority to bind in a minority.	Creation of a "Sovereign Debt Tribunal", supported by a secretariat. Initially, 20–30 arbitrators would be selected by the Secretary General (SG) of the United Nations. This pool of arbitrators would then elect a president, who will act as only full-time arbitrator.	Ad hoc arbitration panels, supported by a technical secretariat. Once the process is initiated, debtors and creditors each propose two arbitrators. The chosen arbitrators will then jointly choose a fifth, neutral person, who will head the panel.
<b>Powers and Obligations of Acting Bodies</b>	The DRF has no decision-making power but serves as a facilitator to solve disputes. Creditors are expected to form a representative Creditor Committee to negotiate with the debtor. They can accept or reject a restructuring plan, which is worked out by the distressed government.	The legal body is intended to sort out debt claims, solve disputes and enforce the decisions taken. The economic body is mostly responsible for guiding the negotiations between debtors and bondholders. It should also provide an objective assessment of the debtor's economic situation, its financing needs and the required scope of debt relief (haircuts). The financial body negotiates the conditions of financial assistance.	As a minimum, the Tribunal should verify creditor claims and vote on the approval of a restructuring. Additional powers may include assessing the scope of debt relief, assessing debt sustainability and the "excusability" of default, and judging on whether all sides adhere to "good faith" practices.	The Panels should solve disputes and make independent decisions on the timing and scope of a restructuring. Panels also verify creditor claims and choose an impartial institution to assess the debtor country's situation. However, debtors remain responsible to work out a restructuring plan.
<b>Link to Existing Institutions?</b>	The operation of the DRF is funded by the IMF and the IMF's Managing Director selects its 7-11 founding member, upon the advice of international organizations (such as UNCITRAL) and professional associations. The IMF also assesses debt sustainability and the required scope of debt relief.	The European Court of Justice may act as legal body, the European Commission as economic body (possibly with the ECB), while financial support could be provided by a permanent European Financial Stability Facility (EFSF).	The tribunal should be linked to a reputed institution which does not lend to sovereigns, e.g. the United Nations or the European Court of Justice.	No close link to existing institutions. The technical secretariat could be located at one of the existing UN agencies.
<b>Type of Debt Included</b>	Mainly designed for bondholder debt. Debt owed to commercial banks and bilateral debt may be included as a separate creditor class.	Mainly designed for bondholder debt. Explicitly excludes bilateral (Paris Club) debt and multilateral debt.	All external sovereign debt (by private, official and multilateral creditors)	All external sovereign debt (private, official and multilateral creditors). Domestic debt and external debt owed by corporations may be submitted to equal treatment arrangements.

	<b>SDRM</b> (IMF 2002, 2003)	<b>Bruegel's ECRM Proposal</b> (Gianviti et al. 2010)	<b>Sovereign Debt Tribunal</b> (Paulus 2010)	<b>FTAP</b> (Raffer 2005, Kaiser 2010)
<b>Establishment under International Law?</b>	Yes, via the amendment of the Fund's Articles of Agreement. This requires acceptance by three-fifths of its members.	Yes, requires its own EU Treaty or at least a new EU directive. Only applies to future debt issuances.	No, but requires introducing "arbitration clauses" in future bond contracts.	No, informal ad hoc solution. The framework could build on the New York Convention on the Recognition of Foreign Arbitral Awards of 1958.
<b>Legal Status of Outcome</b>	Once approved, all IMF members are bound to the legal provisions of the mechanism.	The procedure is governed by supranational law and its provisions are fully enforceable. The treaty becomes a quintessential element of sovereign debt contracts issued by EU countries.	"Arbiters" have no decision making power, but rather facilitate the process. Legal enforcement secured via universal adoption of the model law	Final award not necessarily enforceable. The legal quality depends on the ex-ante submission of the parties to the arbitration panel's decision. Cases can be reopened in case a debtor takes unfair advantage of a ruling.
<b>Creditor Voting Rules</b>	A 75% majority of creditor can bind in all creditors. For the voting purposes, creditors are aggregated into asset classes. This abolishes the need to vote on each debt instrument separately (as with CACs).	A super-majority of bondholders can outvote the minority in the decision to enter into negotiations and to conclude an agreement.	Voting rules may be elaborated by the tribunal.	Not specified
<b>Who Activates the Process?</b>	The mechanism can only be activated by debtor governments, who are requested to show why the debt to be restructured is unsustainable.	Only debtor governments can initiate the mechanism.	Only debtor governments, possibly in unison with creditors.	Only debtor governments can initiate the process.
<b>Who Bears the Costs?</b>	The debtor bears all costs of creditors' committees.	Not specified in detail. The financial body is financed by Euro area governments. Its lending conditions should include a risk premium but not a penalty.	Basic financing should come from a sponsoring organization, such as the UN or the country hosting the tribunal. All other costs, in particular the fees and expenses of the arbitrators in each case, are shared by creditors and debtors.	The debtor government bears all costs not covered by the secretariat.
<b>Payment Moratorium?</b>	No automatic payment standstill. Debtor governments are expected to meet their contractual obligations as long as possible. The DRF can enact a full suspension, if a qualified majority of creditors approve this.	Immediate halt of payments to national and international creditor, upon initiating the mechanism.	Not specified.	Yes, immediate payment standstill after starting the process.
<b>Interim Financing?</b>	Yes, via IMF facilities. New credits are excluded from the restructuring.	Yes, provided by the financing body. Any new lending should be given seniority over previous debt.	Not specified.	Not specified.

*The proposals by Paulus (Sovereign Debt Tribunal) and by Raffer and Kaiser (FTAP) are much less formalized. They do not require a change in international laws, nor do they foresee the creation of sizable institutions. Instead, they rely on arbitration mechanisms, similar to the dispute resolution procedures currently applied to cross-border investment (see Waibel, 2007, for a critical discussion). A further important difference is that they aim to include a broader spectrum of debt instruments. While the SDRM and the ECRM are tailored to sovereign bond restructurings, and thus restricted to only one arena of the sovereign debt universe, the arbitration proposals aim for a more comprehensive solution. They are designed as an alternative approach, and could replace all existing ad hoc fora including the Paris Club, the London Club scheme on bank debt, and policies such as the multilateral debt relief initiative.*

Paulus (2010) proposes a Sovereign Debt Tribunal, consisting of a pool of arbitrators, but with only one full-time arbitrator (the president) who may be assisted by a small secretariat. Paulus underlines that the system can only be introduced in case of consent between lenders and borrowers, possibly by adding “arbitration clauses” in all future sovereign bond or loan contracts. This gives the Tribunal a formal legal status. Once the system is established, its procedures may become more widely accepted and possibly create spillover effects on the legal treatment of all types of sovereign debt, even if these do not explicitly contain arbitration clauses.

The FTAP is even less institutionalized. In essence, it aims for an ad hoc arbitration mechanism applicable to all types of sovereign debt exchanges, including debt owed to bilateral creditors or the IMF. Arbiters are chosen on a case-by-case basis and creditors and debtors propose two arbitrators each. The arbitrators from each side then jointly choose a fifth arbiter to head a panel. Once the panel of arbitrators is established, they evaluate and approve a restructuring solution. In addition, the mechanism would be supported by a small secretariat to assist in technical matters. Table 13 above provides a short overview of all four proposals.

## **B. Codes of Conduct: Suggested Criteria of Fair Debt Restructurings**

Another alternative is a code of conduct for fair debt restructuring. Over the past decade, there have been notable efforts to promote such a code, first by the Banque de France (Couillault and Weber, 2003) and later by the Institute of International Finance (IIF) (IIF 2006). As highlighted by Roubini and Setser (2004) the elements of a code of conduct can be broken down into codes of “good debtor conduct” and codes of “good creditor conduct.” However, most codes do not suggest ways of sanctioning bad behavior on either side. In addition, the codes tend to be more specific regarding debtor behavior, while creditor obligations tend to be more limited.

One set of criteria for good debtor conduct was developed by the IMF, when it launched a modified version of its “Policy on Lending into Arrears to Private Creditors” in 1999. Countries receiving IMF funding during debt crises are expected to show a “good faith effort to reach a collaborative agreement with its creditors” (IMF, 1999; see also IMF, 2002d). Specifically, member countries planning to restructure their debt should engage in a close dialogue with their creditors until the restructuring is complete and should provide creditors

with an early opportunity to give input on the design of the restructuring and of individual instruments. In addition, member countries should share relevant, non-confidential information with all creditors on a timely basis.

Besides the IMF criteria, a prominent code of conduct was set up in the IIF's "Principles for Stable Capital Flows and Fair Debt Restructuring" (IIF, 2006), which were supported by the G7, the G20, the World Bank, and the IMF. Initially, the IIF Principles were only applicable to emerging market sovereign issuers. But in 2010, it was agreed to encompass all sovereign issuers on a voluntary basis (see IIF 2010). The Principles' main aim is to establish voluntary rules of best practice for both debtor governments and creditors to improve the debt restructuring and crisis resolution process. A restructuring process is defined as fair if debtor governments closely cooperate with creditors, adhere to information sharing, avoid unjustified capital controls, and resume partial or full debt service payments as soon as conditions allow. Box 10 quotes the IIF principles on debt restructurings in detail.

### **Box 11. The IIF Principles on Fair Debt Restructuring**

The IIF Principles (2006) contain the following main paragraphs on the restructuring process:

#### (i) Transparency and Timely Flow of Information

- *“General disclosure practice.* Issuers should ensure through disclosure of relevant information that creditors are in a position to make informed assessments of their economic and financial situation, including overall levels of indebtedness. Such disclosure is important in order to establish a common understanding of the country's balance of payments outlook and to allow creditors to make informed and prudent risk management and investment decisions.”
- *“Specific disclosure practice.* In the context of a restructuring, the debtor should disclose to all affected creditors the maturity and interest rate structures of all external financial sovereign obligations, including the proposed treatment of such obligations, and the central aspects, including assumptions, of its economic policies and programs. The debtor should inform creditors regarding agreements reached with other creditors, the IMF, and the Paris Club, as appropriate. Confidentiality of material non-public information must be ensured.”

#### (ii) Close debtor-creditor dialogue and cooperation

- *“Regular dialogue.* Debtors and creditors should engage in a regular dialogue regarding information and data on key economic and financial policies and performance. Investor relations programs (IRPs) have emerged as a proven vehicle, and countries should implement such programs.”
- *“Best practices for investor relations.* Communication techniques should include creating an investor relations office with a qualified core staff; disseminating accurate and timely data/information through e-mail or investor relations websites; establishing formal channels of communication between policymakers and investors through bilateral meetings, investor teleconferences, and videoconferences; and maintaining a comprehensive list of contact information for relevant market participants. Investors are encouraged to participate in IRPs and provide feedback on such information and data. Debtors and investors should collaborate to refine these techniques over time.”
- *“Policy action and feedback.* Borrowing countries should implement economic and financial policies, including structural measures, so as to ensure macroeconomic stability, promote sustainable economic growth, and thereby bolster market confidence. It is vital

that political support for these measures be developed. Countries should closely monitor the effectiveness of policies, strengthen them as necessary, and seek investor feedback as warranted.”

- “*Consultations*: Building on IRPs, debtors should consult with creditors to explore alternative market-based approaches to address debt-service problems before default occurs. The goal of such consultations is to avoid misunderstanding about policy directions, build market confidence on the strength of policy measures, and support continuous market access. Consultations will not focus on specific financial transactions, and their precise format will depend on existing circumstances. In any event, participants must not take advantage of such consultations to gain a commercial benefit for trading purposes. Applicable legal restrictions regarding material non-public information must be observed.”
- “*Creditors’ support of debtor reform efforts*. As efforts to consult with investors and to upgrade policies take hold, the creditor community should consider, to the extent consistent with their business objectives and legal obligations, appropriate requests for the voluntary, temporary maintenance of trade and interbank advances, and/or the rollover of short-term maturities on public and private sector obligations, if necessary to support a borrowing country’s efforts to avoid a broad debt restructuring. The prospects of a favorable response to such requests will be enhanced by the commitment to a strong adjustment program, but will also depend in part on continued interest payments on interbank advances and continued service of other debt.”

### (iii) Good Faith Actions

- “*Voluntary, good faith process*. When a restructuring becomes inevitable, debtors and creditors should engage in a restructuring process that is voluntary and based on good faith. Such a process is based on sound policies that seek to establish conditions for renewed market access on a timely basis, viable macroeconomic growth, and balance of payments sustainability in the medium term. Debtors and creditors agree that timely good faith negotiations are the preferred course of action toward these goals, potentially limiting litigation risk. They should cooperate in order to identify the best means for placing the country on a sustainable balance of payments path, while also preserving and protecting asset values during the restructuring process. In this context, debtors and creditors strongly encourage the IMF to implement fully its policies for lending into arrears to private creditors where IMF programs are in place, including the criteria for good faith negotiations.”
- “*Sanctity of contracts*. Subject to their voluntary amendment, contractual rights must remain fully enforceable to ensure the integrity of the negotiating and restructuring process. In cases where program negotiations with the IMF are underway or a program is in place, debtors and creditors rely upon the IMF in its traditional role as guardian of the system to support the debtor’s reasonable efforts to avoid default.”
- “*Vehicles for restructurings*. The appropriate format and role of negotiation vehicles such as a creditor committee or another representative creditor group (hereafter referred to as a “creditor committee”) should be determined flexibly and on a case-by-case basis. Structured, early negotiations with a creditor committee should take place when a default has occurred in order to ensure that the terms for amending existing debt contracts and/or a voluntary debt exchange are consistent with market realities and the restoration of growth and market access and take into account existing CAC provisions. If a creditor committee is formed, both creditors and the debtor should cooperate in its establishment.”
- “*Creditor committee policies and practices*. If a creditor committee is formed, it should adopt rules and practices, including appropriate mechanisms to protect material non-public information; coordinate across affected instruments and with other affected creditor classes with a view to forming a single committee; be a forum for the debtor to present its economic program and financing proposals; collect and analyze economic data; gather, evaluate, and disseminate creditor input on financing proposals; and

generally act as a communication link between the debtor and the creditor community. Past experience also demonstrates that, when a creditor committee has been formed, debtors have borne the reasonable costs of a single creditor committee. Creditors and debtors agree jointly what constitute reasonable costs based on generally accepted practices.”

