Debt Disputes

Measuring Government Coerciveness in Sovereign Debt Crises

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Abstract

This paper measures disputes between governments and private international creditors during sovereign debt crises. We develop an index of government coerciveness consisting of 9 objective sub-indicators. Each of these sub-indicators captures unilateral government actions towards banks and bondholders. The coding results provide the first systematic account of debt crises that goes beyond a binary categorization of default versus non-default. Overall, government behavior and rhetoric show a large variability, ranging from very uncooperative to very smooth crisis resolution processes. The dataset may be used to tackle a whole set of open research questions in the fields of sovereign risk and international political economy.

1. Introduction

In debt crises, governments face a crucial dilemma. They can, on the one hand, do everything to solve the crisis in consensus with its external creditors, for example by continuing to devote large shares of the budget to debt servicing and arranging a voluntary debt restructuring. On the other hand, they can also decide to take a more aggressive stance towards creditors, e.g. by halting negotiations and enacting a complete suspension of payments.

This political dilemma is as old as sovereign debt crises itself. Over the years, politicians in charge have found different answers to it, as the example of the recent debt crises in Uruguay and Argentina shows. Argentina's government in December 2001 declared its inability to pay its debt and took a very hard stance in the debt renegotiations until 2005. In contrast, the government in Uruguay did everything to show the financial community that it was different and worked out a quick and voluntary restructuring deal in 2003.

This paper presents a novel approach to measure disputes between governments and private international creditors during periods of financial distress. It provides the first comprehensive and systematic account of government behavior in debt crises that goes beyond a binary measure of default versus non-default. We measure coercive government behavior towards foreign banks and bondholders using a set of 9 sub-indicators. The sub-indicators are partly based on conceptual approaches by Roubini (2004) and Cline (2004) as well as on the IMF's "good faith" criteria and the IIF's "Principles of Fair Debt Restructuring". The resulting index is well suited to capture coercive behavior both in the 1980s, which was dominated by bank debt restructurings, and in bond restructurings. The database starts in 1980 and covers 31 developing countries with access to private financing that featured debt crises in this period. Our basis of coding was a thorough and standardized evaluation of more than 19,000 pages of articles from the financial press, of all main reference books and data sources on debt crises, and of numerous policy reports.

The main purpose of this paper is to present the index of government coerciveness in detail and portray main stylized facts from the resulting datasets. We discuss what can be learnt from the categorization of government behavior. We also present country and time averages, to understand whether some countries have shown consistently cooperative or conflictive behavior in crisis resolution and in

how far the 1980s debt crises differed from the more recent sovereign debt restructurings.

The paper is intended as the core reference source for future research drawing on the measurement approach or data. As indicated in Panizza, Sturzenegger and Zettelmeyer (2008), our index, which they call “procedural”, may be seen as a proxy for bargaining power of debtor governments. However, it may as well be regarded as a measure of “good” versus “bad” government types or as an indication of excusable versus inexcusable defaults - with high degrees of coerciveness signalling expropriative practices and unwillingness to pay. Accordingly, the dataset may be used to tackle a whole set of unanswered research questions in both economics and political science.

In how far do institutions and political economy constraints influence a government’s behavior towards international creditors during distress episodes? And what is the role of external or domestic economic factors on a sovereign’s negotiation behavior? Furthermore, there might be consequences of unilateral behavior, which have neither been analysed nor understood. Does coercive government behavior have negative consequences for the domestic economy, e.g. by affecting capital flows, international trade or private sector access to credit? It might also be insightful to test for reputational costs for the sovereign. Does an aggressive stance by governments towards private external creditors lead to capital market exclusion or a risk premium on debt issuances after the crisis? And what is the effect of government behavior on the outcome of debt restructuring negotiations, measured in terms of creditor losses or debt relief? Finally, policymakers and practitioners might also make use of the proposed index, e.g. by taking the historical data as a benchmark for “good faith” and fair restructuring procedures in future crises.

To summarize, the results show an impressive variance in government behavior and rhetoric towards private creditors, ranging from very uncooperative behavior to very smooth crisis resolution processes. The structure of the paper is as follows: Section 2 presents existing datasets and case studies on sovereign distress episodes and discusses previous attempts to categorize debt crises. Section 3 explains the “Index of Government Coerciveness” and each of its 9 sub-indicators in detail. Section 4 outlines the coding procedure and the datasets that resulted from it. Section 5 briefly presents some descriptive statistics and the main stylized facts revealed by the data. Section 6 concludes.

2. Related Literature

The empirical literature on sovereign debt crises has grown considerably over the last 10 years. Recent reviews, for example by Matchondo, Martinez and Sapriza (2007) and Panizza, Sturzenegger and Zettelmeyer (2008) show that there is a large body of research on the determinants of debt crises and an increasing number of publications concerned with the consequences of default. To explain the point of departure of this paper, this section provides an overview on data sources and definitions of sovereign default (2.1) as well as on previous attempts to categorize different types of debt crises (2.2). To complete the picture, we summarize the two main policy documents that define best practices for government behavior in default (2.3)

2.1 Quantitative Approaches: Debt Crisis Definitions and Existing Databases

The quantitative studies on sovereign debt crises have used different approaches and data sources to capture sovereign default events. The overwhelming body of articles relies on a binary coding of default vs. non-default. Most researchers construct such dummy default indicator either with data from Standard and Poor's or from the World Bank.

The S&P definition of default takes into account any payments missed on scheduled bond debt, notes or bills and on bank loan interest or principal (Standard & Poor's, 2006). On top of this, any exchange of new debt that contains less favourable terms than the original bond issue and any rescheduling of principal and/or interest at less favourable terms than indicated in the original contract will count as a default. Given its clear-cut definition and easy availability, the Standard and Poor's list of sovereigns in default has been widely used by researchers in the field (e.g., Borensztein and Panizza, 2006; Gelos, Sahay and Sandleris, 2004; Manasse, Roubini and Schimmelpfennig, 2003; Kohlscheen, 2007; Reinhart, Rogoff and Savastano, 2003; Rijckeghem and Weder, 2004).[2]

A further popular data source is a list of debt restructuring events compiled by the World Bank's Global Development Finance (GDF) team. It provides details on the date and terms of debt restructurings between debtor governments and commercial creditors in the past three decades, including voluntary debt buybacks

[2] Note that the S&P measure has been frequently combined with other data sources on default.

(The World Bank, 2003; 2004; and 2006).[3] Among the researchers who have relied on this list in recent work are Arteta and Hale (2008), Marchesi (2003), Detragiache and Spilimbergo (2001), and Saiegh (2005).

A series of researchers combine these two key sources with additional data and definitions. As an example, Detragiache and Spilimbergo (2001) consider those cases as defaults where: 1) the GDF list reports a restructuring agreement or 2) arrears of principal or interest on external obligations of a country towards commercial creditors (banks or bondholders) exceeds 5% of total commercial debt outstanding (based on data from the annual GDF database). Manasse, Roubini and Schimmelpfennig (2003) highlight the increasing importance of large rescue packages by official and multilateral lenders in recent debt crises. As a result, the authors define a country in default whenever the S&P criterion holds or if it receives a large non-concessional IMF loan (meaning in excess of 100 % of quota). Pescatori and Sy (2007) suggest a further measure for sovereign debt distress, which takes into account the changing nature of capital markets and restructurings. A sovereign is defined as distressed, whenever the sovereign bond spread surpasses a critical threshold, such as 1000 basis points above U.S. Treasuries. Lastly, authors such as Reinhart, Rogoff, Savastano (2003), Gelos, Sahay and Sandleris (2004) and Fostel and Kaminsky (2007) have supplemented the S&P list of defaults with information of Beim and Calomiris' (2001, pp. 32-36) qualitative list of debt crises events.[4]

2.2 Qualitative Approaches: Case Studies and Categorizations of Debt Crises

A number of authors have carried out extensive case study research on prominent financial crises and sovereign defaults in the last decades. [5] Main contributions on the 1980s debt crisis are Cline (1995), Aggarwal (1996), Boughton (2001) and Rieffel (2003). As to the more recent cases Roubini and Setser (2004), Andritzky (2006) and Sturzenegger and Zettelmeyer (2006) provide the most detailed accounts.

[3] However, the GDF-lists do not include cases of "restructuring undertaken voluntarily for the purpose of liability management by sovereigns, such as exchanges of previously existing debt with newly issued fixed income securities for cost effectiveness, among other benefits". (The World Bank 2003; 2004; 2006)

[4] Some authors focussing on bilateral capital or trade flows, take Paris Club data to measure default (e.g., Rose, 2005; Martinez and Sandleris, 2006). Such approach is not useful here, as our research clearly focuses on private, not on official debt restructurings.

[5] There are, of course, further historical accounts of sovereign debt crises which go back into the past centuries of sovereign lending such as Suter (1992), Eichengreen and Portes (1992), Stasavage (2007) or Tomz (2007).

In some of these monographs and in a series of further contributions, one can find attempts to categorize different types of debt crises and government behavior during crises. Aggarwal (1996), for example, suggests a categorization of negotiation outcomes depending on the preferences and strategies of debtor governments (which may commit to low or high fiscal adjustment) and creditors (asking for small or high policy concessions). He names four possible outcomes: 1) successful rescheduling, 2) debt repudiation, 3) unilateral adjustment, and 4) breakdown of negotiations.

Cline (2004) regards the outcomes of debt negotiations to vary on a continuum that is strongly influenced by government behavior. His attempt to categorize crises is focused on the degree to which private sector involvement (PSI) took place, or in other words, how much of the financial burden private investors had to shoulder at the end of the day. He defines three categories of PSI: spontaneous, quasi-voluntary and involuntary PSI. He then goes on and attributes a series of past crises and the instruments that served to resolve them to each of these categories.[6] His approach is a great step toward categorizing crises of the 1980s and today according to the degree of conflict and coerciveness that creditors face. Nevertheless, it seems difficult to apply his categorization to quantitative analysis because the categories lack preciseness and are thus hard to generalize.

