Democracies Default Differently

Regime Type and Sovereign Debt Crisis Resolution

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1. Introduction

This article studies government behavior during sovereign debt crises. It takes up the question whether regime type, and in particular the differentiation between different types of democracies and autocracies, can contribute to the understanding of macroeconomic policy-making during a financial crisis. The novelty of this article is the focus on *how* governments default, rather than limiting the analysis to *why* governments default, thus addressing the lack of "procedural" knowledge on sovereign defaults in the literature.[1] We argue that the regime-type variable becomes a crucial determinant in explaining government policy, when looked at under the constraint of a situation of financial distress. In such a situation, governments are confronted with the trade-off between putting pressure on external creditors and putting pressure on the domestic population: governments can, on the one hand, do everything to solve the crisis in consensus with their external creditors, for example by continuing to make interest payments 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.

There are compelling reasons why democracies are likely to adopt a significantly more conflictual stance vis-à-vis external creditors than autocracies. In a setting, in which voters can constrain governments at a relatively low cost, they can use their power to prevent compliance with international commitments. At the core of this argument is the logic that, during crises, citizens of democratic countries can put pressure on their political leadership leading to more

[1] As identified by Panizza, Sturzenegger, and Zettelmeyer forthcoming.

conflictual, aggressive, or coercive debt policies[2] of governments towards external private creditors with the aim of lowering domestic adjustment costs. The key idea is that governments in a situation of financial distress can either seek cooperation with external private creditors to come to a negotiated and smooth resolution of the default, or they can take a highly un-cooperative stance making the restructuring process much more difficult. In this article, we measure the stance of governments vis-à-vis external private creditors, which varies between "cooperative" and "coercive". We use this new indicator as the dependent variable and look at regime type variables as the key explanatory variables, including also socio-economic effects.

The literature on the role of political and institutional factors before, during, and after debt crises is small but growing.[3] Schultz and Weingast[4] set the stage for a deeper exploration of the effect of democratic institutions on sovereign expropriation and sovereign default by arguing that liberal political systems would enjoy better borrowing conditions providing them with a "democratic advantage".[5] However, to this date, the empirical evidence concerning the effect of democracy on sovereign risk and default remains largely inconclusive, with some articles predicting that democracy increases default risk while others find the opposite (see section 2). It therefore remains an open question whether or not democratic institutions increase debtor compliance with international debt contracts.

To gain a more systematic understanding of the role of regime type in sovereign default we study *how* governments behaved vis-à-vis private international creditors in all main sovereign

[2] We use the adjectives „aggressive", „conflictual", and „coercive" interchangeably throughout this article when referring to the stance of governments vis-à-vis external private creditors as derived from our index.

[3] Ibid.

[4] Schultz and Weingast 2003.

[5] Kaufmann 1985 sees democratic rule as a major driving force for explaining debt policies, however, with a less positive view on the default constraining effect of democracy. In a similar vein, Frieden 1988 looks at the interaction between government policy choice and private sector attitudes towards governments to explain debt and other macroeconomic management in the 1980s Latin American Debt Crisis.

debt crises between 1980 and 2004 (covering 27 emerging market economies). At the heart of the analysis is a newly coded "Index of Coerciveness" that captures the degree of unilateral, coercive policies imposed by debtor governments on private external creditors in sovereign default situations and during debt renegotiations. Most previous quantitative contributions on sovereign debt crises relied on a simple binary definition of default versus non-default. While useful for a number of research questions, such binary definition fails to display the variation in policy choices during debt crises. Specifically, it gives no account of how governments behave vis-à-vis private creditors. However, sovereigns over the last decades have approached their external creditors in very different ways during crises, ranging from low key and conformable behavior to outright repudiation of debt and a very tough position on the side of government officials.

A comparison between an autocracy like Romania and a democracy like Peru in the 1980s illustrates this point. After defaulting on its external debt in 1981, the totalitarian Romanian government under Ceausescu imposed very high domestic costs of continued debt service until the late 1980s. The population was subject to drastic limitations on citizens' use of light, heating, and private vehicles all with the explicit aim to save foreign exchange and reduce the country's debt burden.[6]

In stark contrast, democratically elected President Alan Garcia of Peru reacted to social dissatisfaction and payment difficulties by unilaterally declaring a strict ceiling on external debt servicing in June 1985, the first such drastic step in the 1980s debt crisis. Until the end of his term in 1990 Garcia took a confrontational stance towards external private creditors, repeatedly threatening a complete cancellation of payments and refusing to engage in serious debt

[6] Despite rising poverty rates and chronic food shortages Ceausescu continued to follow his drastic policy of debt reduction through 1987 (see, for example, *Financial Times,* 17 November 1987; 24 April 1987; and 20 November 1987).

negotiations. At the same time, he rechanneled the funds destined for debt repayment to fuel public expenditures and social programs.

Our analysis yields four main findings: First, we find clear evidence that democratic leaders tend to impose significantly *more* coercive debt policies towards private external creditors than autocratic leaders. Second, we find that the degree of "aggressiveness" towards creditors increases significantly with the level of democracy (as reported by the Polity index). Third, we find that experience with democratic institutions plays a major role as well. Countries with five or more years of democratic experience are significantly more aggressive towards external creditors as compared to "infant" democracies and countries in democratic transition. Finally, the empirical results hint at an important conditioning effect of regime type on the effect of socioeconomic pressure for policy decisions. While deterioration in socioeconomic circumstances during a crisis significantly increases government aggressiveness towards external creditors in democracies, the effect disappears in non-democracies. From this we conclude that the explanatory channel via electoral pressure appears to be an important explanation for the variation in government debt policies.

Our baseline results are based on standard ordinary least squares regressions, with a continuous dependent variable capturing the degree of "debtor coerciveness". Specifically, we weight the 9 sub-indicators of the Index of Coerciveness by principal component analysis and use the first principal component as dependent variable. To check the validity of our approach and findings, we apply a series of robustness checks, including estimations in an ordinal response model framework, with standard random and fixed effects panel data methods and within a Heckman selection model with "default versus non-default" in the first stage and the "nature of the default" (the degree of debtor coerciveness) in the second stage. We also evaluate whether the results change with different indicators of democracy and in a variety of model specifications.

Overall, our main findings are very robust.

The remainder of the paper is structured as follows: Section 2 presents the related literature on sovereign default and crisis management. Section 3 portrays the theoretical foundations of our argument and develops four testable hypotheses. Section 4 presents our new indicator, the "Index of Government Coerciveness" which is followed by a brief presentation of stylized facts on and descriptive statistics of democracies in default (Section 5). In Section 6 we describe regression techniques, data sources and variables. Results are discussed in Section 7, followed by concluding remarks in Section 8.