- *“Debtor and creditor actions during restructuring.* Debtors should resume, to the extent feasible, partial debt service as a sign of good faith and resume full payment of principal and interest as conditions allow. Debtors and creditors recognize in that context that typically during a restructuring, trade lines are fully serviced and maintained. Debtors should avoid additional exchange controls on outflows, except for temporary periods in exceptional circumstances. Regardless of the specific restructuring mechanics and procedures used (i.e., amendment of existing instruments or exchange for new ones; pre-default consultations or post-default committee negotiations), restructuring terms should be subject to a constructive dialogue focused on achieving a critical mass of market support before final terms are announced. Debtors should retain legal and/or financial advisors.”

(iv) Fair Treatment

- *“Avoiding unfair discrimination among affected creditors.* The borrowing country should avoid unfair discrimination among affected creditors. This includes seeking rescheduling from all official bilateral creditors. In line with general practice, such credits as short-term trade related facilities and interbank advances should be excluded from the restructuring agreement and treated separately if needed.”
- *“Fairness of voting.* Bonds, loans, and other financial instruments owned or controlled by the sovereign should not influence the outcome of a vote among creditors on a restructuring.”

## XII. CONCLUDING REMARKS

This paper provides a comprehensive overview of the history of sovereign debt restructuring cases since the 1950s, all of which have occurred in developing and emerging market countries. We present new evidence on the occurrence, characteristics and processes of debt restructurings, as well as new insights on the amounts of restructured debt, negotiation forums, litigation, haircuts, pre-emptive vs. post-default cases, and debt buybacks. In addition, we summarize the empirical literature on the costs of default and restructurings, in particular with regard to post-crisis access to capital markets and borrowing costs.

Based on our literature survey and data, one can summarize some main considerations regarding a sovereign debt restructuring as follows:

- Debt restructurings can have drastic adverse consequences for economic growth, trade, capital flows, banks and other financial institutions.
- A debt restructuring should therefore only be initiated if, on the basis of a debt sustainability analysis, it is concluded that a macro-economic adjustment program cannot realistically restore sustainability.
- The scope of debt relief should be proportional to the country’s debt sustainability problem.



- In such a situation, countries should start good faith negotiations to involve private creditors in an adequate way. These negotiations should be transparent and fair, including an open dialogue with creditors and timely information sharing.
- Potential spill-over effects on other member states should explicitly be taken into account in the restructuring negotiations.
- CACs can play an important role in facilitating debt restructurings. However, their presence is no guarantee for a quick debt exchange with high participation. Other legal vehicles and exchange characteristics can play an important role as well, in particular exit consents, aggregation clauses, and minimum participation thresholds.

Further, this paper provides a review of the current system of ad-hoc bond restructurings, which typically involves exchange offers with a menu of options, a mix of “carrot” and “stick” features, informal creditor consultations and roadshows. We find that most recent sovereign bond exchanges could be implemented quickly and without severe creditor coordination problems. Since 1998, only two out of seventeen bond exchanges had a share of holdouts exceeding 10 percent of the debt. Similarly, creditor litigation in the context of bond restructurings has been rare, with the exception of the default of Argentina after 2001. Overall, the system of ad-hoc debt exchanges seems to have worked reasonably well for emerging market countries. These experiences may also prove useful to any distressed country, including advanced economies.

## APPENDIX I: SOVEREIGN DEBT RESTRUCTURINGS 1950–2010: A NEW DATABASE

This Appendix presents the dataset by Trebesch (2011) with a complete list of debt restructurings, by date and main characteristics (see Table A1). Trebesch (2011) builds on the information on commercial debt restructurings by Cruces and Trebesch (2011) and combines it with a complete dataset on Paris Club debt restructurings. The data are available electronically at <https://sites.google.com/site/christophrebesch/data>.

The database is the first collection of all sovereign debt restructurings in the period 1950 to 2010 in a coherent form. As such, it considerably expands on existing restructuring lists, such as those in the GDF reports (World Bank, 2002) or by researchers like Leaven and Valencia (2008).

The case selection and data collection for the Paris Club dataset is straightforward, and includes all bilateral debt restructurings under the chairmanship of the Paris Club. Bilateral deals that are not related to the Paris Club are not coded, also because these deals mostly affect small volumes only. The main source for coding was the Paris Club website, as well as additional debt restructuring lists drawn up by the Institute of International Finance (IIF, 2001), the IMF (various issues) and the World Bank (2003, Table 6A). The information was cross-checked for each of the sources. It also includes information on a few deals in the 1950s and 1960s, which are identified as Paris Club restructurings in the extensive case collection of Stamm (1987).

As to bank and bond debt restructurings, Trebesch (2011) builds on Cruces and Trebesch (2011), who cover the entire universe of sovereign debt restructurings with foreign commercial creditors (banks/bondholders) in the period 1950 to 2010. Five key criteria define their selection of cases:

1. *Only distressed restructurings*: The database focuses on distressed debt exchanges, defined as restructurings of bonds (bank loans) at less favorable terms than the original bond (loan). Thus, case selection follows the definition and data provided by Standard & Poor's (2007). Restructurings that are part of routine sovereign liability management such as debt swaps and buybacks in normal times are disregarded.
2. *Only restructurings with foreign private creditors*: The database includes sovereign debt restructurings with foreign private creditors only, thus excluding debt restructurings that predominantly affected domestic creditors and those affecting official creditors, including those negotiated under the chairmanship of the Paris Club. Foreign creditors include foreign commercial banks (i.e. "London Club" creditors) as well as foreign bondholders. For recent deals, the paper follows the categorization into domestic and external debt exchanges of Sturzenegger and Zettelmeyer (2006, p. 263). The database therefore explicitly includes two domestic debt restructurings but only because they mainly involved external creditors: Russia's July 1998 GKO exchange and Ukraine's August 1998 exchange of OVDP bonds.
3. *No agreements on short-term debt*: The sample is restricted to medium and long-term debt restructurings only. It thus disregards agreements involving short-term debt only, such as 90-day debt rollovers or the maintenance of short-term credit lines (e.g. trade credit). Specifically, agreements with maturity extension of less than a year are

excluded, while cases in which short-term debt is exchanged into debt with a maturity of more than one year are included.

4. *Only public debt restructurings*: Restructurings of private-to-private debt are not taken into account, even in cases such as Korea 1997 or Indonesia 1998, where large-scale workouts of private sector debt were coordinated by governments.
5. *Only finalized deals*: Only restructurings that are actually implemented are in the sample, thus ignoring cases in which negotiations were never concluded or in which an agreement in principle or an exchange offer was never finalized.

The sources for data collection on commercial restructurings were manifold. As highlighted by Cruces and Trebesch (2011), there is no single standardized source which could provide a unified overview of the dates and terms of sovereign debt restructurings in the last decades. The authors therefore gathered, compared, and synchronized data from 29 different lists on restructuring terms and more than 150 further sources, including articles from the financial press and from the IMF archives.

**Table 14. List of Sovereign Debt Restructurings**

(1950–2010)

Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
Afghanistan, Rep.	07 / 2007	Paris Club	22	1	1	0	
Afghanistan, Rep.	03 / 2010	Paris Club	1027	1	1	0	
Albania	12 / 1993	Paris Club	109	0	0	0	
Albania	08 / 1995	Commercial	501		1	0	Donor Supported
Albania	07 / 1998	Paris Club	75	0	1	0	
Albania	01 / 2000	Paris Club	89	0	0	0	
Algeria	03 / 1992	Commercial	1457		0	0	0
Algeria	06 / 1994	Paris Club	5344	0	0	0	
Algeria	07 / 1995	Paris Club	7320	0	0	0	
Algeria	07 / 1996	Commercial	3200		0	0	0
Angola	07 / 1989	Paris Club	446	0	0	0	
Antigua and Barbuda	09 / 2010	Paris Club	110	1	0	0	
Argentina	05 / 1956	Paris Club	500	0	0	0	
Argentina	01 / 1961	Paris Club	284	0	0	0	
Argentina	10 / 1962	Paris Club	270	0	0	0	
Argentina	06 / 1965	Paris Club	274	0	0	0	
Argentina	01 / 1985	Paris Club	1726	0	0	0	
Argentina	08 / 1985	Commercial	9900		0	0	0
Argentina	05 / 1987	Paris Club	2156	0	0	0	
Argentina	08 / 1987	Commercial	29515		0	0	0
Argentina	12 / 1989	Paris Club	506	0	0	0	
Argentina	12 / 1989	Paris Club	741	0	0	0	
Argentina	12 / 1989	Paris Club	535	0	0	0	
Argentina	12 / 1989	Paris Club	620	0	0	0	
Argentina	09 / 1991	Paris Club	305	0	0	0	
Argentina	09 / 1991	Paris Club	302	0	0	0	
Argentina	09 / 1991	Paris Club	386	0	0	0	
Argentina	09 / 1991	Paris Club	739	0	0	0	
Argentina	07 / 1992	Paris Club	2700	0	0	0	
Argentina	04 / 1993	Commercial	28476		1	0	Brady Deal
Argentina	04 / 2005	Commercial	43736		1	1	Global Bond Exchange
Belize	02 / 2007	Commercial	516		0	1	Bond Exchange
Benin	06 / 1989	Paris Club	193	0	1	0	
Benin	12 / 1991	Paris Club	152	0	1	0	
Benin	06 / 1993	Paris Club	24	0	1	0	
Benin	10 / 1996	Paris Club	208	0	1	0	
Benin	10 / 2000	Paris Club	5	1	1	0	
Benin	04 / 2003	Paris Club	65	1	1	0	
Bolivia	07 / 1986	Paris Club	642	0	0	0	
Bolivia	03 / 1988	Commercial	473		1	0	Buyback
Bolivia	11 / 1988	Paris Club	228	0	0	0	
Bolivia	03 / 1990	Paris Club	276	0	1	0	
Bolivia	01 / 1992	Paris Club	65	0	1	0	
Bolivia	04 / 1993	Commercial	171		1	0	Buyback (Donor Funded)
Bolivia	03 / 1995	Paris Club	482	0	1	0	
Bolivia	12 / 1995	Paris Club	881	0	1	0	
Bolivia	10 / 1998	Paris Club	561	1	1	0	
Bolivia	07 / 2001	Paris Club	685	1	1	0	
Bosnia and Herzegovina	12 / 1997	Commercial	1300		1	0	Buyback
Bosnia and Herzegovina	10 / 1998	Paris Club	588	0	1	0	
Bosnia and Herzegovina	07 / 2000	Paris Club	9	0	1	0	
Brazil	05 / 1961	Paris Club	300	0	0	0	
Brazil	07 / 1964	Paris Club	270	0	0	0	
Brazil	02 / 1983	Commercial	4452		0	0	0
Brazil	11 / 1983	Paris Club	3100	0	0	0	
Brazil	01 / 1984	Commercial	4846		0	0	0

Source: Trebesch (2011)

Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
Brazil	09 / 1986	Commercial	6671		0	0	0
Brazil	01 / 1987	Paris Club	3100	0	0	0	
Brazil	07 / 1988	Paris Club	5600	0	0	0	
Brazil	11 / 1988	Commercial	62100		0	0	0
Brazil	02 / 1992	Paris Club	10384	0	0	0	
Brazil	11 / 1992	Commercial	9167		0	0	0
Brazil	04 / 1994	Commercial	43257		1	0	Brady Deal
Bulgaria	04 / 1991	Paris Club	642	0	0	0	
Bulgaria	12 / 1992	Paris Club	251	0	0	0	
Bulgaria	04 / 1994	Paris Club	200	0	0	0	
Bulgaria	06 / 1994	Commercial	7910		1	0	Brady Deal
Burkina Faso	03 / 1991	Paris Club	71	0	1	0	
Burkina Faso	05 / 1993	Paris Club	36	0	1	0	
Burkina Faso	06 / 1996	Paris Club	64	0	1	0	
Burkina Faso	10 / 2000	Paris Club	1	1	1	0	
Burkina Faso	06 / 2002	Paris Club	33	1	1	0	
Burundi	03 / 2004	Paris Club	85	0	1	0	
Burundi	09 / 2005	Paris Club	85	1	1	0	
Burundi	03 / 2009	Paris Club	134	1	1	0	
Cambodia	01 / 1972	Paris Club	na	0	1	0	
Cambodia	10 / 1972	Paris Club	na	0	1	0	
Cambodia	01 / 1995	Paris Club	258	0	1	0	
Cameroon	05 / 1989	Paris Club	535	0	0	0	
Cameroon	01 / 1992	Paris Club	960	0	0	0	
Cameroon	03 / 1994	Paris Club	1258	0	1	0	
Cameroon	11 / 1995	Paris Club	1348	0	1	0	
Cameroon	10 / 1997	Paris Club	1270	0	1	0	
Cameroon	01 / 2001	Paris Club	1300	1	1	0	
Cameroon	05 / 2002	Commercial	600		1	0	Buyback (Donor Funded)
Cameroon	08 / 2003	Commercial	796		1	0	Buyback (Donor Funded)
Cameroon	06 / 2006	Paris Club	1829	1	1	0	
Central African Rep.	06 / 1981	Paris Club	28	0	0	0	
Central African Rep.	07 / 1983	Paris Club	11	0	0	0	
Central African Rep.	11 / 1985	Paris Club	28	0	0	0	
Central African Rep.	12 / 1988	Paris Club	57	0	1	0	
Central African Rep.	06 / 1990	Paris Club	6	0	1	0	
Central African Rep.	04 / 1994	Paris Club	47	0	1	0	
Central African Rep.	09 / 1998	Paris Club	23	0	1	0	
Central African Rep.	04 / 2007	Paris Club	36	1	1	0	
Central African Rep.	12 / 2007	Paris Club	6	1	1	0	
Central African Rep.	09 / 2009	Paris Club	49	1	1	0	
Chad	10 / 1989	Paris Club	33	0	1	0	
Chad	02 / 1995	Paris Club	24	0	1	0	
Chad	06 / 1996	Paris Club	12	0	1	0	
Chad	06 / 2001	Paris Club	15	1	1	0	
Chile	02 / 1965	Paris Club	90	0	0	0	
Chile	04 / 1972	Paris Club	258	0	0	0	
Chile	03 / 1974	Paris Club	460	0	0	0	
Chile	06 / 1975	Paris Club	230	0	0	0	
Chile	11 / 1983	Commercial	2169		0	0	0
Chile	01 / 1984	Commercial	1160		0	0	0
Chile	07 / 1985	Paris Club	179	0	0	0	
Chile	04 / 1986	Commercial	6007		0	0	0
Chile	04 / 1987	Paris Club	165	0	0	0	
Chile	06 / 1987	Commercial	5901		0	0	0
Chile	12 / 1990	Commercial	6494		0	0	0