Frankel and Roubini (2001), Roubini (2004) and Roubini and Setser (2004) share Cline's view to categorize crises and PSI on a spectrum of voluntary and more involuntary types. Roubini (2004) states that defaults such as in Argentina, Russia or Ecuador should be regarded as very coercive, while cases with large bail-outs (Mexico in 1995) or semi-voluntary rollover agreements (Brazil in 1999, Turkey in 2001) were "softer". Similarly, Roubini and Setser (2004, p. 373) categorize ways to enforce private sector crisis financing into "voluntary and catalytic means", "semi coercive" steps and "fully coercive" steps. In a similar vein, Andritzky (2006, p. 69) proposes a categorisation of modern-type debt restructurings in three categories, namely (i) debt swaps (ii) soft restructurings and (iii) hard restructurings. He then provides a table with typical characteristics and attributes recent cases to each category.

[6]The PSI instruments, in descending order of voluntariness and linked to past crises, are the following: spontaneous lending (Mexico 1994-95), foreign direct investment, maintenance of bank credit lines (Brazil 1999), medium-term conversion of bank credit lines (Korea 1998), London-Club rescheduling (1980s debt crises), London Club concerted lending/new money (1980s debt crises), bond exchange maintaining value (Pakistan, 1999, Ukraine, 2000, Argentina, 2001), Brady bond debt reduction (1980s debt crises), bond exchange and forgiveness (Russian GKOs 1998, Ecuador 1999), bonds rescheduled through collective action clauses, officially approved standstills (Ecuador 1999), outward capital controls (Malaysia 1997-98), as well as default and arrears (Latin America in the late 1980s, Indonesia, 1998, Russia and Ecuador 1999, and Argentina 2002).

2.3 Policy Documents on Government Behavior in Debt Crises

There are two widely acknowledged policy documents that contain criteria of best practices for sovereigns in default, one by the IMF and one by the Institute for International Finance (IIF). Both documents highlight the crucial role of government behavior in debt crises from a policymaking perspective..

In 1999, the IMF issued a revised version of its "Policy on Lending into Arrears to Private Creditors". The modification had the specific aim to reward governments that behaved cooperatively during debt crises. Concretely, IMF lending during crises was made conditional on a so called "good faith effort to reach a collaborative agreement with its creditors." IMF (1999, 2002). While the criteria remain relatively vague by and large, the IMF (2002) paper defines good faith efforts as efforts that aim to achieve broad creditor participation, a transparent debt workout process, as well as an early and continuous dialogue and negotiations with creditors. Furthermore, the policy asks governments to share of all nonconfidential information on macroeconomic and financial variables, the debt exchange offer and related government policies.

In a similar vein, the IIF in 2004 launched the "Principles for Stable Capital Flows and Fair Debt Restructuring in Emerging Markets" in the context of a worldwide policy campaign. In essence, the document aims to establish a voluntary code of conduct for both debtor governments and creditors to improve future debt restructuring and crisis resolution processes. Amongst others, the IIF principles were supported by the G7, the G20, the World Bank and the IMF and signed by over 30 countries (IIF, 2006). Similar to the IMF criteria, the Principles focus on transparency and information sharing, close cooperation and dialogue with creditors and vaguely defined "good faith actions".

2.4. Conclusions from the Literature

Most quantitative studies on debt distress limit the scope of government behavior to the question of whether there is a default or not. In contrast, very little is known on *how* countries resolve such distress episodes and on *how* they restructure their debt with private creditors. As shown in Panizza, Sturzenegger and Zettelmeyer (2008), the literature on debt crisis resolution processes and restructuring outcomes is only in its infancy. It therefore remains an open question why crises have been resolved in so different ways and what determines governments to act more or less cooperatively during the renegotiations. Similarly, it remains to be

explored which - potentially adverse - consequences coercive actions might have for the country's economy and long-run reputation.

As shown above, earlier categorization attempts have provided interesting insights in the crisis mechanics and on different types of government behavior during crises. The contributions by Cline, Roubini and others, as well as the IMF and IIF criteria of good faith efforts and fair restructuring practices, provided an excellent starting point for the research at hand. However, many of the proposed categories and criteria are not fully suitable for a consistent and replicable coding. Many criteria lack preciseness and categories are often built inductively, based on researchers' own judgement of past debt crises. In addition, many of the proposed categories are very closely linked to the actual instruments of crisis resolution. These, however, have varied considerably over time, making them difficult to generalize.

The aim here is therefore to develop a set of indicators of government behavior that are as objective and generalizable as possible.[7] The result is the first systematic account on how sovereigns restructured their debt and which degree of coerciveness they imposed on creditors in crises between 1980 and 2007.

3. The Index of Government Coerciveness in Sovereign Debt Crisis

This section discusses the construction of the index of government coerciveness from a conceptual point of view. The index consists of 9 sub-indicators. These are grouped in two broad categories of government behavior: "Indicators of Payment Behavior" and "Indicators of Negotiation Behavior". Each sub-indicator is a dummy, which is coded 1 if the respective action by the government is observed and zero otherwise. The final index is additive, meaning that all scores are summed up. The highest possible score during default is 9 and indicates the highest level of government coerciveness. A zero score - on the other extreme - indicates that the debt problem was resolved in a fully cooperative way without missed payments. Note again that throughout this paper we are concerned about government behavior towards private international creditors. Coercive actions that solely affect official creditors, IFIs or domestic banks or investments funds are not taken into account.

[7] The criteria should be valid for both bank debt and bond restructurings (see section 3.3.).

The 9 binary sub-indicators, discussed in detail below, are the following:

Indicators of Payment Behavior:

1) Payments missed (yes/no)
2) Unilateral payment suspension (yes/no)
3) Suspension of interest payments (yes/no)
4) Freeze on assets of non-residents (yes/no)

Indicators of Negotiation Behavior:

5) Explicit moratorium or default declaration (yes/no)
6) Explicit threats to repudiate on debt (yes/no)
7) Breakdown or refusal of negotiations (yes/no)
8) Data disclosure problems (yes/no)
9) Forced and non-negotiated restructuring (yes/no)

Data sources and specific coding issues are discussed in detail in the next section. The basis of coding was a thorough and standardized evaluation of more than 19,000 pages of articles from the financial press and of numerous policy reports, standard reference books and data sources on debt crises.

3.1. Indicators of Payment Behavior

The following four indicators capture government actions that have a direct impact on financial flows towards international banks or bondholders.

Payments missed

The natural starting point when measuring the payment behavior of a government during a debt crisis is to check whether it actually missed payments towards private creditors, or whether it was able to organize a restructuring before it breached its bond or loan contracts towards them. The category “payments missed” is coded 1 if the government missed interest or principal payments on bonds or loans. This includes cases in which the government arranged a temporary roll-over of debt payments, but it does not include missed payments that occurred within the grace period foreseen in the respective debt contract. Note that there are quite a few crisis cases in which the government was able to

avoid missed payments, e.g. Chile in 1984, Algeria in 1992, Uruguay in 1988 and 2003 or Ukraine in 2000. Some authors have used the expression of pre-default restructurings to define such crises (ECB 2005, Bedford, Penalver and Salmon 2005 or IMF 2006). As a result, we regard this category as an important proxy of how early and how efficiently a government solved its debt payment difficulties.

Unilateral payment suspension

A second, closely related issue is whether any payment suspension is agreed with creditors or not. Even in severe crises, a debtor government has the option to admit its payment difficulties before any payments are missed. Officials can seek a preventative interim agreement, such as a temporary debt roll-over or other forms of bridge financing. Payments that are withheld unilaterally and without warning creditors are a clear sign of non-cooperative, unilateral behavior. For this reason, we include the sub-indicator "unilateral payment suspension". It is coded 1 whenever the government incurs arrears unilaterally, without agreeing with its creditors on a payment deferral and/or if creditors are not notified of payment delays ahead of time. Although many payment suspensions are unilateral, there is a large number of exceptions: Roughly one third of debt deferrals and arrears were actually negotiated. Especially in the rescheduling deals of the early 1980s in Latin America and in Eastern Europe, temporary payment suspensions were often implemented with the approval of private creditors.

Suspension of interest payments

The suspension of interest payment has to be regarded as a separate indicator of payment behavior. A government that fully suspends interest payments sends a strong signal of its unwillingness to service its debt, even at a reduced pace. The IIF principles highlight the importance of partial debt servicing with regard to recent bond default cases.[8] Likewise, a key demand of commercial banks during the 1980s crisis was that debtor governments kept up at least partial interest payments.[9] Nevertheless, a series of debtor governments have explicitly ignored such demands and even rejected to make symbolic token payments on interest. Some exemplary cases are Argentina from 2002 to 2005, Brazil in 1987, Bolivia in 1984 or Jordan in 1990. We include a sub-indicator on the suspension of

[8] Concretely the Principles state that "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." (IIF 2006, p. 17).

[9] A key reason behind this demand was to avoid that national regulators classified the bank's sovereign loans as "value-impaired," obliging them to take a loss on their books (see Sachs, Huizinga and Shoven, 1987).

interest payments to take into account such particularly coercive stance. It is coded 1 in case the government suspends interest payments on sovereign bonds or public syndicated bank loans for more than 90 days in a given year. One should note that this does not apply to cases in which there is a mere ceiling of interest payments such as in Peru from 1986 to 1989 and Nigeria in 1986, or if interest payments are suspended on a fraction of debt only, such as in Russia in 1998.[10]

Freeze on assets of non-residents

In a series of crisis cases, governments issued emergency decrees in an attempt to counter capital flight and foreign exchange outflows. Such actions lead to an effective freeze of creditor assets in the country, which should certainly be regarded as coercive government behavior.[11] We therefore also include a sub-indicator "freeze on assets of non-residents". It is coded 1 for any kind of additional capital or exchange controls that are enacted during crisis years and that directly affect debt flows to foreign private creditors. Cases such as Argentina in 1982 or 2002, Russia in 1998 or Brazil in 1989 involved particularly tough capital controls, as the government explicitly prohibited private companies in the country to make any debt repayments to their foreign creditors. Other governments enacted harsh exchange controls that affected private sector debt repayments, e.g. in the Philippines and Venezuela in 1983, or Ukraine and Pakistan in 1998.