2. Institutions and sovereign default: How to explain external debt policy decisions?

There is still relatively little work on the role of political and institutional factors before, during and after debt crises.[7] On the one hand, several studies find support for the "democratic advantage" argument by Schultz and Weingast,[8] invoking property rights[9] or the easier replacement of political leaders in larger winning coalitions that are highly correlated with democracies.[10] On the other hand, the role of the preferences of populations on debt repayment is invoked to explain why the democratic advantage claim does not always hold.[11] Accordingly, governments are unlikely to not comply if the median voter's saving is less than the economy's

[7] See Panizza, Sturzenegger, and Zettelmeyer forthcoming or Hatchondo, Martinez, and Sapriza 2007 for overviews. Various quantitative studies included political and institutional variables without really discussing the underlying causal mechanisms in detail. Their results are strikingly different: see Manasse, Roubini, and Schimmelpfennig 2003; Kraay and Nehru 2004; Reinhart, Rogoff, and Savastano 2003; Detragiache and Spilimbergo 2001; or van Rijckeghem and Weder 2009.

[8] Schultz and Weingast 2003.

[9] Jensen 2003.

[10] See McGillivray and Smith 2008, Chapter 6. They base their analysis on work by Bueno de Mesquita et al. 2003, who studied conditions of political survival of leaders in small versus large winning coalition systems.

[11] This problem was mentioned by Tomz 2003 and is further treated by Saiegh 2005, based on a borrowing model by Drazen 1998. See also Alichi 2008 for a model based on overlapping generations that contradicts the democratic advantage hypothesis.

average rate.[12] Moreover, doubts are cast on the democratic advantage if lenders are not directly able to exert political pressure on governments.[13] Historical research also finds no clear support for the democratic advantage view: Stasavage, in an analysis of 27 European states between 1274 and 1765, highlights that liberal institutions are more likely to have a conditioning than a direct impact on default.[14] The contradictory view on "democratic advantage" is also shared in research on the effect of regime type on sovereign credit ratings and sovereign credit risk.[15]

In our view, what is missing in this discussion is the differentiation between *why* countries default, and *how* they default. There are good reasons to believe that the difference between democracies and autocracies shows up once the crisis is already there. The key reason is the internal distributional consequence deriving from the debt contract.[16] In good times, when the economic situation is stable, citizens in democracies are likely to take a pro-market position and punish their government if it takes steps that are detrimental to the reputation of the country.[17] However, as the economic situation deteriorates, populations change their preferences. In the context of a debt crisis, this would lead them to prefer a clearly aggressive stance vis-à-vis external lenders to hurtful domestic adjustments. Those parts of the population most negatively affected by an international agreement can turn into "champions of noncompliance".[18]

[12] Saiegh 2005, 370.

[13] Ibid.

[14] Stasavage 2007.

[15] Archer, Biglaiser, and Derouen 2007 find no support for the argument that democracies receive better credit ratings, Jensen 2003 and Brooks and Mosley 2008, however, find a significant effect on sovereign risk premia.

[16] See Kaufmann 1985; Frieden 1989 and Tomz 2002.

[17] McGillivray and Smith 2008.

[18] Tomz 2002, 2. See also the detailed account on the default in Argentina 2001 in that paper.

If this assessment is correct, then democratic institutions might well have a conditioning effect on the responsiveness of governments to popular discontent over macroeconomic policy.[19] This channel should become particularly apparent when studying *how* governments default and thus limit our analysis to regimes that are already in a crisis. During deep crises, the government is more likely to jeopardize its external reputation in an attempt to holding on to power internally.[20] As the domestic political pressure lends strong credibility to leaders' default threats or other aggressive actions, democratic leaders have an incentive to take a tough position towards external creditors. Unlike their autocratic counterparts they can credibly claim to have no other option to avoid further hardship on the population than by defaulting on external debt. One could link this argument to "audience cost" approaches. According to this logic democratic leaders go through a more thorough internal reasoning before risking external conflict. If winning a conflict seems unlikely democratic governments back down. However, if they decide to fight they are thought to expend significantly higher resources on winning.[21]

3. Hypotheses

In this section we present our four main hypotheses on the relationship of regime type, experience with democratic institutions and sovereign default behavior of governments.

In line with the preceding paragraphs, we argue that democratic governments generally face a different trade-off during crisis than their autocratic counterparts. A first testable implication of this view would be that a state's behavior towards creditors is driven by the type of

[19] See Rodrik 1999 and Acemoglu and Robinson 2005.

[20] See Tomz 2002.

[21] Fearon 1994, 585. See also Lake 1992; Bueno de Mesquita, Morrow, Siverson, and Smith 1999; Partell and Palmer 1999 and Eyerman and Hart 1996. Testing the argument using different proxies for audience costs, they find democracies to be better able to prevail in disputes. For a comprehensive overview see Gelpi and Griesdorf 2001. Critical accounts of the argument are presented by Desch 2002 and Slantchev 2004.

regime - democratic or autocratic. We predict the following hypothesis to be supported by the data:

Hypothesis 1: In debt crises, democratic governments behave more coercively towards their external creditors than autocracies.

The first hypothesis states a simple positive relationship between democracy and coercive debtor behavior on average. To gain a better understanding of the relationship between democratic institutions and government debt policies during crises it seems necessary to also look at different *levels* of democracy. Citizens in countries with very advanced democratic institutions have lower costs to make their voices heard in the political process. For instance, in more established democracies we assume a higher likelihood that opponents to government are more institutionalized and actively using their constitutionally guaranteed veto powers against government policy. Concretely, they may be better able to exert veto power through parliamentary decision making procedures and/or through presence in the media and on the streets engaging in strikes and protests. Leaders in more developed democracies are thus likely to face larger difficulties in implementing unpopular economic policies.[22] We would therefore expect the following hypothesis to hold:

Hypothesis 2: Higher levels of democracy correspond to more coercive debtor behavior in debt crisis resolution.

The two previous hypotheses are concerned with the direct effect of regime type and the level of democracy on debtor coerciveness. Clearly, not all democracies share the same experience with the political system. In a sample of emerging economies the issue of political

[22] See Tomz 2002.

stability seems to be central to crisis handling. It may therefore be useful to look at the degree of experience a country has acquired with democratic institutions.

As the literature on reform effectiveness in new democracies shows, predictions on the capacity of governments to engage in policy adjustment are not straightforward. Many of the early approaches were skeptical of leaders' capacities to implement reforms. This view is echoed in a recent study on militarized interstate conflict by Jessica Weeks which concludes that newly established and unstable democracies show less resolve to stick to a contentious policy.[23] One reason could be that weaker institutional capacities and less decision making routine would render threats to act aggressively less credible in the eyes of the opponent.

If this argument holds, new democracies would also seem less likely to take a tough stance towards external creditors. They can hardly claim that institutionalized democratic opposition to adjustment is what forces them into contract breach. Thus, creditors can easily argue that a new democratic government can a) put all the blame of economic hardship on the previous ousted regime[24] and b) exploit the still present "honeymoon effect" after its inauguration to implement a quick and comprehensive economic reform package even if it includes unpopular austerity measures.[25]

A second argument is that new democracies have strong incentives to attract foreign investors to enhance growth and development. In the early years of political transition, when it is not clear that democracy is irreversible, governments are seen as highly dependent on growth and an increase in revenues to provide public goods.[26] Public goods provision is an essential part of

[23] See Weeks 2008.

[24] Stokes 2001.

[25] Hirschman 1987; Haggard and Kaufman 1995.