Source: Trebesch (2011)

Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
Comoros	11 / 2009	Paris Club	13	1	1	0	
Comoros	08 / 2010	Paris Club	na	1	1	0	
Congo, Dem. Rep.	06 / 1976	Paris Club	280	0	0	0	
Congo, Dem. Rep.	12 / 1977	Paris Club	170	0	0	0	
Congo, Dem. Rep.	12 / 1977	Paris Club	40	0	0	0	
Congo, Dem. Rep.	12 / 1979	Paris Club	1200	0	0	0	
Congo, Dem. Rep.	04 / 1980	Commercial	402		0	0	0
Congo, Dem. Rep.	07 / 1981	Paris Club	600	0	0	0	
Congo, Dem. Rep.	01 / 1983	Commercial	58		0	0	0
Congo, Dem. Rep.	12 / 1983	Paris Club	1490	0	0	0	
Congo, Dem. Rep.	06 / 1984	Commercial	64		0	0	0
Congo, Dem. Rep.	05 / 1985	Commercial	61		0	0	0
Congo, Dem. Rep.	09 / 1985	Paris Club	322	0	0	0	
Congo, Dem. Rep.	05 / 1986	Commercial	65		0	0	0
Congo, Dem. Rep.	05 / 1986	Paris Club	350	0	0	0	
Congo, Dem. Rep.	05 / 1987	Commercial	61		0	0	0
Congo, Dem. Rep.	05 / 1987	Paris Club	883	0	0	0	
Congo, Dem. Rep.	06 / 1989	Commercial	61		0	0	0
Congo, Dem. Rep.	06 / 1989	Paris Club	1530	0	1	0	
Congo, Dem. Rep.	09 / 2002	Paris Club	8980	0	1	0	
Congo, Dem. Rep.	11 / 2003	Paris Club	na	1	1	0	
Congo, Dem. Rep.	02 / 2010	Paris Club	2957	1	1	0	
Congo, Rep.	07 / 1986	Paris Club	470	0	0	0	
Congo, Rep.	09 / 1990	Paris Club	1052	0	0	0	
Congo, Rep.	06 / 1994	Paris Club	1175	0	0	0	
Congo, Rep.	07 / 1996	Paris Club	1758	0	1	0	
Congo, Rep.	12 / 2004	Paris Club	3016	1	1	0	
Congo, Rep.	03 / 2006	Paris Club	na	1	1	0	
Congo, Rep.	12 / 2007	Commercial	2100		1	0	0
Congo, Rep.	12 / 2008	Paris Club	961	1	1	0	
Congo, Rep.	03 / 2010	Paris Club	2474	1	1	0	
Costa Rica	01 / 1983	Paris Club	104	0	0	0	
Costa Rica	09 / 1983	Commercial	609		0	0	0
Costa Rica	04 / 1985	Paris Club	93	0	0	0	
Costa Rica	05 / 1985	Commercial	440		0	0	0
Costa Rica	05 / 1989	Paris Club	182	0	0	0	
Costa Rica	05 / 1990	Commercial	1384		1	0	Brady Deal
Costa Rica	07 / 1991	Paris Club	97	0	0	0	
Costa Rica	06 / 1993	Paris Club	57	0	0	0	
Côte d'Ivoire	05 / 1984	Paris Club	224	0	0	0	
Côte d'Ivoire	06 / 1985	Paris Club	215	0	0	0	
Côte d'Ivoire	06 / 1986	Paris Club	380	0	0	0	
Côte d'Ivoire	12 / 1987	Paris Club	600	0	0	0	
Côte d'Ivoire	12 / 1989	Paris Club	881	0	0	0	
Côte d'Ivoire	11 / 1991	Paris Club	724	0	0	0	
Côte d'Ivoire	03 / 1994	Paris Club	1849	0	1	0	
Côte d'Ivoire	03 / 1998	Commercial	6462		1	0	Brady Deal
Côte d'Ivoire	04 / 1998	Paris Club	1402	1	1	0	
Côte d'Ivoire	04 / 2002	Paris Club	1822	1	1	0	
Côte d'Ivoire	05 / 2009	Paris Club	4690	1	1	0	
Côte d'Ivoire	04 / 2010	Commercial	2940		1	1	Bond Restructuring
Croatia	03 / 1995	Paris Club	861	0	0	0	
Croatia	07 / 1996	Commercial	858		0	0	0
Cuba	12 / 1983	Commercial	130		0	0	0
Cuba	12 / 1984	Commercial	103		0	0	0
Cuba	07 / 1985	Commercial	90		0	0	0

Source: Trebesch (2011)

Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
Cuba	07 / 1985	Paris Club	156	0	0	0	
Cuba	07 / 1986	Paris Club	100	0	0	0	
Djibouti	05 / 2000	Paris Club	16	0	0	0	
Djibouti	10 / 2008	Paris Club	76	0	0	0	
Dominica	09 / 2004	Commercial	144		1	1	Bonds and Bank Loans
Dominican Rep.	05 / 1985	Paris Club	115	0	0	0	
Dominican Rep.	05 / 1985	Paris Club	172	0	0	0	
Dominican Rep.	02 / 1986	Commercial	823		0	0	0
Dominican Rep.	11 / 1991	Paris Club	100	0	0	0	
Dominican Rep.	11 / 1991	Paris Club	700	0	0	0	
Dominican Rep.	11 / 1991	Paris Club	45	0	0	0	
Dominican Rep.	08 / 1994	Commercial	1087		1	0	Brady Deal
Dominican Rep.	04 / 2004	Paris Club	193	0	0	0	
Dominican Rep.	05 / 2005	Commercial	1100		0	1	Bond Restructuring
Dominican Rep.	10 / 2005	Commercial	180		0	0	Bank Loan Restruct.
Dominican Rep.	10 / 2005	Paris Club	193	0	0	0	
Ecuador	07 / 1983	Paris Club	169	0	0	0	
Ecuador	10 / 1983	Commercial	970		0	0	0
Ecuador	08 / 1984	Commercial	350		0	0	0
Ecuador	04 / 1985	Paris Club	330	0	0	0	
Ecuador	12 / 1985	Commercial	4224		0	0	0
Ecuador	01 / 1988	Paris Club	277	0	0	0	
Ecuador	10 / 1989	Paris Club	393	0	0	0	
Ecuador	01 / 1992	Paris Club	339	0	0	0	
Ecuador	06 / 1994	Paris Club	293	0	0	0	
Ecuador	02 / 1995	Commercial	7170		1	0	Brady Deal
Ecuador	08 / 2000	Commercial	6700		1	1	Bond Restructuring
Ecuador	09 / 2000	Paris Club	880	0	0	0	
Ecuador	06 / 2003	Paris Club	81	0	0	0	
Ecuador	06 / 2009	Commercial	3190		1	1	Bond Buyback
Egypt	05 / 1987	Paris Club	7098	0	0	0	
Egypt	05 / 1991	Paris Club	21164	0	0	0	
El Salvador	09 / 1990	Paris Club	143	0	0	0	
Equatorial Guinea	07 / 1985	Paris Club	32	0	0	0	
Equatorial Guinea	03 / 1989	Paris Club	13	0	1	0	
Equatorial Guinea	04 / 1992	Paris Club	33	0	1	0	
Equatorial Guinea	12 / 1994	Paris Club	51	0	1	0	
Ethiopia	12 / 1992	Paris Club	441	0	1	0	
Ethiopia	01 / 1996	Commercial	226		1	0	Buyback (Donor Funded)
Ethiopia	01 / 1997	Paris Club	183	0	1	0	
Ethiopia	04 / 2001	Paris Club	432	1	1	0	
Ethiopia	04 / 2002	Paris Club	7	1	1	0	
Ethiopia	05 / 2004	Paris Club	1487	1	1	0	
Gabon	01 / 1987	Paris Club	330	0	0	0	
Gabon	12 / 1987	Commercial	39		0	0	0
Gabon	03 / 1988	Paris Club	235	0	0	0	
Gabon	09 / 1989	Paris Club	545	0	0	0	
Gabon	10 / 1991	Paris Club	481	0	0	0	
Gabon	04 / 1994	Paris Club	1359	0	0	0	
Gabon	05 / 1994	Commercial	187		0	0	0
Gabon	12 / 1995	Paris Club	1031	0	0	0	
Gabon	12 / 2000	Paris Club	532	0	0	0	
Gabon	06 / 2004	Paris Club	716	0	0	0	
Gambia, The	09 / 1986	Paris Club	18	0	0	0	
Gambia, The	02 / 1988	Commercial	19		0	0	0
Gambia, The	01 / 2003	Paris Club	na	1	1	0	

Source: Trebesch (2011)

Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
Gambia, The	06 / 2007	Paris Club	3	1	1	0	
Gambia, The	01 / 2008	Paris Club	15	1	1	0	
Georgia	03 / 2001	Paris Club	58	0	0	0	
Georgia	07 / 2004	Paris Club	161	0	0	0	
Ghana	04 / 1996	Paris Club	93	0	0	0	
Ghana	12 / 2001	Paris Club	199	1	1	0	
Ghana	05 / 2002	Paris Club	163	1	1	0	
Ghana	07 / 2004	Paris Club	1560	1	1	0	
Grenada	11 / 2005	Commercial	210	0	0	1	Bond Restructuring
Grenada	05 / 2006	Paris Club	16	0	0	0	
Guatemala	03 / 1993	Paris Club	440	0	0	0	
Guinea	04 / 1986	Paris Club	200	0	0	0	
Guinea	04 / 1988	Commercial	43	0	0	0	0
Guinea	04 / 1989	Paris Club	124	0	1	0	
Guinea	11 / 1992	Paris Club	203	0	1	0	
Guinea	01 / 1995	Paris Club	156	0	1	0	
Guinea	02 / 1997	Paris Club	156	0	1	0	
Guinea	12 / 1998	Commercial	130	0	1	0	Buyback (Donor Funded)
Guinea	05 / 2001	Paris Club	151	0	1	0	
Guinea	01 / 2008	Paris Club	298	1	1	0	
Guinea-Bissau	10 / 1987	Paris Club	21	0	0	0	
Guinea-Bissau	10 / 1989	Paris Club	21	0	1	0	
Guinea-Bissau	02 / 1995	Paris Club	196	0	1	0	
Guinea-Bissau	01 / 2001	Paris Club	141	1	1	0	
Guinea-Bissau	07 / 2010	Paris Club	171	1	1	0	
Guyana	05 / 1989	Paris Club	195	0	0	0	
Guyana	09 / 1990	Paris Club	223	0	1	0	
Guyana	11 / 1992	Commercial	93	0	1	0	Buyback (Donor Funded)
Guyana	05 / 1993	Paris Club	39	0	1	0	
Guyana	05 / 1996	Paris Club	793	0	1	0	
Guyana	06 / 1999	Paris Club	240	1	1	0	
Guyana	12 / 1999	Commercial	56	0	1	0	Buyback (Donor Funded)
Guyana	01 / 2004	Paris Club	156	1	1	0	
Haiti	05 / 1995	Paris Club	117	0	1	0	
Haiti	12 / 2006	Paris Club	69	1	1	0	
Haiti	07 / 2009	Paris Club	161	1	1	0	
Honduras	10 / 1989	Commercial	132	0	0	0	0
Honduras	09 / 1990	Paris Club	280	0	0	0	
Honduras	10 / 1992	Paris Club	180	0	1	0	
Honduras	03 / 1996	Paris Club	180	0	1	0	
Honduras	04 / 1999	Paris Club	411	0	1	0	
Honduras	08 / 2001	Commercial	13	0	1	0	Buyback (Donor Funded)
Honduras	04 / 2004	Paris Club	361	1	1	0	
Honduras	05 / 2005	Paris Club	316	1	1	0	
Indonesia	12 / 1966	Paris Club	310	0	0	0	
Indonesia	10 / 1967	Paris Club	110	0	0	0	
Indonesia	10 / 1968	Paris Club	180	0	0	0	
Indonesia	04 / 1970	Paris Club	2090	0	0	0	
Indonesia	01 / 1994	Paris Club	1200	0	0	0	
Indonesia	01 / 1994	Paris Club	3000	0	0	0	
Indonesia	09 / 1998	Paris Club	4176	0	0	0	
Indonesia	04 / 2000	Paris Club	5445	0	0	0	
Indonesia	04 / 2002	Paris Club	5473	0	0	0	
Indonesia	05 / 2005	Paris Club	2704	0	0	0	
Iraq	11 / 2004	Paris Club	37158	0	1	0	
Iraq	01 / 2006	Commercial	17710	0	1	0	Buyback

Source: Trebesch (2011)



Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
Jamaica	09 / 1978	Commercial	63		0	0	0
Jamaica	04 / 1979	Commercial	149		0	0	0
Jamaica	06 / 1981	Commercial	89		0	0	0
Jamaica	06 / 1984	Commercial	165		0	0	0
Jamaica	07 / 1984	Paris Club	207	0	0	0	
Jamaica	07 / 1985	Paris Club	67	0	0	0	
Jamaica	09 / 1985	Commercial	369		0	0	0
Jamaica	03 / 1987	Paris Club	81	0	0	0	
Jamaica	05 / 1987	Commercial	285		0	0	0
Jamaica	10 / 1988	Paris Club	146	0	0	0	
Jamaica	04 / 1990	Paris Club	178	0	0	0	
Jamaica	06 / 1990	Commercial	332		0	0	0
Jamaica	07 / 1991	Paris Club	125	0	0	0	
Jamaica	01 / 1993	Paris Club	142	0	0	0	
Jamaica	01 / 1993	Paris Club	140	0	0	0	
Jordan	07 / 1989	Paris Club	586	0	0	0	
Jordan	02 / 1992	Paris Club	771	0	0	0	
Jordan	12 / 1993	Commercial	1289		1	0	0
Jordan	06 / 1994	Paris Club	1147	0	0	0	
Jordan	05 / 1997	Paris Club	400	0	0	0	
Jordan	05 / 1999	Paris Club	821	0	0	0	
Jordan	07 / 2002	Paris Club	1170	0	0	0	
Kenya	01 / 1994	Paris Club	535	0	0	0	
Kenya	06 / 1998	Commercial	91		1	0	0
Kenya	11 / 2000	Paris Club	300	0	0	0	
Kenya	01 / 2004	Paris Club	353	0	0	0	
Kyrgyzstan	03 / 2002	Paris Club	102	0	0	0	
Kyrgyzstan	03 / 2005	Paris Club	555	0	1	0	
Liberia	12 / 1980	Paris Club	35	0	0	0	
Liberia	12 / 1981	Paris Club	30	0	0	0	
Liberia	12 / 1982	Commercial	30		0	0	0
Liberia	12 / 1983	Paris Club	19	0	0	0	
Liberia	12 / 1984	Paris Club	16	0	0	0	
Liberia	04 / 2008	Paris Club	1043	1	1	0	
Liberia	09 / 2010	Paris Club	1366	1	1	0	
Macedonia	09 / 2000	Paris Club	46	0	0	0	
Macedonia, FYR	07 / 1995	Paris Club	220	0	0	0	
Macedonia, FYR	07 / 1995	Paris Club	70	0	0	0	
Macedonia, FYR	03 / 1997	Commercial	229		0	0	0
Madagascar	04 / 1981	Paris Club	130	0	0	0	
Madagascar	11 / 1981	Commercial	147		0	0	0
Madagascar	07 / 1982	Paris Club	94	0	0	0	
Madagascar	03 / 1984	Paris Club	179	0	0	0	
Madagascar	10 / 1984	Commercial	195		0	0	0
Madagascar	05 / 1985	Paris Club	162	0	0	0	
Madagascar	10 / 1986	Paris Club	200	0	0	0	
Madagascar	06 / 1987	Commercial	60		0	0	0
Madagascar	10 / 1988	Paris Club	265	0	1	0	
Madagascar	04 / 1990	Commercial	49		0	0	0
Madagascar	07 / 1990	Paris Club	99	0	1	0	
Madagascar	03 / 1997	Paris Club	1247	0	1	0	
Madagascar	01 / 2000	Paris Club	23	0	1	0	
Madagascar	09 / 2000	Paris Club	34	0	1	0	
Madagascar	03 / 2001	Paris Club	254	1	1	0	
Madagascar	11 / 2004	Paris Club	1057	1	1	0	
Malawi	09 / 1982	Paris Club	29	0	0	0	

Source: Trebesch (2011)

Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
Malawi	03 / 1983	Commercial	57		0	0	0
Malawi	10 / 1983	Paris Club	30	0	0	0	
Malawi	04 / 1988	Paris Club	20	0	0	0	
Malawi	10 / 1988	Commercial	35		0	0	0
Malawi	01 / 2001	Paris Club	66	1	1	0	
Malawi	10 / 2006	Paris Club	355	1	1	0	
Mali	10 / 1988	Paris Club	56	0	1	0	
Mali	11 / 1989	Paris Club	29	0	1	0	
Mali	10 / 1992	Paris Club	19	0	1	0	
Mali	05 / 1996	Paris Club	32	0	1	0	
Mali	10 / 2000	Paris Club	3	1	1	0	
Mali	07 / 2001	Paris Club	1	1	1	0	
Mali	06 / 2002	Paris Club	1	1	1	0	
Mali	03 / 2003	Paris Club	155	1	1	0	
Mauritania	04 / 1985	Paris Club	80	0	0	0	
Mauritania	05 / 1986	Paris Club	50	0	0	0	
Mauritania	06 / 1987	Paris Club	55	0	0	0	
Mauritania	06 / 1989	Paris Club	51	0	1	0	
Mauritania	01 / 1993	Paris Club	217	0	1	0	
Mauritania	06 / 1995	Paris Club	65	0	1	0	
Mauritania	08 / 1996	Commercial	53		1	0	Buyback (Donor Funded)
Mauritania	03 / 2000	Paris Club	99	1	1	0	
Mauritania	07 / 2002	Paris Club	384	1	1	0	
Mexico	06 / 1983	Paris Club	1300	0	0	0	
Mexico	08 / 1983	Commercial	18800		0	0	0
Mexico	03 / 1985	Commercial	28600		0	0	0
Mexico	08 / 1985	Commercial	20100		0	0	0
Mexico	09 / 1986	Paris Club	1800	0	0	0	
Mexico	03 / 1987	Commercial	52300		0	0	0
Mexico	03 / 1988	Commercial	3671		1	0	0
Mexico	05 / 1989	Paris Club	2400	0	0	0	
Mexico	02 / 1990	Commercial	54300		1	0	Brady Deal
Moldova	10 / 2002	Commercial	40		0	1	Eurobond Exchange
Moldova	04 / 2004	Commercial	115		1	0	Gazprom Debt (Buyback)
Moldova	05 / 2006	Paris Club	151	0	0	0	
Morocco	10 / 1983	Paris Club	1210	0	0	0	
Morocco	09 / 1985	Paris Club	687	0	0	0	
Morocco	02 / 1986	Commercial	538		0	0	0
Morocco	03 / 1987	Paris Club	1000	0	0	0	
Morocco	09 / 1987	Commercial	2444		0	0	0
Morocco	10 / 1988	Paris Club	940	0	0	0	
Morocco	09 / 1990	Commercial	3200		0	0	0
Morocco	09 / 1990	Paris Club	1390	0	0	0	
Morocco	02 / 1992	Paris Club	1250	0	0	0	
Mozambique	10 / 1984	Paris Club	142	0	0	0	
Mozambique	05 / 1987	Commercial	253		0	0	0
Mozambique	06 / 1987	Paris Club	612	0	0	0	
Mozambique	06 / 1990	Paris Club	707	0	1	0	
Mozambique	12 / 1991	Commercial	124		1	0	Buyback (Donor Funded)
Mozambique	03 / 1993	Paris Club	440	0	1	0	
Mozambique	11 / 1996	Paris Club	663	0	1	0	
Mozambique	05 / 1998	Paris Club	na	0	1	0	
Mozambique	07 / 1999	Paris Club	1860	1	1	0	
Mozambique	11 / 2001	Paris Club	2800	1	1	0	
Nicaragua	12 / 1980	Commercial	582		0	0	0
Nicaragua	12 / 1981	Commercial	192		0	0	0

Source: Trebesch (2011)

Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
Nicaragua	03 / 1982	Commercial	100		0	0	
Nicaragua	02 / 1984	Commercial	145		0	0	
Nicaragua	12 / 1991	Paris Club	722	0	1	0	
Nicaragua	03 / 1995	Paris Club	848	0	1	0	
Nicaragua	11 / 1995	Commercial	1100		1	0	Buyback (Donor Funded)
Nicaragua	04 / 1998	Paris Club	213	0	1	0	
Nicaragua	03 / 1999	Paris Club	448	0	0	0	
Nicaragua	12 / 2002	Paris Club	580	1	1	0	
Nicaragua	03 / 2004	Paris Club	1579	1	1	0	
Niger	11 / 1983	Paris Club	30	0	0	0	
Niger	03 / 1984	Commercial	27		0	0	0
Niger	11 / 1984	Paris Club	32	0	0	0	
Niger	11 / 1985	Paris Club	32	0	0	0	
Niger	04 / 1986	Commercial	52		0	0	0
Niger	11 / 1986	Paris Club	26	0	0	0	
Niger	04 / 1988	Paris Club	38	0	0	0	
Niger	12 / 1988	Paris Club	43	0	1	0	
Niger	09 / 1990	Paris Club	151	0	1	0	
Niger	03 / 1991	Commercial	111		1	0	Buyback (Donor Funded)
Niger	03 / 1994	Paris Club	160	0	1	0	
Niger	12 / 1996	Paris Club	128	0	1	0	
Niger	01 / 2001	Paris Club	115	1	1	0	
Niger	05 / 2004	Paris Club	250	1	1	0	
Nigeria	07 / 1983	Commercial	1350		0	0	0
Nigeria	09 / 1983	Commercial	585		0	0	0
Nigeria	04 / 1984	Commercial	925		0	0	0
Nigeria	12 / 1986	Paris Club	4010	0	0	0	
Nigeria	12 / 1986	Paris Club	2436	0	0	0	
Nigeria	12 / 1986	Paris Club	291	0	0	0	
Nigeria	11 / 1987	Commercial	4249		0	0	0
Nigeria	01 / 1988	Commercial	1213		0	0	0
Nigeria	03 / 1989	Paris Club	3530	0	0	0	
Nigeria	03 / 1989	Paris Club	660	0	0	0	
Nigeria	03 / 1989	Paris Club	710	0	0	0	
Nigeria	06 / 1989	Commercial	5829		0	0	0
Nigeria	01 / 1991	Paris Club	1715	0	0	0	
Nigeria	01 / 1991	Paris Club	1529	0	0	0	
Nigeria	12 / 1991	Commercial	5883		1	0	Brady Deal
Nigeria	12 / 2000	Paris Club	23060	0	0	0	
Nigeria	12 / 2000	Paris Club	340	0	0	0	
Nigeria	10 / 2005	Paris Club	30066	0	1	0	
Pakistan	05 / 1972	Paris Club	234	0	0	0	
Pakistan	06 / 1974	Paris Club	650	0	0	0	
Pakistan	01 / 1981	Paris Club	260	0	0	0	
Pakistan	01 / 1999	Paris Club	3254	0	0	0	
Pakistan	07 / 1999	Commercial	777		0	0	Bank Loan Restruct.
Pakistan	12 / 1999	Commercial	610		0	1	Eurobond Exchange
Pakistan	01 / 2001	Paris Club	1752	0	0	0	
Pakistan	12 / 2001	Paris Club	12500	0	0	0	
Panama	09 / 1985	Paris Club	19	0	0	0	
Panama	10 / 1985	Commercial	579		0	0	0
Panama	11 / 1990	Paris Club	185	0	0	0	
Panama	08 / 1994	Commercial	452		0	1	Bond Restructuring
Panama	05 / 1996	Commercial	3936		1	0	Brady Deal
Paraguay	07 / 1993	Commercial	20		0	0	Buyback
Peru	06 / 1968	Commercial	128		0	0	0

Source: Trebesch (2011)

Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
Peru	09 / 1968	Paris Club	120	0	0	0	
Peru	09 / 1968	Commercial	58		0	0	
Peru	09 / 1969	Commercial	152		0	0	
Peru	11 / 1969	Commercial	290		0	0	
Peru	11 / 1969	Paris Club	100	0	0	0	
Peru	11 / 1978	Paris Club	211	0	0	0	
Peru	07 / 1983	Paris Club	590	0	0	0	Brady Deal
Peru	06 / 1984	Paris Club	640	0	0	0	0
Peru	09 / 1991	Paris Club	4661	0	0	0	0
Peru	05 / 1993	Paris Club	1884	0	0	0	
Peru	07 / 1996	Paris Club	6723	0	0	0	
Peru	01 / 1980	Commercial	340		0	0	0
Peru	07 / 1983	Commercial	380		0	0	0
Peru	03 / 1997	Commercial	10600		1	0	0
Philippines	12 / 1984	Paris Club	1000	0	0	0	
Philippines	01 / 1986	Paris Club	1300	0	0	0	
Philippines	04 / 1986	Commercial	3242		0	0	0
Philippines	01 / 1987	Paris Club	870	0	0	0	
Philippines	12 / 1987	Commercial	9690		0	0	0
Philippines	05 / 1989	Paris Club	1859	0	0	0	
Philippines	02 / 1990	Commercial	2120		1	0	0
Philippines	06 / 1991	Paris Club	1096	0	0	0	
Philippines	12 / 1992	Commercial	4471		1	0	Brady Deal
Philippines	07 / 1994	Paris Club	585	0	0	0	
Poland	04 / 1981	Paris Club	2200	0	0	0	
Poland	04 / 1982	Commercial	1957		0	0	0
Poland	11 / 1982	Commercial	2225		0	0	0
Poland	11 / 1983	Commercial	1192		0	0	0
Poland	07 / 1984	Commercial	1390		0	0	0
Poland	07 / 1985	Paris Club	10200	0	1	0	
Poland	11 / 1985	Paris Club	1370	0	0	0	
Poland	09 / 1986	Commercial	1970		0	0	0
Poland	12 / 1987	Paris Club	8500	0	0	0	
Poland	07 / 1988	Commercial	8441		0	0	0
Poland	07 / 1989	Commercial	206		0	0	0
Poland	02 / 1990	Paris Club	9400	0	0	0	
Poland	04 / 1991	Paris Club	29871	0	0	0	
Poland	10 / 1994	Commercial	13531		1	0	Brady Deal
Romania	07 / 1982	Paris Club	410	0	0	0	
Romania	12 / 1982	Commercial	1598		0	0	0
Romania	05 / 1983	Paris Club	126	0	0	0	
Romania	06 / 1983	Commercial	567		0	0	0
Romania	09 / 1986	Commercial	800		0	0	0
Russia	04 / 1993	Paris Club	15000	0	0	0	
Russia	06 / 1994	Paris Club	7100	0	0	0	
Russia	06 / 1995	Paris Club	6421	0	0	0	
Russia	04 / 1996	Paris Club	40160	0	0	0	
Russia	12 / 1997	Commercial	30500		0	1	GKOs (non-residents)
Russia	03 / 1999	Commercial	4933		1	1	"MinFin 3" Bonds
Russia	08 / 1999	Paris Club	8113	0	0	0	
Russia	02 / 2000	Commercial	1307		0	1	PRINs, IANs
Russia	08 / 2000	Commercial	31943		1	0	0
Rwanda	07 / 1998	Paris Club	54	0	1	0	
Rwanda	03 / 2002	Paris Club	1	1	1	0	
Rwanda	05 / 2005	Paris Club	90	1	1	0	
São Tomé and Príncipe	08 / 1994	Commercial	10.1		1	0	Buyback (Donor Funded)