3.2. Indicators of Negotiation Behavior

The following 5 sub-indicators aim to capture the negotiation behavior and aggressive rhetoric of governments toward their international private creditors.

Explicit moratorium or default declaration

An official default or moratorium declaration is a particularly belligerent move of debtor governments. Usually, it is addressed to domestic audiences and aims to publicly shrug off international creditor demands underlining a government's national sovereignty and domestic expenditure priorities. An official declaration of default can be seen analogous to a declaration of war, and usually takes place

[10] The Russian government drew a sharp distinction between the foreign debts it had inherited from the Soviet Union and those borrowings it had assumed since becoming an independent sovereign country. While the government continued to service its post-1992 Eurobonds throughout the crisis, it fully suspended payments on its restructured Soviet-era debt.

[11] The IIF's Principles state that "Debtors should avoid additional exchange controls on outflows" (IIF 2006, p. 17). Similarly, Cline (2004) regards capital controls as a particularly coercive measure towards private creditors.

in an already very conflictive situation.[12] The sub-indicator is therefore coded 1 in case a key government actor officially proclaims the decision to default. It is interesting to note that most de facto moratoria were actually not officially declared. In most cases governments have avoided such drastic step and incurred arrears or started debt renegotiation silently and without an official proclamation. The most famous example of a recent "war" declaration towards private creditors was certainly the default announcement of Argentine interim President Adolfo Rodriguez Saá on 24 December 2001, which was "celebrated in Congress as a victory" (Sturzenegger and Zettelmeyer, 2006, p. 182). Unilateral declarations of this type have also been made in a number of earlier cases, for example in Ecuador in 1987 and 1999, Bolivia in 1984, Peru in 1985 or Russia in 1998. An interesting case is Brazil, which first declared an official moratorium in 1987, which led to a drastic drop of international capital flows to the country. After the government returned to the negotiation table and resumed payments in 1988, it again fully suspended payments in 1989. This time, however, the government was keen to avoid some of the drastic consequences of its first moratorium and repeatedly assured that it had not officially declared a moratorium and that all debt would eventually be paid back. The press at the time termed Brazil's silent payment suspension as a "white moratorium".[13]

Explicit threats to repudiate on debt

A common, obviously non-cooperative move of governments during or before debt restructurings is to issue explicit threats to repudiate on debt. Such threats are often made to increase pressure on creditors for additional funding or to enforce better debt restructuring terms. The sub-indicator is coded 1 if a key government actor, namely the President, the Prime Minister, the chief debt negotiator or Ministers of Finance, Economy or Planning, publicly threatens to repudiate on debt or to impose a unilateral moratorium. Such threats, often issued by populist governments, are normally widely reported in the press and use to have a major public impact. In many cases threats did eventually lead to unilateral default, e.g. in Jordan in the wake of the first Iraq war or Bolivia in 1983/84. In other cases the threat was ultimately not followed by a unilateral default e.g. in Ecuador in 1982, Mexico in 1986 and 1989, Ukraine in 1998 or Moldova in 2002. A further interesting example is Chile in 1986, where Pinochet responded to US human rights pressure with a threat to default on the voluminous credits of major US banks.

[12] In a widely cited article by Jones, Bremer and Singer (1996) an official war declaration is coded as a particularly hostile government action.
[13] We obviously code the "white moratorium" as 0.

Breakdown or refusal of negotiations

A close dialogue with creditors and efficient negotiations are a vital part of cooperative government behavior during debt crises (see, among others, the above-mentioned IIF and IMF documents).[14] We therefore include an indicator that captures (i) the refusal of governments to engage in early negotiations with creditors and (ii) delays or even breakdowns in debt negotiations of more than 3 months that are caused by unilateral government behavior. Note that delays that are caused by creditor coordination failure or outright inter-creditor disputes are not coded. Lengthy negotiations delays or negotiation stalemates are common and usually take place in the context of elections (e.g. Philippines 1992, Dominican Rep. 1994 and 2004), the government's refusal to adopt an IMF program (Nigeria 1984, Venezuela 1983) or the government's rejection to assume a formal guarantee on sovereign debt stocks (Morocco 1983-85, Russia 1993-95, Bulgaria 1990-92). In all such circumstances, the delay in the negotiation process is a clear sign of less cooperative government behavior vis-à-vis the private creditors.

Data disclosure problems

As a further proxy for negotiation behavior, we include a sub-indicator that is coded 1 if the government explicitly refuses to provide timely information on crucial negotiation related issues or if there is a dispute with creditors due to the provision of grossly inaccurate data. The provision of accurate macroeconomic and financial data by debtor governments is of high importance for private creditors seeking to understand the debtor government's financial stance and repayment capacity, in order to evaluate any potential restructuring offers. Correspondingly, information sharing is regarded as a crucial element of fair and faithful crisis resolution efforts by both the IMF and the IIF.[15] Data disclosure disputes were of high importance in the 80s e.g. in Brazil in 1987 , Nigeria 1983, or the Philippines in 1983, when the government rejected to disclose the true

[14] Critical conditions for IMF lending into arrears include that "(ii) negotiations between the member and its private creditors had begun; and (iii) there were firm indications that the sovereign borrower and its private creditors would negotiate in good faith on a debt restructuring plan." (IMF 2002, p. 6). Similarly, the IIF's Principles state that "Debtors and creditors agree that timely good faith negotiations are the preferred course of action" (IIF 2006, p. 16).

[15] The IIF's Principles regard the dissemination of accurate and timely data/information as a key element of best practice investor relations (IIF 2006, p. 15). The IMF's good faith efforts include a criterion that "Debtor governments should share relevant, non-confidential information with all creditors on a timely basis, which would normally include: - An explanation of the economic problems and financial circumstances that justify a debt restructuring; (…) - the provision of a comprehensive picture of the proposed treatment of all claims on the sovereign, including those of official bilateral creditors (…)" (IMF 2002, p. 10).

amount of exchange reserves or debt arrears. During the 1990s there were cases such as Peru in 1996, where President Fujimori refused to reveal the country's unofficial debt buy back operations, calling it a matter of "state security". More recently, the government of Russia shrugged bondholders in 1999 by for an extended period of time rejecting to share key details of the restructuring offer, even after it was launched. Contrarily, information on the the recent restructurings in Uruguay in 2003 and in Belize 2007 strongly emphasizes the proper provision of information on macro-economic fundamentals and specific matters related to the debt work-out.

Forced and non-negotiated restructuring

Lastly, we consider, whether the restructuring was ultimately negotiated or not. This indicator captures instances (i) where the government enforced a fully unilateral restructuring or (ii) where the government issued a non-negotiated offer on a final agreement. Both the IMF and the IIF highlight the importance of negotiating a restructuring offer ex-ante and to gain the acceptance of creditors before any offer is launched.[16] Actually, while most modern-type bond restructurings involve a final, unilateral offer that is usually not amended after it is launched, even those offers can be the result of a coordination and negotiation process. For example, as Bedford, Penalver and Salmon (2005, p. 95) state, "in several cases — notably Uruguay and the Dominican Republic — the launch of the exchange offer was preceded by a period of consultation between sovereign debtor and creditor representatives." This sub-indicator thus aims to differentiate between cases involving close creditor consultations and other restructurings, e.g. in Argentina in 2001 or 2005, where the government rejected to engage in close negotiations before putting the offer to the market. Additionally, we aim to capture cases of forced restructurings such as in Peru 1986 and Nigeria 1990/91, where the government unilaterally decided to lower the interest rate on debt, or a case such as Argentina in 1982, where the government unilaterally restructured debt owed by the private sector without any prior consultations.

[16] The IMF (2002, p. 10) states that a debtor government "should provide creditors with an early opportunity to give input on the design of restructuring strategies and the design of individual instruments". Similarly, the IIF (2006, p. 17), demands that "restructuring terms should be subject to a constructive dialogue focused on achieving a critical mass of market support before final terms are announced."

3.3. Accounting for the Change from Bank to Bond Restructurings

There are many differences between debt crises in the 1980s and more recent ones. The relative decline of syndicated bank loans and the parallel rise of bond financing have lead to substantial changes in debt restructuring processes and in the relation between governments and creditors. Despite these differences, we share the approach of Cline and others that a general categorization of debt crises over time is both possible and desirable.

A main aim was therefore to define the above criteria as general enough to account for changes in debt restructuring characteristics. The exact type of data disclosure problems, asset freezes or threats might have changed over time, but the general idea to capture such events is the same for both 1980s and more recent cases. Also other indicators such as that on payment behavior, on negotiation breakdowns or on non-negotiated restructurings should not be seriously distorted by changes in the exact restructuring process or creditor characteristics.

4. Coding and Resulting Datasets

This section describes the information sources and the procedure for coding the above 9 variables, as well as the datasets that result from it.

4.1. Case Selection

Generally, we started to code cases from 1980 on.[17] Regarding the selection of countries, our list initially included all 136 developing and emerging economies in the Global Development Finance database. Obviously, there was no need to code countries, which did not feature a default since 1980. Given our focus on disputes between debtor governments and private creditors, we decided to exclude the poorest, least developed countries (LDCs).[18] The rational for excluding low income countries is that they usually have very limited access to private financing and government lending tends to be heavily dominated by debt to official creditors such as donor governments or the IMF.[19] Obviously, the information

[17] The main reason for this is the difficulty of gathering sufficient information on government behavior in debt crises before 1980.

[18] The main selection criterion was the United Nations definition of Least Developed Countries. Further non-LDC defaulters not considered were the low-income countries of Cameroon, Congo, Ghana, Guyana, Honduras, Kenya, Mongolia, and Zimbabwe and countries of former Yugoslavia (Bosnia and Herzegovina, Croatia, Macedonia, Serbia and Montenegro, Slovenia).

[19] The debt restructuring process in these countries is mostly dominated by Paris Club and IMF talks while commercial creditors play a less important role. Moreover, negotiations with private

base for coding was more comprehensive for large countries and default cases. To avoid a small country bias in coding we therefore excluded a number of countries from our dataset for which not enough information was available, even though they are not regarded as LDCs.[20] Ultimately, we ended up coding cases in 31 countries, which featured a sovereign debt crisis since the year 1980. Table 1 in the Appendix provides an overview on the default periods covered, corresponding to 251 yearly events.[21]

Subsection 4.1. outlines the sources and coding procedures. In subsection 4.2. we then describe our year-by-year dataset, which covers the 9 indicators for each individual year in which a given government was in default. As an alternative approach, we provide a second dataset, described in Section 4.3., which codes the 9 indicators for each agreement that was signed.