[26] Linz 1978.

democratic government that makes it distinct from autocratic rule.[27] Both arguments (the enhanced capacity to implement comprehensive adjustment and the high reliance on good relations with foreign investors) make cooperative behavior much more likely. This leads us to the third prediction:

Hypothesis 3: Leaders in "infant" democracies and of countries in democratic transition will act less coercively towards their external creditors than leaders in established democracies.

So far, the hypotheses focus on direct effects of democracy and democratic experience on government coerciveness. In a fourth hypothesis we go beyond that and test for a conditioning effect of institutions on leaders' reaction functions. Specifically, we expect democratic leaders to react to increasing socioeconomic pressure by imposing more coercive policies on external creditors. Unilateral debt policies, such as a complete halt in external debt payments, will help lowering domestic adjustment costs. This will tend to increase the likelihood of survival of democratic governments in times of increasing poverty and social turmoil at the expense of their reputation in international financial markets. Leaders in autocracies face a similar trade-off between domestic adjustment and external reputation, but less institutional constraints or pressure by the electorate. Accordingly, we expect them to adopt creditor-friendly debt policies even in periods of deteriorating socioeconomic conditions. This leads to the following fourth hypothesis:

Hypothesis 4: Higher socioeconomic pressure increases government coerciveness vis-à-vis external creditors, but only when the regime type is democratic.

[27] Bueno de Mesquita et al. 2003.

Our four hypotheses are tested on a novel dataset for 27 emerging market countries between 1980 and 2004 and by using our measure of debtor coerciveness as main dependent variable. Generally, we control for the standard economic factors that could explain the degree of debtor coerciveness. We also test the effect of democracy on the probability of default in the first place (in a Heckman selection framework). All results are presented in section 7.

4. Measuring Government Behavior in Debt Crises: The Index of Government Coerciveness

To this date, most quantitative studies on sovereign debt distress limit the scope of government behavior to the question of default versus non-default. Authors typically categorize debt crises as a binary variable, often relying on data from Standard and Poor's[28] (S&P) or from the World Bank's lists of restructuring events.[29] Some have also combined these two key sources with additional data and definitions.[30] Nevertheless, standard indicators of default remain dichotomous variables, even in recent studies. While the S&P and World Bank data covers a large set of countries, there is a lack of comprehensive data on debt crisis events, in particular on government policies during debt restructuring processes and negotiations. Accordingly, barely any literature has analysed *how* governments resolve financial distress situations vis-a-vis creditors in a systematic way.[31]

[28] 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. See Standard & Poor's 2006. Also, any exchange of new debt that contains less favorable terms than the original bond issue and any rescheduling of principal and/or interest at less favorable terms than indicated in the original contract counts as a default.

[29] World Bank 2002and 2003. See also Borensztein and Panizza 2006; Gelos, Sahay, and Sandleris 2004; Manasse, Roubini, and Schimmelpfennig 2003; Reinhart, Rogoff, and Savastano 2003; van Rijckeghem and Weder 2004 and Kohlscheen 2007.

[30] See for example Detragiache and Spilimbergo 2001; Pescatori and Sy 2007; Beim and Calomiris 2001, 32-36.

[31] See the discussion in Panizza, Sturzenegger, and Zettelmeyer forthcoming.

The dichotomous categorization of default does not allow to test the role of regime type for crisis resolution and debt policies in depths. We therefore propose a novel approach to categorize debt crisis events and crisis resolution processes. It should be acknowledged that the idea of categorizing different types of debt crises and different degrees of government behavior towards creditors is certainly not new. Various contributions contain categorization attempts or qualitative accounts of individual debt crisis events.[32] These authors agree with many practitioners that debt policies and restructuring processes vary on a spectrum from "soft" to "hard" or from "voluntary" to more "involuntary" types. But despite the apparent consensus, no research has provided a comprehensive and systematic dataset, which would be suitable for econometric analysis in a cross-country panel framework.

Construction of the Index

A main challenge in constructing an index of government behavior towards creditors is to identify appropriate criteria. In principle, the sub-indicators chosen should be as objective and generalizable as possible. The criteria should be valid for different years of debt financing, e.g. the 1980s, 1990s and more recent years, as well as for different types of creditors, be it banks or bondholders. They should also mirror the majority view of researchers, financial sector experts and policymakers on what cooperative and fair debt restructurings should look like. The sub-indicators proposed here were developed on the basis of dozens of expert interviews, our own and existing qualitative research, as well as previous categorization attempts, in particular by Cline and Roubini and Setser.[33] Additionally, we draw on two key policy documents listing "best

[32] See for example Aggarwal 1996; Andritzky 2006; Cline 2004; Frankel and Roubini 2001 and Roubini and Setser 2004.

[33] Cline 2004; Roubini and Setser 2004.

practices" for debt crisis resolution that found widespread acceptance among policy makers and private sector representatives. These are the International Monetary Fund's (IMF) criteria of *good faith efforts* in debt negotiations with creditors[34] and the criteria outlined in the so called *Principles* of fair debt restructuring by the Institute of International Finance (IIF).[35]

The resulting Index of Government Coerciveness *measures unilateral government actions towards external private creditors* with a set of 9 sub-indicators. The 9 criteria capture key characteristics of a government's payment and negotiation behavior in debt crises, as well as the rhetoric of central members of government. Each sub-indicator is a dummy, which is coded 1 if a respective action by the government is observed and zero otherwise. The final index is a simple additive measure with a lower bound of 1. The highest possible score is 10 and indicates the highest degree of government coerciveness. A score of 1 – the other extreme – indicates that the debt problem was resolved in full consensus with creditors and without missed payments.

The 9 binary sub-indicators are the following:

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

[34] IMF 1999 and 2002.

[35] IIF 2006.

A detailed description of the sub-indicators and their coding and statistical properties is provided in the Appendix.

Case Selection and Coding

The Index and sub-indicators were coded based on a systematic and standardized evaluation of policy reports, all standard reference books on debt crises and more than 20,000 pages of articles from the financial press. Appendices 1, 2 and 3 provide a description of the coding process and sources used. More details and stylized facts can be found in the codebook by [AUTHORS]. The resulting dataset covers all main emerging market economies (including developing countries and transition economies) that have defaulted during the period 1980 to 2004. Note that, given our focus on disputes between debtor governments and private creditors, we excluded the poorest, least developed countries (LDCs) from our coding. The rationale behind this is that low income countries usually have very limited access to private financing and, accordingly, debt renegotiation talks with private creditors play no or little role as opposed to those with official creditors such as governments or the IMF.

The index and its 9 sub-indicators were coded on a yearly basis so that debt policy changes can be tracked over the course of multi-year crisis episodes. Overall, our coding results show a large variability in government behavior and rhetoric, ranging from very coercive and unilateral to very smooth crisis resolution processes. Interestingly, there is no clear evidence that governments, on average, behaved significantly more or less coercively in the 1980s as compared to the 1990s or 2000s, despite changes in financial markets and a trend from bank to bond lending (see the 5-year average in Figure 1). Our analysis on the role of

regime type should thus not be overly biased by time effects or changes in creditor composition.[36]

[FIGURE 1 HERE]

5. Stylized Facts on Democracies in Distress

Before going into the details of our estimation approach (Section 6), it is useful to sketch out some stylized facts on the behavior of democratic versus autocratic governments during debt distress episodes.