Source: Trebesch (2011)

Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
São Tomé and Príncipe	05 / 2000	Paris Club	27	0	1	0	
São Tomé and Príncipe	09 / 2005	Paris Club	27	1	1	0	
São Tomé and Príncipe	05 / 2007	Paris Club	24	1	1	0	
Senegal	10 / 1981	Paris Club	78	0	0	0	
Senegal	11 / 1982	Paris Club	74	0	0	0	
Senegal	12 / 1983	Paris Club	70	0	0	0	
Senegal	02 / 1984	Commercial	77		0	0	0
Senegal	01 / 1985	Paris Club	106	0	0	0	
Senegal	05 / 1985	Commercial	20		0	0	0
Senegal	11 / 1986	Paris Club	88	0	0	0	
Senegal	11 / 1987	Paris Club	74	0	0	0	
Senegal	01 / 1989	Paris Club	136	0	1	0	
Senegal	02 / 1990	Paris Club	107	0	1	0	
Senegal	09 / 1990	Commercial	37		0	0	0
Senegal	06 / 1991	Paris Club	233	0	1	0	
Senegal	03 / 1994	Paris Club	233	0	1	0	
Senegal	04 / 1995	Paris Club	168	0	1	0	
Senegal	12 / 1996	Commercial	80		1	0	Buyback (Donor Funded)
Senegal	06 / 1998	Paris Club	427	0	1	0	
Senegal	10 / 2000	Paris Club	22	1	1	0	
Senegal	06 / 2002	Paris Club	11	1	1	0	
Senegal	06 / 2004	Paris Club	463	1	1	0	
Serbia and Montenegro	11 / 2001	Paris Club	4324	0	1	0	
Serbia and Montenegro	07 / 2004	Commercial	2700		1	0	0
Seychelles	04 / 2009	Paris Club	163	0	1	1	0
Seychelles	02 / 2010	Commercial	320		1	0	
Sierra Leone	09 / 1977	Paris Club	50	0	0	0	
Sierra Leone	02 / 1980	Paris Club	30	0	0	0	
Sierra Leone	02 / 1984	Paris Club	34	0	0	0	
Sierra Leone	11 / 1986	Paris Club	95	0	0	0	
Sierra Leone	11 / 1992	Paris Club	163	0	1	0	
Sierra Leone	07 / 1994	Paris Club	41	0	1	0	
Sierra Leone	08 / 1995	Commercial	235		1	0	Buyback (Donor Funded)
Sierra Leone	03 / 1996	Paris Club	39	0	1	0	
Sierra Leone	10 / 2001	Paris Club	180	1	1	0	
Sierra Leone	07 / 2002	Paris Club	3	1	1	0	
Sierra Leone	01 / 2007	Paris Club	363	1	1	0	
Slovenia	06 / 1995	Commercial	812		0	0	0
Somalia	03 / 1985	Paris Club	39	0	0	0	
Somalia	07 / 1987	Paris Club	132	0	0	0	
South Africa	03 / 1987	Commercial	10900		0	0	0
South Africa	10 / 1989	Commercial	7500		0	0	0
South Africa	09 / 1993	Commercial	5000		0	0	0
Sri Lanka	05 / 2005	Paris Club	227	0	0	0	
Sudan	11 / 1979	Paris Club	487	0	0	0	
Sudan	03 / 1982	Paris Club	270	0	0	0	
Sudan	02 / 1983	Paris Club	516	0	0	0	
Sudan	05 / 1984	Paris Club	263	0	0	0	
Sudan	10 / 1985	Commercial	920		0	0	0
Tanzania	09 / 1986	Paris Club	800	0	0	0	
Tanzania	12 / 1988	Paris Club	341	0	1	0	
Tanzania	03 / 1990	Paris Club	199	0	1	0	
Tanzania	01 / 1992	Paris Club	691	0	1	0	
Tanzania	01 / 1997	Paris Club	1608	0	1	0	
Tanzania	04 / 2000	Paris Club	711	1	1	0	
Tanzania	01 / 2002	Paris Club	1245	1	1	0	

Source: Trebesch (2011)

Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
Tanzania	01 / 2004	Commercial	155.8		1	0	Buyback (Donor Funded)
Togo	06 / 1979	Paris Club	280	0	0	0	
Togo	03 / 1980	Commercial	69		0	0	
Togo	02 / 1981	Paris Club	232	0	0	0	
Togo	04 / 1983	Paris Club	200	0	0	0	
Togo	10 / 1983	Commercial	84		0	0	
Togo	06 / 1984	Paris Club	70	0	0	0	
Togo	06 / 1985	Paris Club	30	0	0	0	
Togo	03 / 1988	Paris Club	155		0	0	
Togo	05 / 1988	Commercial	49		0	0	
Togo	06 / 1989	Paris Club	75	0	1	0	
Togo	07 / 1990	Paris Club	92	0	1	0	
Togo	06 / 1992	Paris Club	52	0	1	0	
Togo	02 / 1995	Paris Club	237	0	1	0	
Togo	12 / 1997	Commercial	75		1	0	Buyback (Donor Funded)
Togo	06 / 2008	Paris Club	740	1	1	0	
Togo	01 / 2009	Paris Club	22	1	1	0	
Trinidad and Tobago	01 / 1989	Paris Club	209	0	0	0	
Trinidad and Tobago	12 / 1989	Commercial	446		0	0	
Trinidad and Tobago	04 / 1990	Paris Club	110	0	0	0	
Turkey	05 / 1978	Paris Club	1300	0	0	0	
Turkey	06 / 1979	Commercial	429		0	0	
Turkey	07 / 1979	Paris Club	1200	0	0	0	
Turkey	08 / 1979	Commercial	2269		0	0	
Turkey	07 / 1980	Paris Club	3000	0	0	0	
Turkey	08 / 1981	Commercial	100		0	0	
Turkey	03 / 1982	Commercial	2269		0	0	
Uganda	11 / 1981	Paris Club	40	0	0	0	
Uganda	12 / 1982	Paris Club	19	0	0	0	
Uganda	06 / 1987	Paris Club	256	0	0	0	
Uganda	01 / 1989	Paris Club	90	0	1	0	
Uganda	06 / 1992	Paris Club	38	0	1	0	
Uganda	02 / 1993	Commercial	153		1	0	Buyback (Donor Funded)
Uganda	02 / 1995	Paris Club	110	0	1	0	
Uganda	04 / 1998	Paris Club	147	1	1	0	
Uganda	09 / 2000	Paris Club	147	1	1	0	
Ukraine	09 / 1998	Commercial	420		0	1	OVDPs (non-residents)
Ukraine	10 / 1998	Commercial	109		0	0	Chase Loan
Ukraine	08 / 1999	Commercial	163		1	0	ING Loan
Ukraine	04 / 2000	Commercial	1598		1	1	Global Bond Exchange
Ukraine	07 / 2001	Paris Club	580	0	0	0	
Uruguay	07 / 1983	Commercial	575		0	0	
Uruguay	07 / 1986	Commercial	1958		0	0	
Uruguay	03 / 1988	Commercial	1770		0	0	
Uruguay	01 / 1991	Commercial	1610		1	0	Brady Deal
Uruguay	05 / 2003	Commercial	3127		0	1	Global Bond Exchange
Venezuela, RB	02 / 1986	Commercial	20307		0	0	
Venezuela, RB	09 / 1988	Commercial	20338		0	0	
Venezuela, RB	12 / 1990	Commercial	19585		1	0	Brady Deal
Vietnam	12 / 1993	Paris Club	544	0	1	0	
Vietnam	12 / 1997	Commercial	782		1	0	Brady Deal
Yemen	09 / 1996	Paris Club	112	0	1	0	
Yemen	11 / 1997	Paris Club	1446	0	1	0	
Yemen	02 / 2001	Commercial	607		1	0	Buyback (Donor Funded)
Yemen	06 / 2001	Paris Club	420	0	1	0	
Yugoslavia	09 / 1983	Commercial	950		0	0	

Source: Trebesch (2011)

Country	Date	Type of Creditors	Debt Affected (m US\$)	Part of HIPC Debt Relief?	Reduction of Face Value?	Bond Exchange?	Comment
Yugoslavia	16.05.1984	Commercial	1250		0	0	0
Yugoslavia	22.05.1984	Paris Club	787	0	0	0	
Yugoslavia	24.05.1985	Paris Club	1097	0	0	0	
Yugoslavia	18.12.1985	Commercial	3600		0	0	0
Yugoslavia	13.05.1986	Paris Club	442	0	0	0	
Yugoslavia	13.05.1986	Paris Club	320	0	0	0	
Yugoslavia	13.07.1988	Paris Club	952	0	0	0	
Yugoslavia	21.09.1988	Commercial	6895		0	0	0
Zambia	16.05.1983	Paris Club	380	0	0	0	
Zambia	20.07.1984	Paris Club	207	0	0	0	
Zambia	04.03.1986	Paris Club	547	0	0	0	
Zambia	12.07.1990	Paris Club	963	0	1	0	
Zambia	23.07.1992	Paris Club	918	0	1	0	
Zambia	01.06.1994	Commercial	570		1	0	Buyback (Donor Funded)
Zambia	28.02.1996	Paris Club	566	0	1	0	
Zambia	16.04.1999	Paris Club	1062	0	1	0	
Zambia	13.09.2002	Paris Club	249	1	1	0	
Zambia	11.05.2005	Paris Club	1763	1	1	0	

Source: Trebesch (2011)

**Table 15. Macroeconomic and Financial Indicators at the Time of Restructuring**

Country	Year	External Debt to GDP (total, in %)	Public Debt to GDP (in %)	Share of Government Debt Owed to Official Cred.	Inflation (annual CPI, in %)	Budget Balance (% of GDP)
Albania	1995	16.3%	13.4%	92.8%	12.7%	-11.0%
Algeria	1996	64.1%	59.6%	63.7%	5.7%	2.4%
Argentina	1993	29.1%	19.5%	36.8%	4.2%	0.0%
Argentina	2005	54.1%	28.4%	33.2%	10.9%	1.8%
Belize	2007	78.8%	77.2%	36.4%		0.9%
Bolivia	1993	81.5%	68.9%	98.0%	7.9%	-3.0%
Bosnia and Herzegovina	1997					-7.8%
Brazil	1994	20.9%	12.8%	28.3%	66.0%	-6.7%
Bulgaria	1994	79.4%	67.4%	33.5%	62.1%	-5.3%
Cameroon	2003	65.3%	55.7%	98.9%	0.2%	-0.3%
Chile	1990	49.3%	27.6%	52.4%	21.8%	1.8%
Congo, Rep.	2007	50.3%	46.7%	75.4%		21.9%
Costa Rica	1990	55.8%	45.7%	79.5%	28.7%	-2.7%
Cote d'Ivoire	1998	104.9%	77.2%	74.8%	0.8%	-2.4%
Cote d'Ivoire	2010					
Croatia	1996				4.1%	-2.7%
Cuba	1985					
Dominican Rep.	1994	27.2%	22.3%	82.0%	12.5%	0.8%
Dominican Rep.	2005	23.8%	17.3%	56.2%	7.6%	-1.2%
Dominica	2004	91.5%	74.1%	77.6%	2.2%	
Ecuador	1995	67.3%	57.7%	42.9%	24.4%	-2.7%
Ecuador	2009					-3.1%
Ethiopia	1996	113.5%	106.2%	96.3%	2.4%	-1.2%
Gabon	1994	87.9%	80.2%	95.0%	9.7%	5.4%
Gambia, The	1988	118.9%	101.7%	91.2%	8.3%	-1.9%
Grenada	2005	87.2%	79.3%	46.1%		
Guinea	1998	92.1%	80.1%	98.9%		-5.3%
Guyana	1999	191.5%	157.7%	96.0%	6.2%	-7.3%
Honduras	2001	68.0%	52.7%	98.0%	7.7%	-4.0%
Iraq	2006					9.0%
Jamaica	1990	111.7%	94.6%	87.8%	51.1%	
Jordan	1993	121.0%	108.0%	65.0%	3.5%	-1.9%
Kenya	1998	50.2%	41.4%	90.0%	5.7%	-0.3%
Liberia	1982	110.6%	78.4%	75.9%	2.7%	
Macedonia, FYR	1997	41.7%	29.8%	76.5%	0.5%	-1.7%
Madagascar	1990	146.7%	132.0%	96.4%	8.5%	
Malawi	1988	88.6%	79.0%	94.6%	12.5%	
Mauritania	1996	177.9%	148.2%	98.9%	4.6%	
Mexico	1990	36.3%	24.7%	32.1%	22.7%	2.8%
Moldova	2004	68.6%	23.4%	95.2%	12.0%	2.0%
Morocco	1990	80.8%	76.9%	70.0%	8.0%	-2.1%
Mozambique	1991	260.6%	238.8%	95.5%	45.5%	



Note: The Table shows financial and macroeconomic indicators one year prior to the restructuring year. The table only lists “final restructurings” with foreign banks and bondholders, defined as those deals that were not followed by another restructuring (vis à vis private creditors) within the subsequent four years. Data is from the IMF’s IFS dataset, the World Bank’s GDF and WDI dataset and Economist Intelligence Unit.