4.2. Sources and Coding Procedure

The starting point of coding were the two "classic" sources on debt crises cases used in the literature: The list of sovereign bond and loan restructurings in the World Bank's GDF reports (World Bank 2003, 2004 and 2006) and the inventory of sovereigns in default by Standard and Poor's (2006).[22] Using these sources we set up a list of debt crisis and restructuring episodes (see Table 1 and Table 2), for which we then gathered comprehensive additional information to measure our sub-indicators of government behavior during the crisis. A list of data sources for each sub-indicator is provided in Table 3 in the Appendix.

The most rewarding general information source for detailed crisis information turned out to be the print-media. As stated, debt crises are highly publicized events. Particularly the financial press provides extensive and detailed day-to-day

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creditors usually cover only small debt amounts and receive little attention in the press and in the literature. This makes it extremely difficult to draw any meaningful conclusions about public-private negotiations. Besides, Lex Rieffel notes that private financing follows a very different logic than financing by governments or IFIs: "commercial bank lending and bilateral donor agency lending are functionally quite distinct. The daily business of commercial banks is to make profit by pricing and managing credit in a huge global market place. (…) By contrast bilateral donor agencies make loans to developing country borrowers to advance various foreign policy objectives: economic growth, alleviation of poverty, regional stability, civil order, and the like" (Rieffel, 2003, p. 105).

[20] These are Côte D'Ivoire, Gabon, Iran, Nicaragua, Trinidad und Tobago and Vietnam. The information available from the press and other sources on the 1980s and 1990s debt crises in these countries was not comprehensive enough to allow for objective and reliable coding. In contrast, small country debt restructurings of more recent years (e.g. Dominica, Grenada, Moldova) were much better covered by the press and by detailed official policy reports.

[21] Note that we included the Republic of Yugoslavia in our sample but decided not to code the defaults of the early 1990s in its follow-up Republics.

[22] We also took into account the IIF's list of restructurings (IIF 2001) and with Stamm (1987).

coverage on the entire negotiation and restructuring process during crises including any missed payments, unilateral government actions and rhetoric. We therefore followed the example of other researchers in the debt crisis literature, notably Suter (1992), Ozler (1993), Aggarwal (1996) and Arteta and Hale (2008), and relied on flagship media sources to gain much of the desired additional information.

Concretely, we used the online news database *factiva* and restricted our standardized search to six flagship media sources: The Financial Times, Reuters, the Wall Street Journal, Dow Jones News Service, the New York Times and Associated Press. [23] The search algorithm that proved to be most efficient was "countryname w/10 debt".[24] Based on this search algorithm we then extracted all relevant articles into backup-documents for each crisis episode.[25] The next step was to extract the relevant pieces of information from the backup-documents by actually reading the articles therein. Altogether, we gathered and systematically evaluated more than 19.000 pages of articles from the financial press. [Note that all of these articles, including the selection of the relevant and cited information therein, can be made available upon request once the database is published.]

To complement and verify the information found in the standardized print media search, the information was cross-checked with those standard reference books in the field that contained rich information on specific crisis cases (Cline, 1995; Aggarwal, 1996; Boughton, 2001; Roubini and Setser, 2004; Rieffel, 2003; Andritzky, 2006; Sturzenegger and Zettelmeyer, 2006).[26] Much of the crisis insights in these important book publications are based on expert knowledge and detailed policy documents, thus complementing the newspaper sources with hands-on information. We also took into account a series of reports and papers by international financial institutions on the issue (Williams et al. 1983 ; Kincaid et al., 1985 ; Laursen and Fernandez-Ansola, 1995; Piñón-Farah, 1996 ; IMF 2001,

[23] Factiva covers the following sources in full text: *Associated Press* January 1985 – Sept. 2003, *Dow Jones News Service* June 1979 – today, *Reuters News* 1987 – today, *Financial Times London* 1 January 1982-today, *New York Times (NYT*, metropolitan edition*)* 1980 – today, *Wall Street Journal* January 1984 – today and abstracts from 13 June 1979 – 1 January 1984. Note that for a few cases in the early 1980s we also retrieved some articles of the NYT and abstracts of the WSJ from the online database LexisNexis. For a few cases, where information was less complete we verified our coding based on additional articles from other renowned source such as the Washington Post, the BBC, the LDC Debt Report or the publication Latin American Weekly.

[24] The algorithm relies on a so called proximity connector. It identifies all articles in which the respective country name appears a maximum of 10 words away from to the word "debt".

[25] In case of continued negotiations and several follow-up crises, such as during the 1980s, we combined several restructuring events in one Backup-Document, which then covered up to 10 years of a crisis.

[26] Sturzenegger and Zettelmeyer (2006), as an example, present deep insights into crises since 1998, namely the ones in Russia, Ukraine, Pakistan, Ecuador, Argentina, Moldova, Uruguay and the Dominican Republic.

2003, 2006, ECB 2005).[27] Further valuable sources were the comprehensive lists of debt restructurings by Stamm (1987) and the IIF (2001) and the list of major policy events in developing countries by Henry (1999).[28]

Lastly, we used additional standard information sources for coding the sub-indicators on payment behavior. For the sub-indicator "payments missed" and the sub-indicator "suspension of interest payments" we relied on data on interest payments and arrears from the GDF (2007) database. For the indicator on asset freezes we drew on the IMF's "Report on Exchange Arrangements and Exchange Restrictions" by systematically evaluating the annual volumes from 1980 to 2006.

The entire evaluation was completed over a period of 12 months by a team of two researchers and nine student research assistants. To minimize errors, each case was coded independently by at least two people on the basis of the same sources and procedures. The coding results for each sub-indicator were discussed with the entire team only at a final stage. Generally, the very rich press coverage on the crises allowed evaluating government actions and related facts and events based on more than 3 and in some cases up to 20 or 30 news sources. To guarantee transparent and replicable coding, we justify each coding decision by summarizing the underlying facts in one or two sentences. The explanatory sentences are then backed with precise quotes from the original press articles, books or papers.

4.3. Year-by-Year Dataset

The year-by-year dataset is our primary dataset. For the selected countries, it provides indicator values for every debt crisis year since 1980. Its main advantage is that it captures year-by-year fluctuations in government behavior, which could be explained by elections, changes in economic conditions or external shocks. Additionally, it allows for cross-country panel analysis.

We consider those years as crisis episodes in which a government was in default according to the S&P definition or in which debt renegotiations or debt restructuring efforts took place. To construct a list of default years, we first took

[27] In some cases we also drew on further country-related publications such as Buchheit and Karpinski (2007), IMF Country Reports or IMF Poverty Reduction Strategy Papers (all sources are cited in detail in the datasets).

[28] Stamm (1987), which is available in German only, contains a very detailed list of restructurings, debt rollovers and new money deals between 1956 and 1987 and information on the negotiation process with official and private creditors. Henry (1999) provides a list of major policy events in developing countries from the mid 1970s to the mid 1990s that was used, amongst other, for the published article Henry (2000).

the S&P list of defaults. Secondly, we relied on information from the press on the start of debt restructurings talks. Note that this second step assures that we also provide indicator values for country-year-events of pre-default negotiations. The reason is that we regard the beginning of negotiations or restructuring efforts as an obvious sign that a government is having severe payment difficulties (see Arteta and Hale, 2008, for a similar argumentation). Accordingly, the successful implementation of a restructuring deal – be it with banks or bondholders – is defined as the end of the crisis episode. In fact, the successful completion of the deal usually marks the point in which the relationship between debtor governments and creditors is normalized again. Altogether, 251 country-year events in 31 countries were coded (see Table 1 in the Appendix).

Recall that for the year-by-year dataset we have coded each of the 9 sub-indicators on a yearly basis. This also means that we consider coercive actions that are ongoing. This is relevant for the case of a moratorium declarations or newly enacted capital controls. In fact, we continue to code these as 1, as long as they are not revoked or phased out. In contrast, variables such as forced restructurings or explicit threats will only be coded for those years in which a restructuring or a threat actually took place.

4.4. Agreement-based Dataset

The agreement-based dataset focuses on government behavior with regard to each individual restructuring deal. We cover 103 sovereign debt restructuring agreements in 31 defaulting countries since 1980. Table 2 in the Appendix provides a detailed overview and specifies the type of each restructuring covered. Every sub-indicator is coded for the entire period leading to the respective agreement. The considered time span for each case starts with the default event or the beginning of debt restructuring talks with private creditors (as reported in the press). It ends with the successful agreement of the deal, as reported in the above cited lists of debt restructuring agreements and/or in the press. Note, that only deals that are ultimately implemented and no interim or principal agreements are covered.

To better understand the difference between the first and second dataset, take the example of the Argentinean debt crisis from 2001 to 2005. The year-by-year dataset simply provides an index value and the respective sub-indicator values of government behavior towards any creditor group from 2001 to 2005. The agreement database, instead, provides an index value for each restructuring deal and creditor group in this period, namely the Megaswap of June 2001, the

domestic bond restructuring in Oct. 2001 and the global restructuring completed in 2005.

The main advantage of the agreement-based dataset is that it allows to differentiate between various agreements in a given debt crisis period, even if they occurred in the same year. This is particularly advantageous for recent debt crises, which often featured separate deals for different creditor groups (domestic bondholders, international bondholders or commercial banks). In the construction of this dataset, we have therefore explicitly disentangled government behavior depending on the type of creditor or deal which it related to. This approach yields some additional insights as will be seen in the next section.