Looking at a first set of results from the coding exercise presented in Table 1, it is striking that all but one of the most severe instances coerciveness towards private external creditors took place in democracies (Argentina 2002-2005, Brazil 1987 and 1989, the Dominican Republic 1989 to 1990, Peru 1985 to 1989 and Russia 1998). With a view to Hypothesis 3, it is also notable that, at the peak of the dispute with creditors, Argentina, the Dominican Republic, Peru and Russia all were established democracies with more than 5 years of democratic rule. Autocracies, in contrast, often adopted particularly consensual policies towards their creditors. Debt distress episodes under autocratic governments, such as in Algeria, Chile, Morocco,

[36] 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 foreign 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. The criteria were defined with the explicit aim to make them general enough to account for changes in creditor type and debt 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 those on payment behavior, negotiation breakdowns or non-negotiated restructurings should not be seriously distorted by changes in the exact restructuring process or creditor characteristics. Overall, the coding results indicate that the categories are indeed 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 will also be suitable to assess historical debt restructurings of the 19th and early 20th centuries and in future instances of sovereign default.

Romania and South Africa during the 1980s and 1990s, were typically resolved in a very creditor-friendly manner, despite high socioeconomic pressure domestically.

[TABLE 1 HERE]

The descriptive statistics tell a similar story. The correlation between democracy and the index of coercive government behavior is positive for all democracy measures employed in the econometric analysis. Higher levels of democracy clearly coincide with higher degrees of coerciveness.[37] It is also insightful to distinguish between particularly conflict-riddled and particularly consensual country-year observations over the full sample. The average Polity Score for more conflictive episodes (with an index value of 5 or higher) is 5.01 (79 yearly obs.). In contrast, the average polity score for episodes with a low level of disputes (with an index value lower than 3) is only 1.13 (72 yearly obs.).

All of this indicates that there seems to be a positive relation between the degree of democracy and the scope of unilateral actions that governments impose on their creditors during debt distress episodes. However, it is necessary to validate this relationship in a more systematic way, which we do in the following sections.

6. Empirical Test

[37] As an example, the correlation of our index and the Polity score is 0.22 for the sample of debt crisis years.

General Approach

To test the role of regime type in debt crisis resolution, we construct a yearly panel dataset for 27 developing countries that have defaulted on sovereign debt obligations held by private creditors between 1980 and 2004 (a complete list of countries included in the coerciveness database is provided as Appendix 4).[38]

The analysis uses the above described data and sub-indicators of government coerciveness to construct the dependent. One issue in this regard is certainly weighting. It is not straightforward to decide which weight each of the 9 sub-indicators of government behavior should have in the overall index. For the purpose of quantitative analysis, an objective weighting method might be more appropriate than the simple additive index. We therefore resort to principal component analysis (PCA) to derive weights of each sub-indicator.[39] The key idea behind principal component analysis is to summarize the information of a set of variables in a smaller set of newly created continuous and mutually uncorrelated variables (principal components), while retaining as much information as possible. For the data at hand, the first principal component contains more than 30% of the variation of the original 9 sub-indicators. The correlation between the simple additive index value (from 1 to 10) and the first principal component (from -2.32 to 4.44) is a high 0.99. The first principal component used here can thus be seen as a valid dependent variable for our purposes.[40]

Formally, we estimate variants of the following model:

$$COERC_{it} = \alpha + \beta_1 Democracy_{it} + \gamma X_{it} + u_{it} \qquad (1)$$

[38] Small countries with a population below 1.5 million are excluded from the econometric analysis due to notorious problems of data reliability in such countries, particularly in the 1980s.
[39] Jolliffe 2002 provides an encompassing discussion of PCA techniques.
[40] Note that, principal component analysis provides a dependent variable of government behavior with large variation in parameter values. As a result, standard regression techniques may be employed.

where $COERC_{it}$ is our PCA weighted, continuous measure of coercive government behavior in crisis years, α is a constant or a vector of country fixed effects, $Democ_{it}$ is a measure of democracy, X_{it} is a set of economic and political control variables and u_{it} are robust standard errors. The specifications also include dummies for world regions (following the World Bank classification) and time dummies (capturing the three decades since 1980), to pick up regional effects and changes in creditor composition and debt restructuring techniques in the period of analysis.

As a baseline estimation methodology we choose standard ordinary least squares (OLS) for which all crisis-year observations are pooled in a cross-section. Given our aim to identify true underlying effects, the results are further validated by employing additional estimation techniques, in particular panel and limited response models. Details on the robustness analysis are discussed in section 7.2.

Main Explanatory Variables: Democracy, Democratic Experience and Socioeconomic Pressure

The main explanatory variables of interest here are measures of democracy.[41] To test Hypothesis 1 on the general role of regime type, we employ the democracy dummy developed by Przeworski and others and updated by Saiegh.[42] After rescaling, it takes the value of 1 for democracies and the value of 0 for autocratic regimes. As an alternative binary measure of democracy, we construct dummy variables based on the widely used Polity composite index

[41] We decided to test the regime type hypotheses using the three most widely used democracy indicators, to guarantee that results are not dependent on the variable and measurement approach employed. For a detailed comparison of institutional measures see for example Munck and Verkuilen 2002.

[42] Przeworski et al. 2000; Saiegh 2005.

(from +10 - very democratic to -10 very undemocratic).[43] The Polity index is also used to construct three additional dummy variables ("pure democracies", "mixed regimes" and "pure autocracies").[44]

To test Hypothesis 2, implying that higher degrees of democracy imply higher debtor coerciveness in crisis resolution, we rely on more continuous measures of democracy instead of binary indicators. As a baseline measure in this regard, we use the original Polity2 score from -10 to 10. In a second step, we use an interaction term of the Polity2 score and the rescaled Przeworski et al. dummy. This variable excludes variations of autocratic rule but captures the level of democracy in those states that fulfill the minimum criteria of Przeworski et al..[45] Thirdly, we also use a continuous measure, based on Freedom House data.[46] After rescaling, higher values of the aggregate Freedom House index indicate a more democratic system.

To distinguish between young and more established democracies (Hypothesis 3), we construct measures of experience with democratic institutions. First, we include a dummy for "infant democracies" taking the value of 1 if a country has experienced less than 5 years of consecutive democratic rule (i.e. 1, 2, 3 or 4 years). The second experience variable follows Besley and Kudamatsu[47] and captures the fraction of democratic years between year t -4 and t.

[43] Concretely, we build a dummy with a value of 0 (non-democracy) for Polity scores of smaller or equal to 0, and a value of 1 (democracy) for Polity scores of 1 or higher.

[44] See Jaggers and Gurr 1995; Mansfield and Snyder 2002. We code Polity scores from -6 to -10 as "pure autocracies", values of 6 to 10 are coded as "pure democracies" and scores in between as "mixed democracies". In doing so our categorization differs slightly from the initial classification of "coherent regimes" (democratic or autocratic) and "incoherent regimes" suggest by Jaggers and Gurr 1995. The reason is that by applying their categories we lost a large number of cases in the category of pure autocracies. However, it should be noted that the direction of effects were not different when we applied the Jaggers and Gurr- categorization. They can be made available upon request.