Country	Year	External Debt to GDP (total, in %)	Public Debt to GDP (in %)	Share of Government Debt Owed to Official Cred.	Inflation (annual CPI, in %)	Budget Balance (% of GDP)
Nicaragua	1995	179.7%	155.2%	91.1%	11.6%	-6.8%
Niger	1991	66.0%	51.1%	99.9%	-4.5%	
Nigeria	1991	88.7%	80.9%	69.2%	44.6%	-6.4%
Pakistan	1999	44.3%	36.7%	92.4%	4.4%	-4.5%
Panama	1996	59.6%	50.2%	22.4%	1.3%	-0.4%
Paraguay	1993	30.3%	19.6%	90.0%	20.6%	2.3%
Peru	1997	53.7%	34.0%	76.1%	7.3%	-1.0%
Philippines	1992	66.5%	50.9%	77.1%	6.9%	-0.9%
Poland	1994				28.1%	-2.2%
Romania	1986					
Russian Federation	2000	49.7%	33.8%	61.9%	21.5%	3.1%
Sao Tome and Principe	1994			100.0%		-37.5%
Senegal	1996	81.5%	69.5%	100.0%	1.6%	0.5%
Serbia and Montenegro	2004					
Seychelles	2010					
Sierra Leone	1995	128.7%	108.0%	91.1%	23.1%	
Slovenia	1995					0.3%
South Africa	1993	16.0%	5.7%	0.0%	8.9%	-7.8%
Sudan	1985	60.3%	44.6%	81.4%	24.5%	
Tanzania	2004	59.1%	45.6%	98.4%	8.6%	-5.1%
Togo	1997	92.7%	83.5%	100.0%	1.0%	-5.0%
Trinidad and Tobago	1989				11.1%	-0.8%
Turkey	1982	33.0%	26.1%	64.4%	31.4%	
Uganda	1993	85.1%	72.3%	96.8%	9.7%	-4.2%
Ukraine	2000	54.0%	21.3%	68.4%	12.0%	-0.3%
Uruguay	1991	35.5%	24.4%	37.3%	68.5%	0.7%
Uruguay	2003	85.7%	57.2%	41.0%	9.2%	-1.0%
Venezuela, RB	1990	66.0%	48.2%	11.3%	34.2%	
Vietnam	1997	82.5%	73.0%	77.7%	7.3%	-0.1%
Yemen, Republic of	2001	53.3%	45.9%	98.7%	12.2%	-2.6%
Yugoslavia	1988					
Zaire (Congo, Dem. Rep.)	1989					
Zambia	1994	200.1%	152.1%	96.0%	34.9%	-4.6%

Note: The Table shows financial and macroeconomic indicators one year prior to the restructuring year. The table only lists “final restructurings” with banks and bondholders, defined as those deals that were not followed by another restructuring (vis à vis private creditors) within the subsequent four years. Data is from the IMF’s IFS dataset, the World Bank’s GDF and WDI dataset and Economist Intelligence Unit.

## REFERENCES

- Abiad, Abdul and Jonathan D. Ostry. 2005. "Primary Surpluses and sustainable Debt Levels in Emerging Market Countries," IMF Policy Discussion Paper 05/6. International Monetary Fund.
- Aguiar, Mark, and Gita Gopinath. 2006. "Defaultable Debt, Interest Rates and the Current Account." *Journal of International Economics*, 69(1): 64-83.
- Arteta, Carlos, and Galina Hale. 2008. "Sovereign Debt Crises and Credit to the Private Sector." *Journal of International Economics*, 74(1): 53–69.
- Amador, Manuel. 2009. "Sovereign Debt and the Tragedy of the Commons." Unpublished Paper, Stanford University.
- Andritzky, Jochen. 2006. *Sovereign Default Risk Devaluation: Implications of Debt Crises and Bond Restructurings*. New York: Springer.
- Andritzky, Jochen. 2010. "The Return of Investment of Sovereign Restructurings." Unpublished Paper.
- Andritzky, Jochen, and Manmohan Singh, 2006. "The Pricing of Credit Default Swaps During Distress," IMF Working Paper 06/254, International Monetary Fund.
- Andritzky, Jochen, and Manmohan Singh, 2005. "Overpricing in Emerging Market Credit-Default-Swap Contracts: Some Evidence from Recent Distress Cases," IMF Working Paper 05/125, International Monetary Fund.
- Arellano, Cristina. 2008. "Default Risk and Income Fluctuations in Emerging Economies." *American Economic Review*, 98(3): 690-712.
- Arezki, Rabah, Candelon, Bertrand and Amadou Sy. 2011. "Sovereign Rating News and Financial Markets Spillovers: Evidence from the European Debt Crisis," IMF Working Paper No. 11/68.
- Arslanalp, Serkan and Peter Blair Henry. 2005. "Is Debt Relief Efficient?," *Journal of Finance*, 60(2): 1017-1051.
- Asonuma, Tamon. 2010. "Serial Default and Debt Renegotiation." Unpublished Paper, Boston University.
- Asonuma, Tamon, and Christoph Trebesch. 2011 "Preemptive versus Post-Default Debt Renegotiation". Unpublished Paper.
- Barnett, Barry C., Galvis, Sergio J. and Ghislain Gouraige. 1984. "On Third World Debt," *Harvard International Law Journal*, 24: 83–151.

- Barnhill, Theodore and George Kopits. 2003. "Assessing Fiscal Sustainability Under Uncertainty" IMF Working Paper 03/79. International Monetary Fund.
- Bedendo, Mascia, Cathcart, Lara and Lina El-Jahel. 2010. In- and Out-of-Court Debt Restructuring in the Presence of Credit Default Swaps. Unpublished Paper, Imperial College.
- Becker, Torbjorn, Richards, Anthony and Thaicharoen, Yunyong (2003) "Bond Restructuring and Moral Hazard: Are Collective Action Clauses costly?" *Journal of International Economics*, 61(1): 127-161.
- Beim, David, and Charles Calomiris. 2001. *Emerging Financial Markets*. New York: McGraw-Hill.
- Benczur, Peter, and Ilut Cosmin. 2009. "Evidence for Relational Contracts in Sovereign Bank Lending." Duke University Mimeo.
- Bi, Ran, Marcos Chamon, and Jeromin Zettelmeyer. 2011. "The Problem that Wasn't: Coordination Failures in Sovereign Debt Restructurings." IMF Working Paper 11/265.
- Blackman, Jonathan I., and Rahul Mukhi. 2010. "The Evolution Of Modern Sovereign Debt. Litigation: Vultures, Alter Egos and Other Legal Fauna," *Law and Contemporary Problems*, 73: 47-61.
- Blanchard, Olivier J. 1984. "Current and Anticipated Deficits, Interest Rates and Economic Activity" *European Economic Review*, 25: 7-27.
- Blanchard, Olivier J., Chouraqui, Jean-Claude, Hagemann, Robert and Nicola Sartor. 1990. "The Sustainability of Fiscal Policy: New Answers to an Old Question", *OECD Economic Studies*, 15: 7-36.
- Blundell-Wignall, Adrian and Patrick Slovik. 2010. "The EU Stress Test and Sovereign Debt Exposures", OECD Working Papers on Finance, Insurance and Private Pensions, No. 4, OECD Financial Affairs Division.
- Bolton, Patrick and Jeanne, Olivier. 2007. "Structuring and Restructuring Sovereign Debt: The Role of a Bankruptcy Regime," *Journal of Political Economy*, 115(6): 901-924.
- Bolton, Patrick and Jeanne, Olivier. 2009. "Structuring and Restructuring Sovereign Debt: The Role of Seniority" *Review of Economic Studies*, 76(3): 879-902.
- Bolton, Patrick and Oehmke, Martin, 2010. "Credit Default Swaps and the Empty Creditor Problem". AFA 2011 Denver Meetings Paper.
- Borensztein, Eduardo and Ugo Panizza, 2009. "The Costs of Sovereign Default," IMF Staff Papers, vol. 56(4), pages 683-741.

- Borensztein, Eduardo, Kevin Cowan and Patricio Valenzuela. 2007. "Sovereign Ceilings "Lite"? the Impact of Sovereign Ratings on Corporate Ratings in Emerging Market Economies," IMF Working Paper 07/75, International Monetary Fund.
- Bowe, Michael and James Dean. 1997. "Has the Market Solved the Sovereign Debt Crisis?," Princeton Studies in International Finance No. 83.
- Brixi, Hana Polackova, and Allen Schick. 2002. *Governments at Risk: Contingent Liabilities and Fiscal Risk*. World Bank and Oxford University Press.
- Buchheit, Lee C. and Mitu G. Gulati, 2000. "Exit Consents in Sovereign Bond Exchanges." *UCLA Law Review*, 48 : 1–31.
- Buchheit, Lee C. and Mitu G. Gulati, 2002. "Sovereign Bonds and the Collective Will" *Emory Law Journal*, 51: 1317–64.
- Buchheit, Lee C. and Mitu G. Gulati. 2010. "How to Restructure Greek Debt." Duke Law Faculty Paper 2336.
- Buchheit, Lee C. and Mitu G. Gulati. 2011a. "Greek Debt – The Endgame Scenario" Unpublished Paper.
- Buchheit, Lee C. and Mitu G. Gulati. 2011b. "Drafting a Model Collective Action Clause for Eurozone Sovereign Bonds" Unpublished Paper.
- Buchheit, Lee C. and Elizabeth Karpinski. 2007. "Belize's Innovations." *Butterworths Journal of International Banking and Financial Law*. 22(5).
- Buiter, Willem H., 1985. "Guide to Public Sector Debt and Deficits", *Economic Policy*, 1:13-79.
- Buiter, Willem H., 2010. "Global Economics View: Sovereign Debt Problems in Advanced Industrial Countries" Citigroup Report. 26 April 2010
- Burnside, Craig. 2005. *Fiscal Sustainability in Theory and Practice: A Handbook*. Washington, D.C: World Bank.
- Catão, Luis and Sandeep Kapur, 2006. "Volatility and the Debt-Intolerance Paradox," IMF Staff Papers, vol. 53(2), pages 195-218.
- Celasun, Oya and Philipp Harms, 2007, "How Does Private Foreign Borrowing Affect the Risk of Sovereign Default in Developing Countries?" Study Center Gerzensee Working Paper No. 07.04, Swiss National Bank.
- Celasun, Oya and Philipp Harms, 2008, "Boon or Burden: The Effect of Private Sector Debt on the Risk of Sovereign Default in Developing Countries," unpublished manuscript.

Celasun, Oya, Xavier Debrun, and Jonathan Ostry. 2006. "Primary Surplus Behavior and Risks to Fiscal Sustainability in Emerging Market Countries: A 'Fan-Chart' Approach." *IMF Staff Papers* 53(3):401–25.

Chalk, Nigel and Richard Hemming. 2000. "Assessing Fiscal Sustainability in Theory and Practice." IMF Working Paper No. 00/81.

Chamon, Marcos, Borensztein, Eduardo, Jeanne, Olivier, Mauro, Paolo and Jeromin Zettelmeyer. 2005. "Sovereign Debt Structure for Crisis Prevention," IMF Occasional Papers 237, International Monetary Fund.

Chuhan, Punan, and Federico Sturzenegger. 2005. "Default Episodes in the 1980s and 1990s: What Have We Learned." In *Managing Economic Volatility and Crises: A Practitioner's Guide*, ed. Aizenman, Joshua and Brian Pinto, 471-519. Cambridge, MA: Cambridge University Press.

- Cleassens, Stjin. 2005. "Policy Approaches to Corporate Restructuring Around the World: What Worked, What Failed?" in Pomeleano, Michael and William Shaw (eds): *Corporate Restructuring: Lessons from Experience*, Chapter 2, Washington D.C.: World Bank Publishers.
- Cline, William R. 1995. *International Debt Reexamined*. Washington, DC: Institute for International Economics.

Cohen, Benjamin J.. 1989. "Developing Country Debt: A Middle Way." *Princeton Essays in International Finance* 173. Princeton: Princeton University Press.

Cole, Harold, and Timothy Kehoe. 1996. "A Self-fulfilling Model of Mexico's 1994-1995 Debt Crisis," *Journal of International Economics*, 41(3-4): 309-330.

Cole, Harold L., and Patrick Kehoe. 1998. "Models of Sovereign Debt: Partial versus General Reputations." *International Economic Review*, 39(1): 55–70.

Cole, Harold, and Timothy Kehoe. 2000. "Self-fulfilling Debt Crises." *Review of Economic Studies*, 67(1): 91–116

Cornell, Bradford and Alan Shapiro. 1986. "The reaction of bank stock prices to the international debt crisis," *Journal of Banking and Finance*, 10(1): 55-73.

Cotarelli, Carlo, Forni, Lorenzo, Gottschalk, Jan and Paolo Mauro. 2010 "Default in Today's Advanced Economies: Unnecessary, Undesirable, and Unlikely." IMF Staff Position Note 10/12. International Monetary Fund.

Couillault, Bertrand, and Pierre-Francois Weber. 2003. "Toward a Voluntary Code of Good Conduct for Sovereign Debt Restructuring." Banque de France, Financial Stability Review, June, Paris.

Cruces, Juan. 2007. "The Value of Pleasing International Creditors." Unpublished Paper. Universidad Torcuato di Tella.

Cruces, Juan and Christoph Trebesch. 2011. "Sovereign Defaults: The Price of Haircuts." CESifo Working Paper, No. 3604.

Das, Udaibir S., Papaioannou, Michael G. and Christoph Trebesch, 2010. "Sovereign Default Risk and Private Sector Access to Capital in Emerging Markets", IMF Working Papers 10/10, International Monetary Fund. Washington DC; and in Carlos A. Primo Braga and Dörte Dömeland (eds), *Debt Relief and Beyond: Lessons Learned and Challenges Ahead*, Chapter 7, The World Bank, Washington, DC, pp. 141-179, 2009.

Das, Udaibir S., Papaioannou, Michael G. and Christoph Trebesch, 2011. "Spillovers of Sovereign Default Risk: How Much Is the Private Sector Affected?", in *Sovereign Debt: From Safety to Default*, ed. Kolb, R. W., 33-42, New York: Wiley.