5. Results and Stylised Facts

When comparing our results to insights and analyses in the existing literature, our index appears to be a valid proxy for government behavior; "Tough" negotiatons, "hard" restructuring cases and non-cooperative behavior as reported for specific crises by Aggarwal (1996), Cline (1995 and 2004), Boughton (2001), Roubini and Setser (2004) or Andritzky (2006) have a high index value (of at least 4) according to our coding results. Additionally, our categorization of prominent cases corresponds to casuistic evidence in the press and to the judgements of a number of experienced Wall Street and policy experts in New York and Washington D.C..[29]

As can be seen from the original data, each sub-indicator displays enough variability to be included in the index (Table 4 in the Appendix provides some descriptive statistics). Additionally, the correlation between each of the individual sub-indicators is relatively low in most cases, so that the sub-indicators can bee seen as sufficiently independent from each other (see Table 5 in the Appendix). In the following figures and tables we now provide some descriptive statistics and stylized facts derived from the country-year dataset of 251 yearly events.

Over half of our yearly sample consists of default events from the 1980s. This reflects the fact that the 1980s saw a global wave of debt defaults in developing countries and also a large number of rather preliminary rescheduling deals, which often had to be renewed in new rounds of negotiations (See Chuhan and

[29] A series of interviews in New York and Washington, D.C. was carried out by our research team in early 2007.

Sturzenegger, 2005). Contrarily, the debt crises episodes in recent years were usually quite short, spanning over a period of one or two years only.

[Figure 1 about here]

As can be see in Figure 1 in the Appendix, the average degree of coerciveness is fairly stable, with *no clear trend over time*.[30] Looking at the past three decades of debt defaults separately, it turns out that, on average, sovereign defaulters behaved less coercively during the 1980s (average of 2.37) compared to the era of Brady deals from 1990 to 1997 (average of 2.80) and the post-Brady era of bond restructurings from 1998 to 2006 (average of 2.80). More specifically, there is a notable increase in average coerciveness from 1987 on, when many countries were already in default for several consecutive years. It is also worth indicating, that the average index value shows a much more volatile pattern after 1998. As argued by Panizza et al. (2008) the higher index volatility for that period might be due to changes in creditor composition or in the international legal environment.[31]

[Figure 2 about here]

Regarding the *regional distribution*, the defaults in Latin America and the Caribbean clearly dominate our sample.[32] The region displays numerous very coercive but also many consensual crisis resolution processes. Keeping in mind the large difference in the number of observations, the degree of coerciveness is relatively low in crises in Europe and Central Asia, the Middle East, North Africa and Asia (all below the weighted mean of 2.5). In contrast, governments in Latin America and Sub Saharan Africa showed a more coercive negotiation stance on average. Figure 2 provides an overview on the regional distribution of the index.

[Table 6 about here]

We also calculated the *index average for each country* separately. This yields some additional insights, as can be seen in Table 6. Countries like Uruguay, Chile, Morocco or Mexico showed a cooperative stance throughout extended periods of sovereign debt distress. In contrast, governments of countries like Russia, Nigeria or Peru displayed repeatedly coercive behavior over many years.

[30] Obviously, outliers have a stronger effect on the average index value when the frequency of crises is low. This explains the larger variability in recent years.
[31] The authors acknowledge, however, that the higher volatility might as well be due to the smaller number of defaults.
[32] We coded 15 defaulting countries in Latin America and the Caribbean and 16 countries in the rest of the world.

An interesting pattern is that countries that opted for unilateral behavior during the commercial bank restructurings of the 1980s, also tended to behave non-cooperatively during default periods of the 1990s and in more recent cases of sovereign bond defaults (e.g. Ecuador, Argentina). Apparently, some serial defaulters (see Reinhart et al., 2003) also display serial patterns of coercive behavior.

[Table 7 about here]

It is also worth to highlight a number of *particularly coercive crisis cases* listed in Table 7. The well known case of Argentina from 2002 to 2005 displays an exceptional degree of coerciveness, as the government officially declares a default, sticks to the proclaimed moratorium by stopping all payments to its bondholders for 4 years, freezes foreign assets and rejects to engage in any meaningful negotiations with its creditors.

In the case of Brazil of 1987, President Sarney decides to declare a unilateral moratorium and breaks off any negotiations with banks amid a serious political and economic crisis. The moratorium is accurately prepared, to a degree that Brazilian oil tankers were ordered to sail from foreign ports to deter sequestration.[33] After massive capital flight, a sharp drop in foreign investments and heavy political intervention by the United States government, President Sarney agrees to a series of cooperative interim agreements with official and private creditors in 1988 and publicly admits that his unilateral debt policy had been a mistake ("the worst the government had ever committed").[34] Nevertheless, after a devastating result for his party in municipal elections and facing eroding popularity, Sarney again adopts a fully unilateral stance towards international creditors in 1989.

In Nigeria of 1990 the military administration of President Ibrahim Babangida proclaims a ceiling on debt payments and decides to unilaterally reduce the rate of interest payments on its commercial debt. The government remains in deadlock both with commercial and official creditors (Paris Club), adopts an aggressive rhetoric and engages in extensive, but undercover buy-back operations on the secondary market on which it rejects to provide any information. Peru from 1985 to 1989 is a further prominent case of coercive government behavior. Already in his inauguration speech as President in 1985, Alan Garcia declares his intention to impose a ceiling on debt payments and to abort negotiations with the IMF and

[33] Financial Times, 23 February 1987.
[34] Financial Times, 4 February 1988.

private creditors. Until the end of his term in 1989, Garcia remains "the bad boy of the international debt problem"[35] and adopts an entire range of coercive actions.

Finally, some stylized facts from the agreement-based dataset can be presented. A list of coded restructuring *agreements since 1999* is provided in Table 8 in the Appendix. As can be seen, there have been 13 restructuring cases of sovereign foreign currency bonds since 1999. Additionally, there have been 6 restructurings of domestic currency bonds (which were partly held by foreign creditors) and of debt held by foreign banks. As stated, we disentangled the government's behavior in the differing negotiation rounds and with regard to the different creditor groups before each of the agreements. Note that, despite the clear focus on government behaviour towards foreign creditors, domestic restructuring were explicitly considered. The reason why domestic restructurings were coded since 1998 is that foreign creditors constituted a main creditor group in the domestic debt markets of emerging market countries in recent years.

The coding results indicate that the foreign bond restructurings since 1999 were, on average, characterized by a relatively low degree of coercive behavior (average of 1.77). Apart of the bond restructurings in Argentina (2005) and Ecuador (2000), no agreement displays an index value higher than 3. However, the situation looks quite different with regard to other types of restructuring agreements. The domestic and bank debt restructuring negotiations in the Dominican Republic (2006), Moldova (2004), Pakistan (1999) and Russia (1999) all display a significantly higher degree of coerciveness than the parallel negotiations with foreign bondholders.

As a last exercise, we focus on the link between creditor losses ("haircuts") and government coerciveness. Due to the lack of reliable haircut estimates, we lay attention to the post 1998 cases, for which valid figures have been provided by Sturzenegger and Zettelmeyer (2007, 2008). A rough evaluation of at the data reveals that there seems to be a correlation, although it might be weaker than expected (see also Figure 3 in the Appendix). The international bond restructurings in Ukraine, Ecuador and Pakistan all feature a haircut of about 30 percent. Yet, the forign bond restructurings in Ukraine and Pakistan show a low degree of coercive behavior, while Ecuador shows a very high index value. Similarly, the exchanges of international promissory notes (PRINs/IANs) in Russia feature a moderate degree of coerciveness, but involved a large haircut of

[35] Wall Street Journal, 24 March 1986.

over 50%. For Argentina and Uruguay the picture is clearer. Argentina's restructurings in Oct. 2001 and April 2005 both feature a high index value and a sizable haircut, while the international bond exchange in Uruguay of 2003 features both a low degree of coerciveness and a small haircut of only 12.9%. Further, more rigorous analysis with data going back to the 1980s is needed to better understand the relation between the government actions during negotiations and the actual outcome of the deal in terms of debt relief and creditor losses.

6. Conclusion

This article provides the first comprehensive and systematic account of government behavior during debt crises that goes beyond a binary measure of default versus non-default. We assess *how* sovereigns resolve debt crises and which coercive actions they impose on their private international creditors during default and restructuring episodes.

Overall, we find a strong variability in government coerciveness across space and time. A comparison with related research and anecdotal evidence suggests that the choice and definition of the sub-indicators is well suited to capture government coerciveness in debt crises. This is true both for the 1980s and for domestic and foreign bond restructurings of more recent years. The categories are general enough to accommodate changes in restructuring mechanisms, instruments, actors and third party policies such as those of the IMF. Most likely, the sub-indicators may also be suitable to assess historical debt restructurings of the 19th and early 20th century and in future instances of sovereign default.[36]

A number of key findings can be reported: First, on average, governments behaved somewhat more cooperatively during the 1980s debt crisis than during the Brady and Post-Brady era. The volatility of the index has increased since 1998, with the Argentinean bond restructuring of 2001-2005 as a notable outlier of particularly coercive behavior. Second, there seem to be serial patterns of coerciveness. Countries with governments that adapted a conflictive stance in the 1980s also tended to show unilateral government behavior in more recent restructuring cases. Third, there are important differences regarding the type of debt restructured. On average, recent bank debt and domestic bond restructuring agreements were of more conflictive nature than foreign bond restructurings.

[36] As an example, Tomz (2007, p. 75) highlights that analysts in the 1920s already judged defaulting governments according to their "good faith".

Finally, the paper provides a first, rather indicative insight that there is no simple relationship between the degree of government coerciveness and the ultimate outcome of negotiations in terms of creditor losses and debt reduction.

Appendix

Table 1: Countries and Periods Covered (Year-by-Year Dataset)

Albania	1991-1995	**Nigeria**	1982-1991
Algeria	1991-1996	**Panama**	1983-1996
Argentina	1982-1993	**Pakistan**	1998-1999
	2001-2005	**Peru**	1983-1997
Belize	2006-2007	**Philippines**	1983-1992
Bolivia	1980-1993	**Poland**	1981-1994
Brazil	1983-1994	**Romania**	1981-1983
Bulgaria	1990-1994		1986
Chile	1983-1990	**Russia**	1991-2000
Costa Rica	1981-1990	**South Africa**	1985-1987
Dominica	2003-2005		1989
Dom. Rep.	1982-1994		1993
	2004-2005	**Turkey**	1981-1982
Ecuador	1982-1994	**Ukraine**	1998-2000
	1999-2000	**Uruguay**	1983-1991
Grenada	2004-2005		2003
Jordan	1989-1993	**Yugoslavia**	1983-1988
Mexico	1982-1990	**Venezuela**	1982-1990
Moldova	2002		
Morocco	1983-1990		

Note: Altogether, the year-by-year dataset covers 251 country-year events.