[45] Przeworski et al. 2000.

[46] More specifically, we take the average of the indicators on "Political Rights" and "Civil Liberties", which both range from 1 to 7. See Freedom House 2006.

[47] Besley and Kudamatsu 2006.

Both of these measures are constructed using the Przeworski et al.[48] data and classification. As a further validation, we draw on the newly constructed dataset on democratic transitions by Papaioannou and Siourounis[49]. Concretely, we use their dummy for democratization periods taking the value of 1 for the first year of democratization and for the 3 years afterwards.

To test Hypothesis 4, on the role of socioeconomic pressure in democracies, we draw on the widely used dataset of political stability by ICRG. Specifically, we draw on the component "socio-economic conditions" that combines the sub-measures of unemployment, consumer confidence and poverty on a scale from 1 to 12. Although based on expert opinion and thus not fully objective, this indicator is a valuable proxy to test the conditioning effect of democracy in the transmission channel of socioeconomic pressure. First, it is explicitly designed to capture "socioeconomic pressures in a society that could constrain government action or fuel social dissatisfaction".[50] Additional advantages are that the sub-indicator is (i) time-varying, i.e. available on a yearly level and thus measuring short-term variation during crisis times, and (ii) available for a large number of developing countries back to the mid 1980s.[51] Here, the indicator is inverted, so that higher values correspond to increased "socioeconomic pressure". In line with Hypothesis 4, we expect the variable to be positive and significant in democracies, while it should have no significant effect in autocracies. To test this systematically we follow recent methodological advancements[52] and add a multiplicative interaction term so that the regression equation for Hypothesis 4 turns into

[48] Przeworski et al. 2000.

[49] Papaioannou and Siourounis 2008.

[50] The PRS Group 2004, 30.

[51] Alternative variables capturing social pressure such as poverty indicators, Gini coefficient or unemployment figures are not available, not time-varying or highly unreliable for the bulk of countries under examination.

[52] Brambor, Clark and Golder 2006 and Kam and Franzese 2007.

$$COERC_{it} = \alpha + \beta_1 SocioEcon_{it} + \beta_2 Democracy_{it} + \beta_3 SocioEcon_{it} * Democracy_{it} + \gamma X_{it} + u_{it} \quad (2)$$

where *SocioEcon* represents the ICRG variable for Socioeconomic Pressure and *Democracy* is the modifying variable of interest (here, the Polity2 score). The estimation results will allow us to derive the marginal effects of *SocioEcon* conditional on the degree of democratization.

Control Variables

It is necessary to control for economic and financial conditions domestically, as well as externally, in order to avoid omitted variable bias and to identify the immediate effect of democracy on crisis resolution. The variables here are derived from a large theoretical and empirical literature on the determinants of default and debt distress.[53] First, we include two key debt indicators capturing potential solvency and liquidity problems, namely the ratio of total external debt to gross national income (GNI) and short term debt to reserves. The ratio of total external debt to GDP can be seen as a good proxy for overall debt servicing pressure, while a high ratio of short-term debt to foreign exchange reserves captures liquidity constraints in repaying foreign currency debt. Higher levels of both variables are thus expected to increase the likelihood of coercive behavior. To control for macroeconomic conditions in a given year, we include the log of inflation as well as a variable capturing the GDP's deviation from trend (in %).[54] We also include a variable capturing the overall weight of private creditors in government finances, namely the share of government debt owed to private creditors in total public debt. All

[53] The literature is summarized by Panizza, Sturzenegger and Zettelmeyer forthcoming and Hatchondo, Martinez and Sapriza 2007. Recent empirical contributions are for example, Kraay and Nehru 2004; Manasse, Roubini and Schimmelpfennig 2003 or Detragiache and Spilimbergo 2001. The main determinants identified by the literature are the level of indebtedness, measures of liquidity, the level of output, trade openness and past default history. Additionally, the presence of programs by the IMF or other official rescue lending institutions can be important (a.o. Marchesi 2003 and Roubini and Setser 2004).

[54] Calculated using the Hodrick-Prescott filter with a smoothing parameter of 6.25, as recommended for annual data.

of these variables are taken from the World Bank's Global Development Finance (GDF) and World Development Indicatiors (WDI) databases. Lastly, it is meaningful to control for the role of external factors, namely the global risk free interest rate (LIBOR) and the size of total capital flows towards developing and emerging economies.[55] While higher interest rates are expected to increase debt payment pressure and thus coerciveness, higher capital flows towards developing countries are believed to lower constraints and raise the opportunity costs for governments to behave non-cooperatively towards financial market participants.

[TABLE 2 HERE]

7. Results

Results for Hypothesis 1: Are Democracies More Coercive Towards Private Creditors?

Table 3 summarizes the results regarding Hypothesis 1. The estimations results confirm the hypothesis and indicate that *ceteris paribus*, democracies act more aggressively towards their private external creditors in debt distress episodes. The coefficient for the democracy dummy is positive, highly significant and has a sizable quantitative effect, even after controlling for a large number of economic variables and when using different econometric techniques and democracy indicators (see Table 2 and section 7.2.). Thus, as a first main result, we find regime type to be a main explanatory factor for coercive debt policies towards private creditors.

Regarding the economic control variables, they are broadly in line with the literature and theoretical predictions. The debt/GDP ratio, the proxy for liquidity constraints (short term debt to exports) and the variable capturing high rates of inflation is significant and positive, indicating

[55] Total flows to all countries included in the World Bank's Global Development Finance dataset.

that heavier financial constraints and economic instability are associated with more conflictive government behavior. The variable capturing a higher share of debt owed to private creditors is negatively signed. Governments appear to behave more cooperatively vis-à-vis private external creditors when these are crucial for the countries' overall access to capital. The only surprising result is the negative (albeit insignificant) coefficient of the global interest rate, as we expected higher interest rates to increase financial and political pressure and thus to induce more coercive debt policies.

[TABLE 3 HERE]

Results for Hypothesis 2: Do Higher Degrees of Democracy Imply Higher Coerciveness?

Departing from these baseline results, we go on to test whether the degree of democracy matters. With a view to the theoretical arguments made above, we expected higher values on a democracy scale to be associated with more conflictive crisis resolution patterns. The results in Table 3 give strong support to this assertion. The Polity variable is highly significant, quantitatively important and positive. This is the case when using the original Polity index score and when interacting it with the democracy dummy by Przeworski et al. Also the average Freedom House score is a significant and important predictor for the degree of coercive actions imposed by governments during crises. Apparently, higher degrees of democracy amplify the degree of dispute towards external creditors.

[TABLE 4 HERE]

Results for Hypothesis 3: Are Established Democracies More Conflictive?

The third hypothesis predicted more experienced democracies to act more aggressively compared with less experienced or unstable democracies. The results for the sub-sample[56] of democracies shown in Table 4 give support to the argument that experience with democracy matters. All three measures capturing democratic experience are significant with a sizable quantitative effect. Infant democracies and countries during democratic transition episodes according to Papaioannou and Siourounis[57] behave significantly less coercive towards their external private creditors (columns 1 and 2). Accordingly, a high share of democratic years in recent history is associated with higher degrees of coerciveness (column 3).[58]

[TABLE 5 HERE]

Results for Hypothesis 4: Does Socioeconomic Pressure affect Debt Policies in Democracies?