De Paoli, Bianca, Hoggarth, Glenn and Victoria Saporta. 2009. "Output costs of sovereign crises: some empirical estimates", Bank of England Working Paper No. 362.

Detragiache, Enrica and Antonio Spilimbergo. 2001. Crises and Liquidity: Evidence and Interpretation. IMF Working Paper No. 01/2. International Monetary Fund.

Duffie, Darrell. 2020. "Is there a Case for Banning short Speculation in sovereign bond markets? Banque de France Financial Stability Review, No. 14, July 2010.

Eaton, Jonathan, and Mark Gersovitz. 1981. "Debt with Potential Repudiation: Theoretical and Empirical Analysis." *Review of Economic Studies*, 48(2): 289-309.

Eaton, Jonathan. 2002. "Standstills and an International Bankruptcy Court." Unpublished Paper, New York University.

ECFIN. 2004. "Implementation of the EU commitment on Collective Action Clauses in documentation of International Debt Issuance" Available at [http://europa.eu/efc/sub\\_committee/pdf/cacs\\_en.pdf](http://europa.eu/efc/sub_committee/pdf/cacs_en.pdf)

Eichengreen, Barry, and Ashoka Mody. 2000. "Lending Booms, Reserves and the Sustainability of Short-term Debt: Inferences from the Pricing of Syndicated Bank Loans." *Journal of Development Economics*, 63(1): 5-44.

Eichengreen, Barry and Ashoka Mody. 2004. "Do Collective Action Clauses Raise Borrowing Costs?," *Economic Journal*, 114(495): 247-264.

Eichengreen, Barry, and Richard Portes. 1989. "After the Deluge: Default, Negotiation, and Readjustment during the Interwar Years." In *The International Debt Crisis in Historical Perspective*, ed. Eichengreen, B. and Lindert, P.H., 12-47. Cambridge, MA: MIT Press.

Eichengreen, Barry, and Richard Portes, 1995, *Crisis? What Crisis? Orderly Workouts for Sovereign Debtors*. London: Centre for Economic Policy Research.

Enderlein, Henrik, Schumacher, Julian and Christoph Trebesch, 2011. "Sovereign Debt Litigation" Unpublished Paper. Hertie School of Governance.

Enderlein, Henrik, Trebesch, Christoph and Laura von Daniels. "Sovereign Debt Disputes: A Database on Government Coerciveness during Debt Crises" forthcoming, *Journal of International Money and Finance*.

Engelen, Christian and Johann Graf Lambsdorff. 2009. "Hares and stags in Argentinean Debt Restructuring," *Journal of International Economics*, vol. 78(1), pages 141-148.

European Council. 2011. European Council Conclusions, 24/25 March 2011.  
[http://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/ec/120296.pdf](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/120296.pdf)

Erce, Aitor and Javier Díaz-Cassou, 2010. "Creditor Discrimination During Sovereign Debt Restructurings." Banco de España Working Papers 1027, Banco de España.

Escolano, Julio. 2010. "A Practical Guide to Public Debt Dynamics, Fiscal Sustainability, and Cyclical Adjustment of Budgetary Aggregates." IMF Technical Notes and Manuals, Fiscal Affairs Department, Washington D.C..

Federal Ministry of Finance, Germany. 2004. "Erklärung der Bundesregierung zur Zulässigkeit von Umschuldungsklauseln bei ausländischen Staatsanleihen, die deutschem Recht unterliegen" Berlin, 14. Januar 2000. Available at  
<http://www.bundesbank.de/download/presse/pressemitteilungen/2000/20000214bbk2.pdf>

Finger, Harald and Mauro Mecagni. 2007. "Sovereign Debt Restructuring and Debt Sustainability: An Analysis of Recent Cross-Country Experience," *IMF Occasional Paper* 255, Washington D.C..

Fisch, Jill E. and Caroline M. Gentile. 2004. "Vultures or Vanguard?: The Role of Litigation in Sovereign Debt Restructuring." *Emory Law Journal*, 53, pp. 1043-1113.

Fissel, Gary, Goldberg, Lawrence and Gerald Hanweck. 2006. "Bank portfolio exposure to emerging markets and its effects on bank market value," *Journal of Banking and Finance*, 30(4): 1103-1126

Fitch. 2009. "International Public Finance. 2009 Transition and Default Study" Report of March 26, 2010.

Fitch. 2010. "Contagion, Support and Euro Area Sovereign Ratings" Report of December 9, 2010.

Fuentes, Miguel and Diego Saravia. 2010. "Sovereign Defaulters: Do International Capital Markets Punish Them?" *Journal of Development Economics*, 91(2): 336–347.

Gapen, Michael, Gray, Dale, Hoon Lim, Cheng and Yingbin Xiao. 2008. "Measuring and Analyzing Sovereign Risk with Contingent Claims," *IMF Staff Papers*, Vol. 55(1), pp. 109-148.

Gelpern, Anne. 2005. "What Iraq and Argentina Might Learn from Each Other." *Chicago Journal of International Law* 6: 1, 391-414.

Gelos, Gaston R., Guido Sandleris and Ratna Sahay. 2004. "Sovereign Borrowing by Developing Countries: What Determines Market Access?", IMF Working Paper 04/221, International Monetary Fund.

Gennaioli, Nicola, Martin, Alberto and Stefano Rossi. 2010. "Sovereign Default, Domestic Banks and Financial Institutions," CEPR Discussion Papers 7955.

Ghosal, Sayantan, and Marcus Miller. 2003. "Co-ordination Failure, Moral Hazard and Sovereign Bankruptcy Procedures." *Economic Journal*, 113(487): 276–304.

Gianviti, Francois, Anne O. Krueger, Pisani-Ferry, Jean, Sapir, André and Jürgen von Hagen. 2010. "A European Mechanism for Sovereign Debt Crisis Resolution: A Proposal." Bruegel Blueprint 10, November 2010.

Goldman, Samuel E. 2000. "Mavericks in the Market. The Emerging Problem of Hold-outs in Sovereign Debt Restructuring." *UCLA Journal of International and Foreign Affairs*, 5(1), 159-198.

Gray, Dale F., Robert C. Merton and Zvi Bodie, (2007) "New Framework for Measuring and Managing Macrofinancial Risk and Financial Stability," NBER Working Paper 13607, National Bureau of Economic Research.

Grigorian, David A. and Faezeh Raei, 2010. "Government Involvement in Corporate Debt Restructuring: Case Studies from the Great Recession," IMF Working Paper 10/260, International Monetary Fund.

Gros, Daniel, 2010. "How to Deal with Sovereign Default in Europe: Towards a Euro(pean) Monetary Fund." European Parliament, IP/A/ECON/FWC/2009\_040/C5, March 8.

Group of Ten, 1996. "The resolution of sovereign liquidity crises" Washington, DC: Group of Ten. Available at [www.bis.org/publ/gten03.pdf](http://www.bis.org/publ/gten03.pdf)

Group of Ten, 2003. "Report of the G-10 Working Group on Contractual Clauses", Washington, DC: Group of Ten. Available at <http://www.bis.org/publ/gten08.htm>

Häseler, Sönke. Forthcoming. "Trustees Versus Fiscal Agents and Default Risk in International Sovereign Bonds" *European Journal of Law and Economics*.



Honohan, Patrick and Luc Laeven, 2005. *Systemic Financial Crises*. Cambridge University Press.

Hornbeck, Jeff. 2010. "Argentina's Defaulted Sovereign Debt: Dealing with the 'Holdouts'" Congressional Research Service. Available at:  
<http://fpc.state.gov/documents/organization/142740.pdf>

Hu, Henry, and Bernard Black, 2008. "Debt, Equity, and Hybrid Decoupling: Governance and Systemic Risk Implications." *European Financial Management*, 14: 663-709.

IIF. 2001. "Survey of Debt Restructuring by Private Creditors." Institute for International Finance, Washington, DC.

IIF. 2006. "Principles for Stable Capital Flows and Fair Debt Restructuring in Emerging Markets: Report on Implementation by the Principles Consultative Group." Institute of International Finance, Washington, DC.

IIF. 2010. "Principles for Stable Capital Flows and Fair Debt Restructuring: Report on Implementation by the Principles Consultative Group." Institute of International Finance, Washington, DC.

IMF. 1999. "IMF Policy on Lending into Arrears to Private Creditors." International Monetary Fund, Washington, DC.

IMF. 2000. "International Capital Markets: Development and Prospects." International Monetary Fund, Washington, DC.

IMF. 2001a. "Official Financing for Developing Countries." International Monetary Fund, Washington, DC. Available at <http://www.imf.org/external/pubs/cat/longres.cfm?sk=14803.0>

IMF. 2001b. "Involving the Private Sector in the Resolution of Financial Crises - Restructuring International Sovereign Bonds." International Monetary Fund, Washington, DC. Available at <http://www.imf.org/external/pubs/ft/series/03/IPS.pdf>

IMF. 2002a. "The Design and Effectiveness of Collective Action Clauses" International Monetary Fund, Washington, DC. Available at  
<http://www.imf.org/external/np/psi/2002/eng/060602.htm>

IMF. 2002b. "Assessing Sustainability." International Monetary Fund, Washington, DC. Available at <http://www.imf.org/external/np/pdr/sus/2002/eng/052802.pdf>

IMF. 2002c. "Sovereign Debt Restructurings and the Domestic Economy Experience in Four Recent Cases" International Monetary Fund, Washington, DC. Available at <http://www.imf.org/external/NP/pdr/sdrm/2002/022102.pdf>

- IMF. 2002d. "Fund Policy on Lending into Arrears to Private Creditors: Further Consideration of the Good Faith Criterion." Available <http://www.imf.org/external/pubs/ft/privcred/073002.pdf>.
- IMF. 2003a. "Reviewing the Process for Sovereign Debt Restructuring within the Existing Legal Framework." International Monetary Fund, Washington, DC. Available at <http://www.imf.org/external/np/pdr/sdrm/2003/080103.htm>
- IMF. 2003b. "Sustainability Assessments—Review of Application and Methodological Refinements" International Monetary Fund, Washington, DC. <http://www.imf.org/external/np/pdr/sustain/2003/061003.htm>
- IMF. 2005. "Information Note on Modifications to the Fund's Debt Sustainability Assessment Framework for Market Access Countries." International Monetary Fund, Washington, DC. Available at <http://www.imf.org/external/np/pp/eng/2005/070105.htm>
- IMF. 2008. "Staff Guidance Note on Debt Sustainability Analysis for Market Access Countries" International Monetary Fund, Washington, DC. Available at <http://www.imf.org/external/np/pp/eng/2008/070308a.pdf>
- IMF. 2011a. "Eastern Caribbean Currency Union: 2010 Discussion on Common Policies of Members Countries—Staff Report". Available at [www.imf.org/external/pubs/ft/scr/2011/cr1130.pdf](http://www.imf.org/external/pubs/ft/scr/2011/cr1130.pdf)
- IMF. 2011b. "Modernizing the Framework for Fiscal Policy and Public Debt Sustainability Analysis". International Monetary Fund, Washington, DC (forthcoming).
- IMF and World Bank. 2006. "Heavily Indebted Poor Countries Initiative (HIPC) and Multilateral Debt Relief Initiative (MDRI). Status of Implementation." Available at <http://www.imf.org/external/pp/longres.aspx?id=3887>
- IMF and World Bank. 2009. "Heavily Indebted Poor Countries Initiative (HIPC) and Multilateral Debt Relief Initiative (MDRI). Status of Implementation." Available at <http://www.imf.org/external/pp/longres.aspx?id=4365>
- Jeanne, Olivier. 2009. "Debt Maturity and the International Financial Architecture," *American Economic Review*, 99(5): 2135-48.
- Jeanne, Olivier, and Jeromin Zettelmeyer. 2005. "Original Sin, Balance-Sheet Crises, and the Roles of International Lending." In Barry Eichengreen and Rircardo Hausmann (Eds.): *Other People's Money: Debt Denomination and Financial Instability in Emerging Market Economies*, 95–121. Chicago and London: University of Chicago Press.
- Jorgensen, Erika, and Jeffrey Sachs. 1989. "Default and Renegotiation of Latin American Foreign Bonds in the Interwar Period." In *The International Debt Crisis in Historical Perspective*, ed. Barry Eichengreen and Peter H. Lindert, 48–85. Cambridge, MA. and London: MIT Press.

Kaiser, Jürgen. 2010 “Resolving Sovereign Debt Crises. Towards a Fair and Transparent International Insolvency Framework” FES Working Paper, September 2010

Karafiath, Imre, Mynatt, Ross and Kenneth L. Smith. 1991. “The Brazilian default announcement and the contagion effect hypothesis”, *Journal of Banking and Finance*, 15(3): 699-716.

Khamis, May and Abdelhak Senhadji. 2010. “Impact of the Global Financial Crisis on the Gulf Cooperation Council Countries and Challenges Ahead: An Update” Washington, D.C. : International Monetary Fund.

Kharas, Homi, Pinto, Brian and Sergei Ulatov. 2001. "An Analysis of Russia's 1998 Meltdown: Fundamentals and Market Signals," *Brookings Papers on Economic Activity*, 37(1):1-68.

Kohlscheen, Emanuel. 2007. “Why are there Serial Defaulters? Evidence from Constitutions.” *Journal of Law and Economics*, 50(4): 713–30.

Krueger, Anne. 2002. “A New Approach to Sovereign Debt Restructuring.” International Monetary Fund. Available at <http://www.imf.org/external/pubs/ft/exrp/sdrm/eng/index.htm>

Laeven, Luc and Fabian Valencia. 2008. "Systemic Banking Crises: A New Database." IMF Working Paper 08/224, International Monetary Fund.