Table 2: Restructuring Deals Covered (Agreement-Based Dataset)

	Final Agreement	Restructuring Type
Albania	1995	Bank Debt Reduction
Algeria	1992	Bank Debt Rescheduling
Algeria	1996	Bank Debt Rescheduling
Argentina	1982	Concerted Lending
Argentina	1983	Concerted Lending
Argentina	1985	Bank Debt Rescheduling
Argentina	1987	Bank Debt Rescheduling
Argentina	1993	Brady Deal
Argentina	2001 (June)	Megaswap'
Argentina	2001 (Oct.)	Domestic Bond Restructuring
Argentina	2005	Foreign Bond Restr. (Global)
Belize	2007	Foreign Bond Restructuring
Bolivia	1988	Bank Debt Reduction
Bolivia	1993	Bank Debt Reduction
Bosnia	1997	Bank Debt Reduction
Brazil	1983	Bank Debt Rescheduling
Brazil	1984	Bank Debt Rescheduling
Brazil	1986	Bank Debt Rescheduling
Brazil	1987	Bank Debt Rescheduling
Brazil	1988	Bank Debt Rescheduling
Brazil	1991	Conversion of Interest Arrears
Brazil	1994	Brady Deal
Bulgaria	1994	Brady Deal
Chile	1984	Bank Debt Rescheduling
Chile	1986	Bank Debt Rescheduling
Chile	1987	Bank Debt Rescheduling
Chile	1988	Bank Debt Rescheduling
Chile	1990	Bank Debt Rescheduling
Costa Rica	1983	Bank Debt Rescheduling
Costa Rica	1985	Bank Debt Rescheduling
Costa Rica	1990	Brady Deal
Dominica	2004	Foreign Bond Restructuring
Dominican Rep.	1986	Bank Debt Rescheduling
Dominican Rep.	1994	Brady Deal
Dominican Rep.	2005 (July)	Foreign Bond Restructuring
Dominican Rep.	2005 (Oct.)	Bank Debt Rescheduling
Ecuador	1983	Bank Debt Rescheduling
Ecuador	1985	Bank Debt Rescheduling
Ecuador	1994	Brady Deal
Ecuador	2000	Foreign Bond Restructuring
Grenada	2005	Foreign Bond Restructuring
Jordan	1993	Bank Debt Rescheduling
Mexico	1983	Bank Debt Rescheduling
Mexico	1985	Bank Debt Rescheduling
Mexico	1987	Bank Debt Rescheduling
Mexico	1990	Brady Deal
Moldova	2002	Foreign Bond Restructuring
Moldova	2004	Conversion of Gazprom Notes
Morocco	1985	Bank Debt Rescheduling
Morocco	1987	Bank Debt Rescheduling
Morocco	1990	Bank Debt Rescheduling
Nigeria	1983	Trade Debt Rescheduling
Nigeria	1984	Trade and Bank Debt Resch.
Nigeria	1987	Bank Debt Rescheduling
Nigeria	1989	Bank Debt Rescheduling
Nigeria	1991	Brady Deal
Pakistan	1999 (July)	Bank Debt Restructuring
Pakistan	1999 (Dec.)	Foreign Bond Restructuring
Panama	1983	Bank Debt Rescheduling
Panama	1985	Bank Debt Rescheduling
Panama	1994	Foreign Bond Restructuring
Panama	1996	Brady Deal
Peru	1983	Bank Debt Rescheduling
Peru	1997	Brady Deal
Philippines	1986	Bank Debt Rescheduling
Philippines	1987	Bank Debt Rescheduling
Philippines	1990	Brady Deal
Philippines	1992	Bank Debt Rescheduling
Poland	1982 (April)	Bank Debt Rescheduling
Poland	1982 (Nov.)	Bank Debt Rescheduling
Poland	1983	Bank Debt Rescheduling
Poland	1984	Bank Debt Rescheduling
Poland	1986	Bank Debt Rescheduling
Poland	1988	Bank Debt Rescheduling
Poland	1989	Bank Debt Rescheduling
Poland	1994	Brady Deal
Romania	1982	Bank Debt Rescheduling
Romania	1983	Bank Debt Rescheduling
Romania	1984	Bank Debt Rescheduling
Romania	1986	Bank Debt Rescheduling
Russia	1997	Bank Debt Rescheduling
Russia	1999	Domestic Bond Restructuring
Russia	2000	Convers. of Bank Debt (PRINs, I
South Africa	1986	Bank Debt Rescheduling
South Africa	1987	Bank Debt Rescheduling
South Africa	1989	Bank Debt Rescheduling
South Africa	1993	Bank Debt Rescheduling
Turkey	1982	Bank Debt Rescheduling
Ukraine	1998	Domestic Bond Restructuring
Ukraine	1999	Foreign Bond Restr. (ING, ML)
Ukraine	2000	Foreign Bond Restr. (Global)
Uruguay	1983	Bank Debt Rescheduling
Uruguay	1986	Bank Debt Rescheduling
Uruguay	1988	Bank Debt Rescheduling
Uruguay	1991	Brady Deal
Uruguay	2003	Foreign Bond Restructuring
Venezuela	1986	Bank Debt Rescheduling
Venezuela	1987	Bank Debt Rescheduling
Venezuela	1990	Bank Debt Rescheduling
Yugoslavia	1983	Bank Debt Rescheduling
Yugoslavia	1984	Bank Debt Rescheduling
Yugoslavia	1985	Bank Debt Rescheduling
Yugoslavia	1988	Bank Debt Rescheduling

Note: All “Bank Debt Reschedulings” are reschedulings with foreign commercial banks.

Table 3: Data and Information Sources for each Sub-Indicator

Sub-Indicator	Sources for Coding
Payments missed	Main Source: Arrears data from the GDF (2007) database. Supplementary information from the financial press, Stamm (1987), policy reports, book sources.
Unilateral payment suspension	Main Source: Financial press. Supplementary information from Stamm (1987), policy reports, book sources.
Suspension of interest payments	Main Source: Data on Interest Arrears and Interest Payments from the GDF (2007) database. Supplementary information from the financial press, Stamm (1987), policy reports, book sources.
Freeze on assets (capital and exchange controls)	Main Source: The IMF's "Annual Report on Exchange Arrangements and Exchange Restrictions" (1980-2006). Supplementary information from the financial press, Stamm (1987), policy reports, book sources.
Explicit moratorium or default declaration	Main Source: Financial press. Supplementary information from Henry (1999), Stamm (1987), policy reports, book sources.
Explicit threats to repudiate on debt	Main Source: Financial press. Supplementary information from Henry (1999), Stamm (1987), policy reports, book sources.
Breakdown or refusal of negotiations	Main Source: Financial press. Supplementary information from Stamm (1987), policy reports, book sources.
Data disclosure problems	Main Source: Financial press. Supplementary information from Stamm (1987), policy reports, book sources.
Forced and non-negotiated restructuring	Main Source: Financial press. Supplementary information from Stamm (1987), policy reports, book sources.

Financial Press: Standardized search method in the *factiva* database. Evaluation of 19.000 pages of articles from the Financial Times, Reuters, the Wall Street Journal, Dow Jones News Service, the New York Times and Associated Press.
Policy Reports: ECB (2005), IMF (2001, 2003, 2006), Kincaid et al. (1985), Laursen and Fernandez-Ansola (1995), Piñón-Farah (1996) and Williams et al. (1983).
Book Sources: Aggarwal (1996), Andritzky (2006), Boughton (2001), Cline (1995), Roubini and Setser (2003), Rieffel (2003), Sturzenegger and Zettelmeyer (2006).

Table 4: Descriptive Statistics for each Sub-Indicator

Variable	Observations (default years)	Min	Max	Frequency of value 1	Mean	Std. Dev.
Payments Missed	250	0	1	190	0.760	0.428
Suspension of Interest Paym.	250	0	1	146	0.264	0.442
Unilateral Payment Susp.	250	0	1	66	0.584	0.494
Freeze on Assets	250	0	1	24	0.096	0.295
Explicit Default Declaration	250	0	1	30	0.120	0.326
Forced or non-negotiated restr.	250	0	1	14	0.056	0.230
Explicit Threats to Repudiate	250	0	1	41	0.164	0.371
Data Disclosure Problems	250	0	1	20	0.080	0.272
Breakdown or Refusal of Negot.	250	0	1	107	0.428	0.496

Table 5: Correlation Matrix for the 9 Sub-Indicators

	Payments Missed	Unilateral Payment Suspension	Suspension of Interest Payments	Freeze on Assets	Explicit Default Declaration	Explicit Threats to Repudiate	Breakdown or Refusal of Negotiations	Data Disclosure Problems	Forced or non-negotiated restructurings
Payments Missed	**1.00**	0.67	0.34	0.09	0.18	0.05	0.32	0.13	0.10
Unilateral Payment Suspension	0.67	**1.00**	0.47	0.11	0.26	0.07	0.47	0.22	0.17
Suspension of Interest Payments	0.34	0.47	**1.00**	0.08	0.31	0.13	0.42	-0.04	0.09
Freeze on Assets	0.09	0.11	0.08	**1.00**	0.21	0.19	0.13	0.10	0.16
Explicit Default Declaration	0.18	0.26	0.31	0.21	**1.00**	0.24	0.28	0.16	0.39
Explicit Threats to Repudiate	0.05	0.07	0.13	0.19	0.24	**1.00**	0.12	-0.05	0.17
Breakdown or Refusal of Negotiations	0.32	0.47	0.42	0.13	0.28	0.12	**1.00**	0.13	0.14
Data Disclosure Problems	0.13	0.22	-0.04	0.10	0.16	-0.05	0.13	**1.00**	0.06
Forced or non-negotiated restructurings	0.10	0.17	0.09	0.16	0.39	0.17	0.14	0.06	**1.00**