Hypothesis 4 predicts that the government's policy stance vis-à-vis external creditors is affected by socioeconomic pressure in democracies, while this should not be the case in autocracies. Table 4 provides strong support in favor of this hypothesis. The multiplicative interaction term between the socioeconomic pressure variable (by ICRG) and the Polity2 measure is highly significant and

[56] The sub-sample only includes observations for which the yearly binary measure by Przeworski et al. indicates a democratic regime. Note, however, that these results are unaffected when defining the sub-sample of democracies with dummies that are based on the Polity score.

[57] Papaioannou and Siourounis 2008

[58] Note that regional dummies are not included in the specifications of Table 5. The reason is that, in the smaller sub-sample of democracies, some of the regional dummies have a high correlation with the binary variables for young or established democracies thus leading to a potential bias in the estimations.

positive with an important quantitative effect.[59] To illustrate this finding, it is helpful to plot a graph showing the effect of socioeconomic pressure conditional on the degree of democracy as measured by the Polity score. As can be seen in Figure 2, the marginal effect of socioeconomic pressure on the degree of coerciveness increases from below 0 for highly autocratic countries to nearly 0.7 for full democracies. When relying on a binary democracy measure, the same picture emerges (see Figure 3).

[FIGURES 2 AND 3 HERE]

These results are further strengthened when interacting the socioeconomic measure with the dummy variable of "pure autocracies" (Column 2 *in Table 6*) or when testing the effect in two separate sub-samples. The results in columns 3 and 4 show that socioeconomic pressure is positive and significant in the sub-sample of pure democracies, while the coefficient turns negative and insignificant in pure autocracies (columns 1 and 2).

[TABLE 6 HERE]

7.2. Robustness Analysis

To verify the validity of our results, we conduct a series of robustness checks. We first estimated the above models with a set of alternative specifications and additional variables. Altogether, our main findings, the significant and positive coefficients of the democracy and

[59] In full democracies (with a Polity score of 10), a one standard deviation increase in socioeconomic pressure raises the average (PCA weighted) index of coerciveness by 0.82, i.e. by about half its standard deviation (an increase from 0 to 0.82 corresponds to a 12% increase in the PCA weighted index).

democratic experience measures as well as the findings on socioeconomic pressure, are stable under different model specifications. In particular, results are not significantly affected when including key institutional measures such as the constitutional system type, a proxy for veto players, or government polarization along ideological lines.[60] Also adding further economic variables such as GDP per capita, the balance of the current account to GDP, the degree of openness (imports+exports/GDP) and several other standard variables widely employed in the sovereign debt literature does not change our main findings, but often decreases the sample size due to missing values. The same is true for variables capturing the scope of IMF involvement (IMF disbursement as % of quota or annual net contributions by the IMF). We also included a variable that controls for duration dependence (number of consecutive years a country is in default), a dummy for past defaults (in the previous 5 or 10 years) and checked whether results change when deleting the regional or decade dummies. Again, results remain very similar.

As a second main robustness check, we investigate how far the results are driven by the construction of our dependent variable. For this purpose, we used a PCA weighted dependent variable based on 8 instead of 9 of the sub-indicators and consecutively excluded each of the individual indicators from the overall index. We then ran all of the above regressions with this new set of dependent variables. It turned out that none of the individual sub-indicators are crucial for our results. Overall, the findings were highly robust to alterations in the dependent variable. In a similar vein, we checked how much the weighting approach via PCA affects the results. We thus used the simple additive index of government behavior with numerical values from 1 to 10 as dependent variable, instead of the continuous PCA weighted measure. Given the ordinal character of the additive index, we resort to a standard ordered probit model estimated in the

[60] Constitutional system type is approximated by a dummy for purely presidential systems taken from the Database of Political Institutions (DPI), see Beck et al. 2001. The variable on government ideological polarization is also taken from DPI. We use a dummy for left government, which takes the value of 1 if the government is left oriented and zero otherwise. Political constraints are approximated by Henisz's 2000 Polcon III measure.

cross section. As can be seen in Table 7, results are not affected, as all three hypotheses are confirmed in an ordered probit estimation framework.[61]

[TABLE 7]

In a next step, we evaluated whether the results change when standard random and fixed effects panel data models are employed.[62] Given the focus on democracy, it is more appropriate to apply random effects estimation, as the regime type shows only limited variability over time. Nevertheless, we also check our results using fixed effects estimation. As shown in Table 8, the results regarding hypotheses 1 and 2 hold in both a random and fixed effects panel estimation framework. The result regarding Hypothesis 4 holds in a model with random effects, but not when fixed effects estimation is applied. Contrarily, the result regarding Hypothesis 3 cannot be confirmed, as the dummy for "established democracies" turns clearly insignificant in both fixed and random effects estimation.

[TABLE 8]

Finally, we aim to account for the possibility that selection into default might not be exogenous, i.e. that the group of defaulting countries shares some unobserved characteristics that also affect government behavior.[63] We thus set up a Heckman selection model, with "sovereign

[61] We get similar results when estimating the ordered probit model in a panel framework, following the routine developed by Rabe-Hesketh et al. 2000 and Frechette 2001a and 2001b.
[62] The panel is highly unbalanced given that our dependent variable is observed in crisis years only.
[63] We only observe government behaviour for crisis years, i.e. for the sub-sample of years in which countries actually default. Heckman 1979 pointed out that such incidental data truncation can lead to sample selection bias.

debt distress"[64] as the binary dependent variable in the selection equation, and the PCA weighted index of government behavior as the dependent variable in the primary equation. In order to account for selection effects, we expand the sample by adding additional observations from 23 countries that did not default in the period 1980 to 2004. To identify the model, we choose the share of bond debt in total public debt and include it in the selection equation only. The choice of this identifying variable appears valid, as the share of bond debt is a highly significant determinant of default, but an insignificant factor for the degree of coercive government behavior.[65] The two-step Heckman regression results are reported in Table 9. As can be seen, the estimations yield no evidence for selection effects. Lambda is clearly insignificant, even when changing country sample or model specification, indicating that the error terms of the selection and primary equation are not correlated. It thus seems appropriate to apply standard regression techniques with no need to correct for selection bias. A comparison of the regression results shows that the coefficients of the sample selection models closely resemble those of the ordinary OLS, panel and ordered probit estimations shown above.

[TABLE 9]

Note that the regressions for the Heckman selection model also reveal an interesting side finding related to the existing body of literature on regime type and default. In our panel of 50 developing countries, we find that democracy, measured via Polity or the Przeworski Dummy,

[64] To identify distress years in the first stage (selection equation) we use the definition employed in our coding approach, i.e. the standard binary default measure as of Standard & Poor's 2006 and add yearly observations in which debt negotiations took place.