Laryea, Thomas. 2010. “Relationship between Private and Sovereign Debt in Systemic Crises – Past, Present and Future.” Presentation given at the Warwick Symposium on Banking Law, April 9, 2010. Available at [http://www2.warwick.ac.uk/fac/soc/law/newsandevents/arc/events/managing\\_systemic\\_risk/pres/laryea.pdf](http://www2.warwick.ac.uk/fac/soc/law/newsandevents/arc/events/managing_systemic_risk/pres/laryea.pdf)

Levy-Yeyati, Eduardo, Martinez Peria, Maria S. and Sergio L. Schmukler. 2010. "Depositor Behavior under Macroeconomic Risk: Evidence from Bank Runs in Emerging Economies," *Journal of Money, Credit and Banking*, 42(4): 585-614.

Levy-Yeyati, Eduardo and Ugo Panizza. 2011. “The Elusive Cost of Sovereign Defaults.” *Journal of Development Economics*. 94(1): 95-105.

Lim, Ray Hyungjoon, Medeiros, Carlos and Yingbin Xiao, 2005. “Quantitative Assessments of Sovereign Bond Restructurings” Unpublished Paper, International Capital Markets Department, International Monetary Fund.

Lindert, Peter H., and Peter J. Morton. 1989. “How Sovereign Debt Has Worked.” In *Developing Country Debt and Economic Performance, Volume 1: The International Financial System*, ed. Jeffrey Sachs, 39–106. Chicago and London: University of Chicago Press.

Lipworth Gabrielle, Nystedt Jens, 2001. "Crisis Resolution and Private Sector Adaption". IMF Staff Papers 47: 188-214.

Liu, Yan 2002. "Collective Action Clauses in International Sovereign Bonds" August 30, 2002. Available at <http://www.imf.org/external/np/leg/sem/2002/cdmfl/eng/liu.pdf>

Love, Inessa, Preve, Lorenzo A. and Virginia Sarria-Allende, 2007. "Trade Credit and Bank Credit: Evidence from Recent Financial Crises," *Journal of Financial Economics*, vol. 83(2): 453-469.

Manasse, Paolo, and Nouriel Roubini. 2009. "Rules of Thumb" for Sovereign Debt Crises", *Journal of International Economics*, 78(2): 192-205.

Markit 2010. Credit Event Auction Primer. February 2010. Available at [http://www.markit.com/information/affiliations/fixings/auctions/docs/credit\\_event\\_auction\\_primer.pdf](http://www.markit.com/information/affiliations/fixings/auctions/docs/credit_event_auction_primer.pdf)

Martinez, Jose Vicente and Guido Sandleris, 2008. "Is it Punishment? Sovereign Defaults and the Decline in Trade," Business School Working Paper 2008-01, Universidad Torcuato Di Tella.

Medeiros, Carlos I., Ramlogan, Parmeshwar and Magdalena Polan. 2007. "A Primer on Sovereign Debt Buybacks and Swaps," IMF Working Papers 07/58, International Monetary Fund.

Mendoza, Enrique G. and Jonathan D. Ostry. 2008. "International Evidence on Fiscal Solvency: Is Fiscal Policy 'Responsible'?" *Journal of Monetary Economics*, 55(6): 1081-1093.

Mendoza, Enrique G., and Pedro M. Oviedo. 2006. "Fiscal Solvency and Macroeconomic Uncertainty in Emerging Markets: The Tale of the Tormented Insurer". NBER Working Paper 12586. National Bureau of Economic Research.

Mendoza, Enrique G. and Vivian Z., Yue. 2008. "A Solution to the Default Risk-Business Cycle Disconnect," NBER Working Papers 13861, National Bureau of Economic Research.

Mengle, David, 2009. "The Empty Creditor Hypothesis" ISDA Research Note. Available at <http://www.isda.org/researchnotes/pdf/ISDA-Research-Notes3.pdf>

Mitchener, Kris and Marc Weidenmier, 2010. "Supersanctions and Sovereign Debt Repayment." *Journal of International Money and Finance*, 29 (1): 19-36.

Moody's. 2005. "The Application of Joint Default Analysis to Government Related Issuers." Report of April 2005.

- Moody's. 2010. "Sovereign Default and Recovery Rates, 1983-2009." Report of April 2010.
- Morgan Stanley. 2011. "Sovereign CDS: Credit Event and Auction Primer" Report of May 31, 2011.
- Musumeci, James and Joseph Sinkey. 1990. "The International Debt Crisis, Investor Contagion, and Bank Security Returns in 1987: The Brazilian Experience," *Journal of Money, Credit and Banking*, 22(2): 209-20.
- Oechsli, Christopher G. 1981. "Procedural Guidelines for Renegotiating LDC Debts: An Analogy to Chapter 11 of the U.S. Bankruptcy Reform Act." *Virginia Journal of International Law*, 21(2): 305-41.
- Özler, Sule. 1993. "Have Commercial Banks Ignored History?" *American Economic Review*, 83(3): 608-620.
- Panizza, Ugo, Federico Sturzenegger and Jeromin Zettelmeyer. 2009. "The Law and Economics of Sovereign Debt and Default." *Journal of Economic Literature*, 47(3): 651-98.
- Papaioannou, Michael G. 2009. "Exchange Rate Risk Measurement and Management: Issues and Approaches for Public Debt Managers." *South-Eastern Europe Journal of Economics*, 7(1): 7-34.
- Paulus, Christoph. 2010. "A Standing Arbitral Tribunal as a Procedural Solution for Sovereign Debt Restructurings" In: Braga, Carlos A. Primo and Gallina A. Vincelette (Eds.): *Sovereign Debt and the Financial Crisis: Will This Time Be Different?* Washington D.C.: World Bank Publishers.
- Pescatori, Andrea, and Amadou Sy. 2007. "Are Debt Crises Adequately Defined?" *IMF Staff Papers*, 54(2): 306-337.
- Pitchford, Rohan, and Mark L. J. Wright. 2008. "Holdouts in Sovereign Debt Restructuring: A Theory of Negotiation in a Weak Contractual Environment." Unpublished. UCLA.
- Pitchford, Rohan, and Mark L. J. Wright. 2007. "Restructuring the Sovereign Debt Restructuring Mechanism." Unpublished. UCLA.
- Pomeleano, Michael and William Shaw (eds): *Corporate Restructuring: Lessons from Experience*. Washington D.C.: World Bank Publishers.
- Porzecanski, Arturo C. 2010. "When Bad Things Happen to Good Sovereign Debt Contracts: The Case of Ecuador." Unpublished Paper. American University.
- Raffer, Kunibert. 1990. "Applying Chapter 9 Insolvency to International Debts: An Economically Efficient Solution with a Human Face." *World Development*, 18(2): 301-313.

- Raffer, Kunibert. 2005. "The Present State of the Discussion on Restructuring Sovereign Debts: Which Specific Sovereign Insolvency Procedure?", in: UNCTAD (ed) *Proceedings of the Fourth Inter-regional Debt Management Conference*, UN: Geneva and New York.
- Reinhart, Carmen, Kenneth Rogoff, and Miguel Savastano. 2003. "Debt Intolerance." *Brookings Papers on Economic Activity*, 2003(1): 1–70.
- Reinhart, Carmen, and Kenneth Rogoff. 2009. *This Time is Different: Eight Centuries of Financial Folly*, Princeton: Princeton University Press.
- Reinhart, Carmen M. and Rogoff, Kenneth. Forthcoming. "From Financial Crash to Debt Crisis. *American Economic Review*.
- Richards, Anthony and Mark Gugiatti. 2003. "Do Collective Action Clauses Influence Bond Yields? New Evidence from Emerging Markets", *International Finance* 6 (3): 415-447.
- Richmond, Christine, and Daniel A. Dias. 2009. "Duration of Capital Market Exclusion: An Empirical Investigation." Unpublished Paper, UCLA.
- Rieffel, Lex. 2003. *Restructuring Sovereign Debt: The Case for Ad Hoc Machinery*. Washington, DC: Brookings Institution Press.
- Rogoff, Kenneth, and Jeromin Zettelmeyer. 2002. "Bankruptcy Procedures for Sovereigns: A History of Ideas, 1976–2001" *IMF Staff Papers*, 49(3): 470-507.
- Ronci, Marcio, 2005. Trade Credit and Financial Flows: Panel Data Evidence from 10 Crises. in: Wang, Jan-Yee and Marcio Ronci (Eds.), *Access to Trade Finance in Times of Crisis*. IMF, Washington, DC. pp. 24--38.
- Rose, Andrew K. 2005. "One Reason Countries Pay their Debts: Renegotiation and International Trade." *Journal of Development Economics*, 77(1): 189–206.
- Ross and Hansen (IMF 2006, p. 43)
- Roubini, Nouriel, and Brad Setser. 2004. *Bailouts or Bail-ins? Responding to Financial Crises in Emerging Economies*. Washington, DC: Institute for International Economics.
- Roubini, Nouriel and David Nowakowski. 2011. "CDS and Debt Restructuring: Does the Existence of Credit Derivatives Make Restructuring Harder?" RGE Anaylsis. April 21, 2011. Available at <http://www.roubini.com/analysis/153941.php>
- Roubini, Nouriel, 2010. "An Orderly Market-Based Approach to the Restructuring of Eurozone Sovereign Debts Obviates the Need for Statutory Approaches." RGE Anaylsis. Nov. 15 2010. Available at <http://www.roubini.com/analysis/138863.php>

- Sachs, Jeffrey. 1995, "Do We Need an International Lender of Last Resort?" Frank D. Graham Lecture at Princeton University, Vol. 8, April 20. Available at <http://www.earth.columbia.edu/sitefiles/file/about/director/pubs/intllr.pdf>
- Salmon, Felix 2004. "Stop selling bonds to retail investors" Unpublished Paper. Georgetown University.
- Sandleris, Guido. 2008. "Sovereign Defaults: Information, Investment and Credit." *Journal of International Economics*, 76(2): 267–275.
- Schwarcz, Steven L. 2000. "Sovereign Debt Restructuring: A Bankruptcy Reorganization Approach," *Cornell Law Review*, 85: 101–87.
- Shleifer, Andrei, 2003. "Will the Sovereign Debt Market Survive?" *American Economic Review*, 93(2): 85-90.
- Singh, Manmohan and Carolyne Spackman. 2009. "The Use (and Abuse) of CDS Spreads During Distress." IMF Working Paper 09/62, International Monetary Fund.
- Slovin, Myron and Subbarao Jayanti. 1993. "Bank capital regulation and the valuation effects of Latin American debt moratoriums," *Journal of Banking and Finance*, 17(1): 159-174.
- Standard & Poor's. 2006. "Sovereign Defaults and Rating Transition Data: 2006 Update." Available at [http://www2.standardandpoors.com/spf/pdf/fixedincome/KR\\_sovereign\\_SovDefaultsTransitionData2006.pdf](http://www2.standardandpoors.com/spf/pdf/fixedincome/KR_sovereign_SovDefaultsTransitionData2006.pdf).
- Standard & Poor's. 2007. "Introduction Of Sovereign Recovery Ratings", 12 June 2007 [http://www2.standardandpoors.com/spf/pdf/equity/Sov\\_Criteria.pdf](http://www2.standardandpoors.com/spf/pdf/equity/Sov_Criteria.pdf)
- Sturzenegger, Federico, and Jeromin Zettelmeyer. 2006. *Debt Defaults and Lessons from a Decade of Crises*. Cambridge, MA: MIT Press.
- Sturzenegger, Federico, and Jeromin Zettelmeyer. 2007. "Creditors Losses versus Debt Relief: Results from a Decade of Sovereign Debt Crises." *Journal of the European Economic Association*, 5(2-3): 343-351.
- Sturzenegger, Federico, and Jeromin Zettelmeyer. 2008. "Haircuts: Estimating Investor Losses in Sovereign Debt Restructurings, 1998-2005." *Journal of International Money and Finance*, 27(5): 780-805.
- Taylor, John, 2002. 'Sovereign Debt Restructuring: A US Perspective', Treasury News, Available at <http://www.treas.gov/press/releases/po2056.htm> (2 April).
- Tomz, Michael, and Mark L. J. Wright. 2007. "Do Countries Default in 'Bad Times'?" *Journal of the European Economic Association*, 5(2-3): 352–360.

Trebesch, Christoph. 2008. "Delays in Sovereign Debt Restructurings." Unpublished Paper. Free University Berlin.

Trebesch, Christoph. 2010. "Sovereign Default and Crisis Resolution." Dissertation. Free University Berlin.

Trebesch, Christoph. 2011. "Sovereign Debt Restructurings 1950-2010: A New Database." Unpublished Paper. University of Munich.

Unal, Haluk, Demirguc-Kunt, Asli and Leung Kwok-Wai. 1993. "The Brady Plan, the 1989 Mexican debt reduction agreement, and bank stock returns in the United States and Japan," *Journal of Money, Credit and Banking*, 25(3): 410-29.

Van Rijckeghem, Caroline, and Beatrice Weder. 2009. "Political Institutions and Debt Crises." *Public Choice*, 138(3): 387-408.

Waibel, Michael. 2007. "Opening Pandora's Box: Sovereign Bonds in International Arbitration." *American Journal of International Law*, 101(4): 711-59.

Waibel, Michael, 2011. *Sovereign Defaults before International Courts and Tribunals*. Cambridge: Cambridge University Press.

Wang, Jan-Yee and Marcio Ronci (Eds.), 2005. *Access to Trade Finance in Times of Crisis*. IMF, Washington D.C., International Monetary Fund.

Weder di Mauro, Beatrice and Jeromin Zettelmeyer (2010), "European Debt Restructuring Mechanism as a Tool for Crisis Prevention", VoxEU.org, 26 November. Available at <http://www.voxeu.org/index.php?q=node/5929>.

World Bank. 2002. "Global Development Finance 2002". The International Bank for Reconstruction and Development. The World Bank, Washington, D.C.

World Bank. 2007. "Debt Reduction Facility for IDA-Only Countries: Progress Update and Proposed Extension," Board Report 39310, Washington, D.C.

Yavorsky, Alexander, 2009. "Analyzing the Impact of Credit Default Swaps in Workout Situation." Special Comment, Moody's, June.

Yue, Vivian. 2010. "Sovereign Default and Debt Renegotiation." *Journal of International Economics*, 80(2): 176-187.