Figure 1: The Coerciveness-Index in Debt Crises over Time

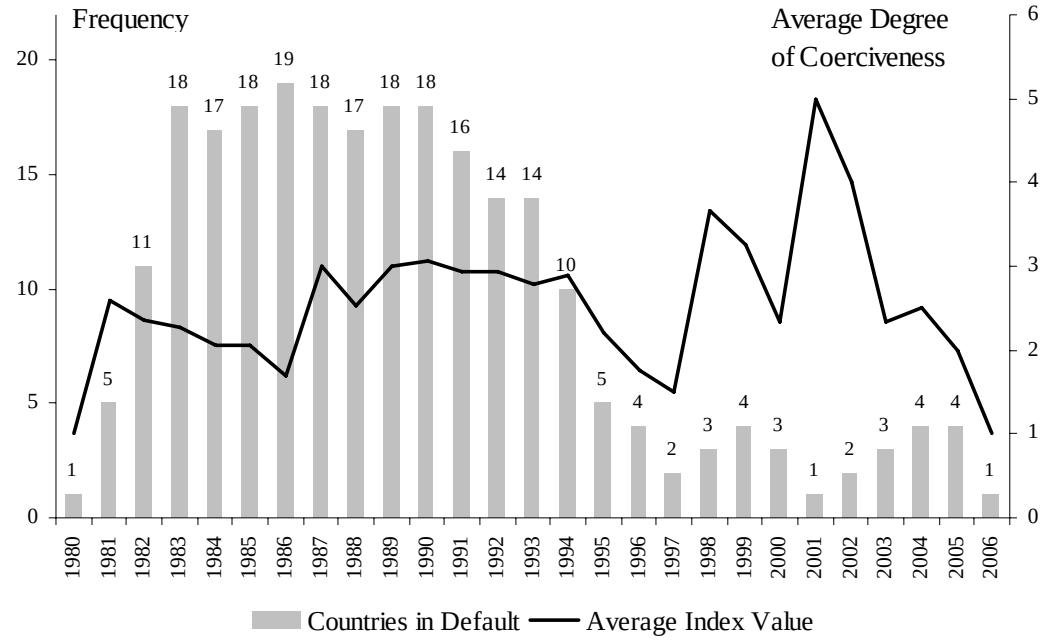


Figure 2: Regional Distribution of the Index (since 1980)

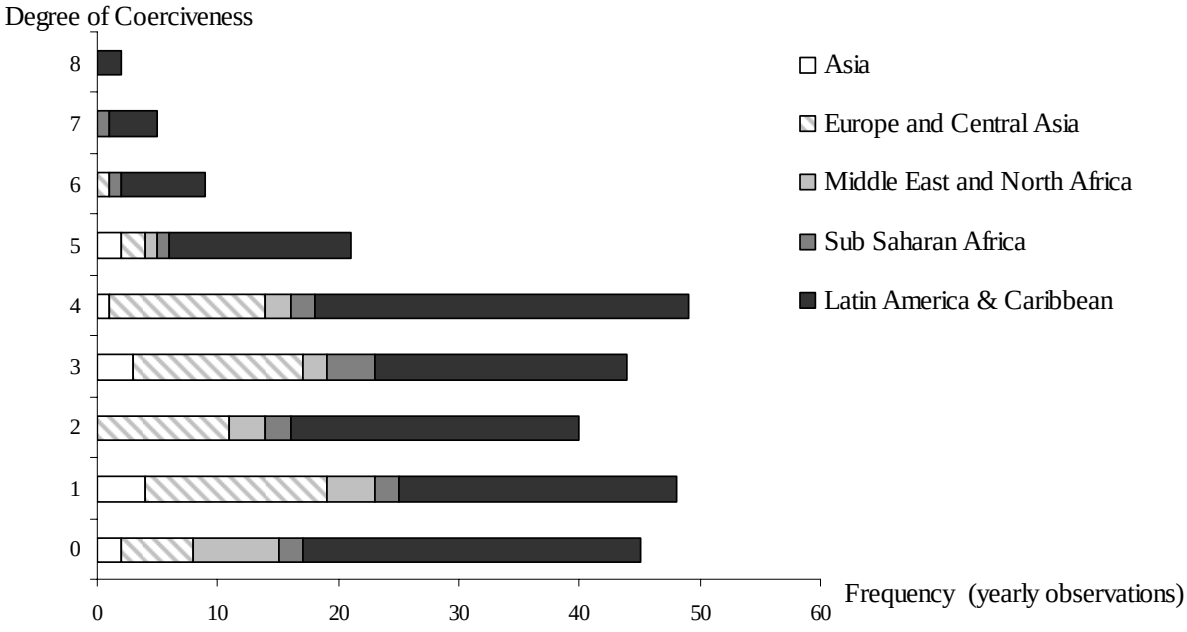


Table 6: Average Degree of Coerciveness by Countries

Low Degree of Coercive Behavior (in Crises since 1980):

	Years in Default	Average Yearly Index Value
Uruguay	10	0.2
Chile	8	0.5
Algeria	6	0.83
Morocco	8	0.88
Mexico	9	1.33

High Degree of Coercive Behavior (in Crises since 1980):

	Years in Default	Average Yearly Index Value
Jordan	5	3.4
Russia	10	3.5
Nigeria	10	3.9
Argentina	17	4.18
Peru	15	4.33

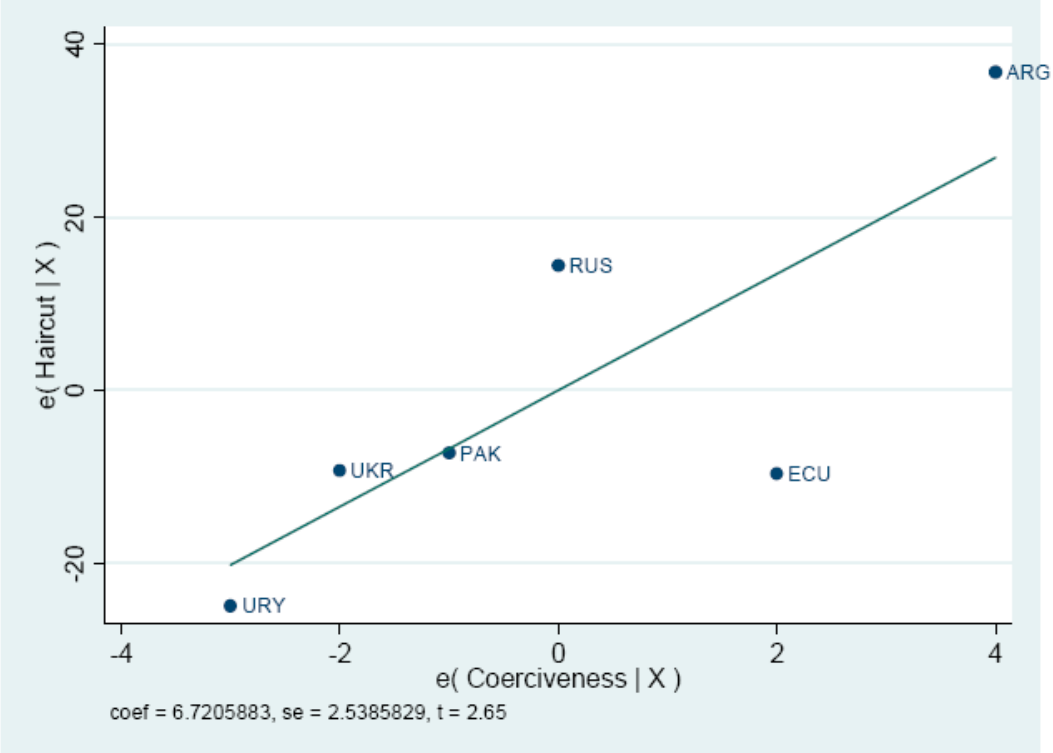
Table 7: Particularly Coercive Cases (index value of 6 or higher)

Country	**Years**
Argentina	2002 - 2005
Brazil	1987 and 1989
Dominican Republic	1989 - 1990
Nigeria	1990 - 1991
Peru	1985 - 1989

Table 8: Recent Debt Restructuring Cases (from the agreement-based dataset)

Restructurings of Foreign Currency Bonds		Restructurings of Domestic Currency Bonds and Bank Debt	
Country/Year	**Comments**	**Country/Year**	**Comments**
Argentina 2001	Megaswap (June)	Argentina 2001	Restructuring of Domestic Bonds
Argentina 2005	Global Bond Restructuring	Dominican Republ. 2005	Restructuring of foreign bank debt
Belize 2007	Foreign Bond Restructuring	Moldova 2004	Restructuring of Gazprom Notes
Dominica 2004	Foreign Bond Restructuring	Pakistan 1999	Restructuring of foreign bank debt
Dominican Republ. 2005	Foreign Bond Restructuring	Russia 1999	Restructuring of Domestic Bonds
Ecuador 2000	Foreign Bond Restructuring	Ukraine 1998	Restructuring of Domestic Bonds
Grenada 2005	Foreign Bond Restructuring	**Average Index Value**	**3.50**
Moldova 2002	Foreign Bond Restructuring		
Pakistan 1999	Foreign Bond Restructuring		
Russia 2000	Foreign Bond Restructuring		
Uruguay 2003	Foreign Bond Restructuring		
Ukraine 1999	Restructuring of ING and Merrill Lynch bonds		
Ukraine 2000	Global bond restructuring		
Average Index Value	**1.77**		

Figure 3: Haircuts and the Index of Coerciveness



Source: Sturzenegger, Zettelmeyer and Panizza (2008). The haircut data are from Sturzenegger and Zettelmeyer (2007).

References

Aggarwal, V.K., 1996. Debt Games: Strategic Interaction in International Debt escheduling. Cambridge University Press, New York.

Alfaro, L.Kanczuk, F., 2005. Sovereign Debt as a Contingent Claim: A Quantitative Approach. Journal of International Economics 65 (2), 297-314.

Andritzky, J., 2006. Sovereign Default Risk Devaluation - Implications of Debt Crises and Bond Restructurings. Springer, Berlin, Heidelberg, New York.