[65] Once a country defaults, the share of bond debt is unlikely to affect the general stance of governments towards its private external creditors. However, the share of bond debt does matter for the likelihood of default. In fact, since World War II and until the late 1990s countries which had a large share of bond financing were more unlikely to default.

increases the probability of debt distress significantly. This finding in the cross-section is in line with Saiegh[66], Alichi[67] and others who also found democracies to have a higher likelihood of sovereign default or debt restructurings, but stands in contrast to the democratic advantage hypothesis of Schultz and Weingast[68]. However, the picture becomes less clear when running additional regressions on the determinants of debt distress. In fact, the democracy dummy turns insignificant once the equation is estimated individually in a panel probit or logit framework. The result is also not very robust to changes in specification and sample. We thus conclude that the link between regime type and sovereign default remains unclear. We can clearly confirm, however, that democracies tend to behave more conflictive towards their external creditors *during* debt distress episodes and once governments enter default. As we have shown, this overall finding is very stable to the choice of the estimation technique and to a large number of robustness checks.

9. Conclusion

This article has shown that in a situation of sovereign debt distress, democracies behave more coercively vis-à-vis external creditors than autocracies. The theoretical reasons underlying this finding look compelling and the empirical results are very robust. The article indicates that while it seems difficult to solve the discussion on how regime-type affects the likelihood of sovereign defaults, there is a clear regime-type influence once a country has entered a debt crisis, i.e. when the procedural elements of defaulting are analyzed.

[66] Saiegh 2005.

[67] Alichi 2008.

[68] Schultz and Weingast 2003.

The empirical tests yield four main results on the link between sovereign default or debt renegotiation and regime-type of the debtor. First, we find that democratic governments act more aggressively towards their external private creditors on average. The second finding is that the degree of coerciveness of government policies towards creditors is significantly higher at high levels of democracy. As a third result, we find that less experienced democracies behave similarly to autocracies: a significant positive effect on coerciveness can only be reported for countries which have reached the threshold of five years of consecutive democratic rule. Finally, we address the conditional effect of democratic regimes in the transmission channel of socioeconomic pressure: As predicted, we find that socioeconomic pressure affects debt policies towards external creditors, but only if the government is democratic. Increasing socioeconomic pressure has a strong influence on government coerciveness in democracies but no effect in autocracies.

Our article has made the attempt to open up the "black box" of sovereign default episodes. Thus far, much of the literature has either used the binary differentiation between "non default" and "default" episodes or has gone into qualitative comparisons of default cases. We believe our Indicator of Government Coerciveness allows us to look at different types of government defaults and can bridge the gap between the two approaches.

Overall, we see our findings as important complements to the existing literature, which remains inconclusive on the effect of regime-type for sovereign risk and default. Our dependent variable of debtor coerciveness, capturing unilateral actions imposed on foreign private creditors during debt distress episodes, may per se be seen as an important contribution to the field. More broadly, our analysis of disputes in the arena of sovereign debt may be of relevance in related research on trade disputes, on expropriations of foreign investors or on disputes between governments and the International Monetary Fund..

Do our findings on the high degree of aggressiveness in democratic countries indicate that investors should avoid democracies? Not really. The difference between democracies and autocracies seems to matter only, once a default or restructuring is already under way. However, we believe investors would be well advised to follow government behavior and rhetoric closely, especially when socioeconomic conditions in democracies deteriorate significantly.

Appendix

[NOTE TO THE EDITORS AND REFEREES: IF DEEMED APPROPRIATE, THIS APPENDIX OR PARTS OF IT COULD BE PUBLISHED ON THE WEBSITE OF THE AUTHORS]

Appendix 1: Composition of the "Index of Coerciveness": 9 binary sub-indicators

1. Payments missed (yes/no)

   The first sub-indicator captures missed payments and, hence, the breach of debt contracts with private creditors. It is coded 1 if the government misses interest or principal payment on bonds or loans owed to private external creditors. 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 this indicator takes the value of 0 whenever the sovereign manages to restructure its debt before running into arrears (pre-emptive restructuring cases).

2. Unilateral payment suspension (yes/no)

   The sub-indicator "unilateral payment suspension" is included to differentiate between outright defaults and "negotiated defaults".[69] Payments that are withheld unilaterally and without warning to creditors are a clear sign of non-cooperative, unilateral

[69] Bulow and Rogoff 1989.

behavior. Accordingly, the sub-indicator is coded 1 whenever the government incurs arrears unilaterally, without a previous agreement or consultations on payment deferral.

3. Full suspension of interest payments (yes/no)

   The full suspension of interest payments has to be regarded as a separate indicator of coercive behavior. A government that fully suspends interest payments, even refusing to make token payments, sends a strong signal of its unwillingness to pay. The sub-indicator is coded 1 in case where the government suspends interest payments on sovereign bonds or public syndicated bank loans for more than 90 days in a given year.

4. Freeze on assets of non-residents (yes/no)

   In a series of crisis cases, governments issued emergency decrees that lead to an effective freeze of creditor assets in the country, which should certainly be regarded as coercive government behavior. The sub-indicator “freeze on assets of non-residents” 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, including private to private debt repayment.

5. Explicit moratorium or default declaration (yes/no)

   The sub-indicator is coded 1 in cases where a key government actor, i.e. the President, the Prime Minister, the chief debt negotiator or Ministers of Finance, Economy or Planning, or the President of the Central Bank 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 declaring default publicly by falling into arrears or starting debt renegotiation without an official proclamation. Therefore, an official declaration of default can be seen as analogous to a declaration of war, and usually only takes place in an already very conflictive situation.

6. Explicit threats to repudiate on debt (yes/no)

   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, e.g. by imposing an indefinite unilateral moratorium. Such threats, often issued by populist governments and during deadlocks in debt negotiations, tend to be widely reported in the press and should be regarded as a clear signal of coercive debt policies.

7. Breakdown or refusal of negotiations (yes/no)

   We coded 1 if either one of the following criteria applied: (i) the refusal of governments to engage in negotiations with creditors and (ii) delays or even breakdowns of debt negotiations of more than 3 months in a given year that are caused by unilateral government behavior. Delays that are caused by creditor coordination failure, creditor litigation or outright inter-creditor disputes are explicitly not taken into account. In fact, such creditor induced negotiation delays are coded in separate indicators [AUTHORS].

8. Data disclosure problems (yes/no)

Private creditors need accurate macroeconomic and financial data to evaluate restructuring offers and a government's capacity to pay. Accordingly, information sharing is typically regarded as a key important element of faithful crisis resolution. Despite this, there have been frequent disputes on data disclosure in past crises, often about reserve and debt related data. The subindicator is coded 1 (i) whenever governments explicitly refuse to provide information on crucial negotiation issues, or (ii) if there is an open dispute with creditors due to grossly inaccurate data.

9. Forced and non-negotiated restructuring (yes/no)

This indicator considers whether the restructuring was ultimately negotiated or not. It 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. 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. The sub-indicator thus aims to differentiate between cases of close creditor consultations and restructurings, such as 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. This includes cases where governments unilaterally decide to lower the interest rate on debt, or to restructure debt owed by the private sector without any prior consultations.

Appendix 2: Coding Procedure and Coding Results

Our general coding approach was to gather as much information as possible across the full set of middle income countries that defaulted between 1980 and 2007. We consider those years as debt distress 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. The successful implementation of a restructuring deal – be it with banks or bondholders – is defined as the end of the crisis episode. Generally, we started to cover cases from 1980 on.