Arteta, C.Hale, G., 2008. Sovereign Debt Crises and Credit to the Private Sector. Journal of International Economics 74 (1), 53-69.

Bedford, P., Penalver, A. et al., 2005. Resolving Sovereign Debt Crises: The Market-based Approach and the Role of the IMF. Bank of England Financial Stability Review (June), 99 – 105.

Beim, D.O.Calomiris, C.W., 2001. Emerging Financial Markets. McGraw-Hill, New York.

Borensztein, E., Levy Yeyati , E. et al. (Eds.), 2006. Living with Debt - How to Limit the Risks of Sovereign Finance Harvard University Press, Washington, D.C.

Borensztein, E.Panizza, U., 2006. Do Sovereign Defaults hurt Exporters? IADB Working Paper(1018)

Boughton, J.M., 2001. Silent Revolution: The International Monetary Fund 1979-1989. The International Monetary Fund, Washington, D.C.

Buchheit, L.C.Karpinski, E., 2007. Belize's Innovations. Butterworths Journal of International Banking and Financial Law 22 (5)

Chuan, P.Sturzenegger, F., 2005. Default Episodes in the 1980s and 1990s: What Have We Learned, in: Aizenman, J. and Pinto, B. (Eds.), Managing Economic Volatility and Crises : A Practitioner's Guide. Cambridge University Press, Cambridge, M.A.

Cline, W.R., 1995. International Debt Reexamined. Institute for International Economics, Washington, D.C.

Cline, W.R., 2004. Private Sector Involvement in Financial Crisis Resolution: Definition, Measurement, and Implementation, in: Haldane, A. (Ed.), Fixing Financial Crises in the Twenty-first Century. Routledge, London, pp. 61-94.

Corsetti, G., Guimaraes, B. et al., 2006. International Lending of Last Resort and Moral Hazard: A Model of IMF's Catalytic Finance. Journal of Monetary Economics 53 (3), 441-471.

Detragiache, E.Spilimbergo, A., 2001. Crises and Liquidity: Evidence and Interpretation. IMF working paper 01 (2).

ECB, 2005. Managing Financial Crises in Emerging Market Economies. Experience with the Involvement of Private Sector Creditors. ECB Occasional Paper Series (32)

Eichengreen, B.Lindert, P.H. (Eds.), 1992. The International Debt Crisis in Historical Perspective. The MIT Press, Cambridge, London.

Fostel, A.Kaminsky, G.L., 2007. Latin America's Access to International Capital Markets: Good Behavior or Global Liquidity?, in: Cowan, K.,Edwards, S., et al. (Eds.), Current Account and External Financing. Central Bank of Chile, Santiago de Chile.

Frankel, J.A.Roubini, N., 2001. The Role of Industrial Country Policies in Emerging Market Crises. NBER Working Paper Series (8634), 1-110.

Gelos, G., Sahay, R. et al., 2004. Sovereign Borrowing by Developing. Countries: What Determines Market Access? IMF Working Papers 04 (221),

Grossman, H.Van Huyck, J.B., 1988. Sovereign Debt as a Contingent Claim: Excusable Default, Repudiation, and Reputation. American Economic Review 78 (5), 1088-1097.

Hatchondo, J.C., Martinez, L. et al., 2007. The Economics of Sovereign Defaults. Economic Quarterly of the Federal Reserve Bank of Richmond 93 (2), 163-187.

Henry, P.B., 1999. Chronological Listing of Major Policy Events in Developing Countries. Stanford University. https://faculty-gsb.stanford.edu/henry/Homepage/PDF/Reform%20List.pdf

Henry, P.B., 2000. Stock Market Liberalization, Economic Reform, and Emerging Market Equity Prices. Journal of Finance 55 (2), 529-564.

IIF, 2001. Survey of Debt Restructuring by Private Creditors. April 2001.

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, D.C.

IMF, 1986-2006. Annual Report on Exchange Arrangements and Exchange Restrictions. Washington, D.C.

IMF, 1999. IMF Policy on Lending into Arrears to Private Creditors. IMF Policy Development and Review and Legal Departments, Washington, D.C.

IMF, 2001. Involving the Private Sector in the Resolution of Financial Crises - Restructuring International Sovereign Bonds. IMF Policy Development and Review and Legal Departments, Washington, D.C.

IMF, 2002. Fund Policy on Lending into Arrears to Private Creditors—Further Consideration of the Good Faith Criterion. IMF Policy Development and Review and Legal Departments, Washington, D.C.

IMF, 2003. Reviewing the Process for Sovereign Debt Restructuring within the Existing Legal Framework. International Monetary Fund, Washington, D.C.

IMF, 2006. Cross-Country Experience with Restructuring of Sovereign Debt and Restoring Debt Sustainability. IMF Policy Development and Review Department, Washington, D.C.

Jones, D.M., Bremer, S.A. et al., 1996. Militarized Interstate Disputes, 1816-1992: Rationale, Coding Rules, and Empirical Patterns. Conflict Management and Peace Science 15, 163-215.

Kincaid, R.G., Puckahtikom, C. et al., 1985. Recent Developments in External Debt

Restructuring. IMF Occasional Papers 40,

Kohlscheen, E., 2007. Why are there Serial Defaulters? Evidence from Constitutions. The Journal of Law and Economics 50.

Laursen, T.Fernandez-Ansola, J.J., 1995. Historical Experience with Bond Financing to Developing Countries. IMF Working Papers 95 (27).

Manasse, P., Roubini, N. et al., 2003. Predicting Sovereign Debt Crises. IMF working paper 03 (221).

Marchesi, S., 2003. Adoption of an IMF programme and debt rescheduling. An empirical analysis. Journal of Development Economics 70 (2), 403-423.

Martinez, J.V.Sandleris, G., 2006. Is it Punishment? Sovereign Defaults and the Decline in Trade. mimeo, Johns Hopkins University (SAIS).

Mody, A.Saravia, D., 2006. Catalysing Private Capital Flows: Do IMF Programmes Work as Commitment Devices? The Economic Journal 116, 843-867.

Ozler, S., 1993. Have Commercial Banks Ignored History? American Economic Review 83 (3), 608-620.

Panizza, U., Sturzenegger, F., Zettelmeyer, J., 2008. The Economics and Law of Sovereign Debt and Default. Fortcoming IMF Working Paper.

Pescatori, A.Sy, A.N.R., 2007. Are Debt Crises Adequately Defined? IMF Staff Papers 54 (2), 306-337.

Piñón-Farah, M.A., 1996. Private Bond Restructurings - Lessons for the Case of Sovereign Debtors. IMF Working Papers 96 (11).

Reinhart, C.M., Rogoff, K. et al., 2003. Debt Intolerance. Brookings Papers on Economic Activity 1, 1-70.

Rieffel, L., 2003. Restructuring Sovereign Debt: The Case for Ad Hoc Machinery. Brookings Institution Press, Washington, D.C.

Rose, A.K., 2005. One Reason Countries Pay their Debts: Renegotiation and International Trade. Journal of Development Economics 77 (1), 189-206.

Roubini, N., 2004. Private Sector Involvement in Crisis Resolution and Mechanisms for Dealing with Sovereign Debt Problems, in: Haldane, A. (Ed.), Fixing Financial Crises in the Twenty-First Century. Routledge Publishers, London.

Roubini, N.Setser, B., 2003. Improving the Sovereign Debt Restructuring Process: Problems in Restructuring, Proposed Solutions, and a Roadmap for Reform. Washington. http://iie.com/publications/papers/roubini-setser0303.pdf

Roubini, N.Setser, B., 2004. Bailouts or Bail-ins? : Responding to Financial Crises in Emerging Economies. Institute for International Economics, Washington, D.C.

Sachs, J., Huizinga, H. et al., 1987. U.S. Commercial Banks and the Developing-Country Debt Crisis. Brookings Papers on Economic Activity 2, 555-606.

Saiegh, S.M., 2005. Do Countries have a Democrativ Advantage? Political Institutions,

Multilateral Agencies, and Sovereign Borrowing. Comparative Political Studies 38 (4), 366-387.

Stamm, H., 1987. Kooperation und Konflikt im Weltfinanzsystem. Eine Analyse multilateraler Umschuldungsaktionen seit 1956. Soziologisches Institut der Universität Zürich.

Stasavage, D., 2007. Partisan Politics and Public Debt: The Importance of the 'Whig Supremacy' for Britain's Financial Revolution. European Review of Economic History 11 (1), 123-153.

Sturzenegger, F., Zettelmeyer, J., 2006. Debt Defaults and Lessons form a Decade of Crises. MIT Press, Cambridge, M.A.

Sturzenegger, F., Zettelmeyer, J., 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, F., Zettelmeyer, J., 2008. Haircuts: Estimating Investor Losses in Sovereign Debt Restructurings, 1998-2005, Journal of International Money and Finance, forthcoming.

Suter, C.Stamm, H., 1992. Coping with Global Debt Crises Settlements, 1820 to 1986. Comparative Studies in Society and History 34 (4), 645-678.

Tomz, M., 2007. Reputation and International Cooperation: Sovereign Debt across Three Centuries. Princeton University Press Princeton, N.J.

Tomz, M., Wright, M.L.J., 2007. Do Countries Default in "Bad Times"? Journal of the European Economic Association 5 (2-3), 352-60.

Van Rijckeghem, C.Weder, B., 2004. The Politics of Debt Crises. CEPR Discussion Paper Series 4683, 1-42.

Williams, R.C., Brau, E.H. et al., 1983. Recent Multilateral Debt Restructurings with Offcial and Bank Creditors. IMF Occasional Papers 25:

World Bank, 2003. Global Development Finance. The International Bank for Reconstruction and Development / The World Bank, Washington, D.C.

World Bank, 2004. Global Development Finance. The International Bank for Reconstruction and Development / The World Bank, Washington, D.C.

World Bank, 2006. Global Development Finance. The International Bank for Reconstruction and Development / The World Bank, Washington, D.C.

World Bank, 2007. Global Development Finance. The International Bank for Reconstruction and Development / The World Bank, Washington, D.C.