Regarding the selection of countries, our list initially included all 136 developing and emerging economies in the World Bank's Global Development Finance database. As we focus on government actions during crises times only, we excluded countries which did not feature a default since 1980. As noted above, we also exclude low income countries, given the limited role of private creditors in sovereign debt restructuring processes.[70] The main selection criterion was the United Nations definition of Least Developed Countries. Further low-income countries not considered were Cameroon, Congo, Ghana, Guyana, Honduras, Kenya, Mongolia, and Zimbabwe as well as countries of former Yugoslavia (Bosnia and Herzegovina, Croatia, Macedonia, Serbia and Montenegro, Slovenia).

The basis of coding was a thorough and standardized evaluation of numerous policy reports, case studies and main reference books on sovereign debt crises and more than 20,000 pages of articles from the financial press (see Table below for source details). Concretely, we applied standardized search algorithms in the online news database *factiva* and preselected six flagship media sources. Further information was retrieved from databases such as the GDF and from annual series such as

[70] The debt restructuring process in these countries is mostly dominated by Paris Club and IMF talks while commercial creditors typically play a much less important role. Moreover, negotiations with private 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. Cf. Rieffel 2003,105.

the IMF's "Annual Report on Exchange Arrangements and Exchange Restrictions" (1980–2006). The detailed coverage in the press and academic sources generally allowed coding each sub-indicator on a country-year level based on more than 3, and in some cases up to 20 or 30, sources. To guarantee transparency and replicability, each coding decision is justified in one or two sentences. These are then backed with the underlying detailed quotes from the original press articles, books or papers (see [AUTHORS], for more details on the database).

Overall, our index appears to be a valid proxy for coercive government behaviour; "Tough" negotiations, "hard" restructuring cases and non-cooperative behaviour as reported for specific crises by Aggarwal, Cline, Boughton, Roubini and Setser or Andritzky, which have a high index value (of at least 5) according to our coding results.[71] 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. It should also be highlighted that each sub-indicator displays enough variability to be included in the index. Furthermore, the correlation between each of the individual sub-indicators is relatively low in most cases, so that the sub-indicators can be seen as sufficiently independent from each other.[72]

[71] Aggarwal 1996; Cline 1995 and 2004; Boughton 2001; Roubini and Setser 2004; Andritzky 2006.

[72] See [AUTHORS 2008] for details and descriptive statistics.

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

Sub-Indicator	Coding Sources
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.
Full suspension of interest payments	Main Source: Data on Interest Arrears and Interest Payments from the GDF database. Supplementary information from the financial press, Stamm (1987), policy reports, book sources.
Freeze on assets of non-residents (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 20.000 pages of articles from the Financial Times, Reuters, the Wall Street Journal, Dow Jones News Service, the New York Times and Associated Press.

Main 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). Further policy reports are cited in the raw database.

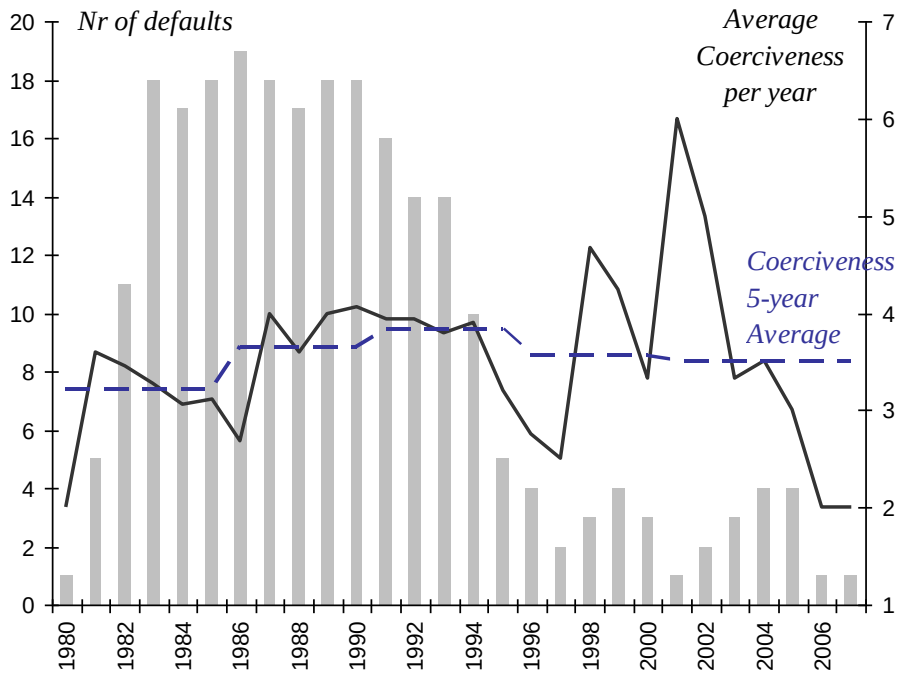
Book Sources: Aggarwal (1996), Andritzky (2006), Boughton (2001), Cline (1995), Roubini and Setser (2004), Rieffel (2003), Sturzenegger and Zettelmeyer (2007).

Appendix 4: Crisis Periods Covered in the Database on Government Coerciveness

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		

FIGURE 1

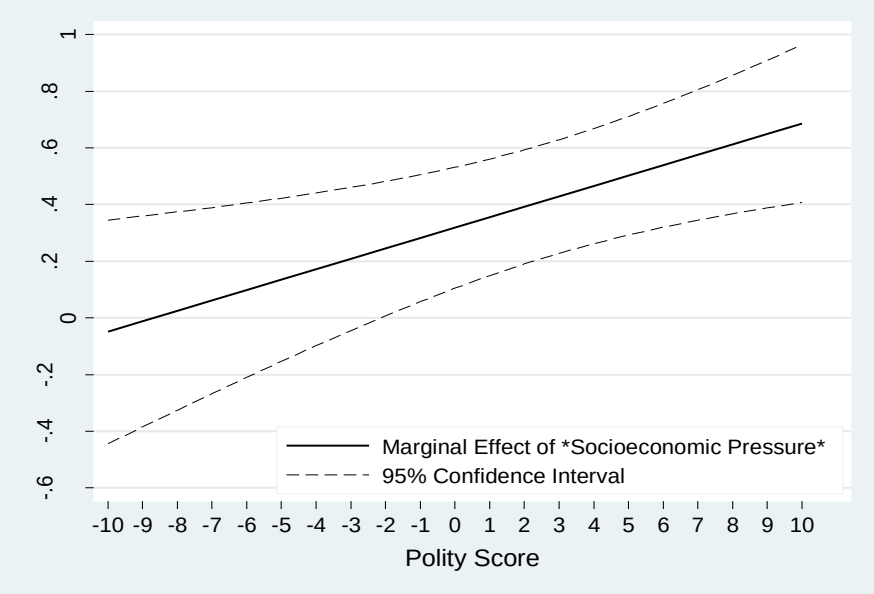
The Index of Coerciveness over Time



The graph plots the average "Index of Coerciveness" per year (solid line) and as a 5 year average (dotted blue line) as well as the number of default episodes (grey bars) in the original sample. The coerciveness data is based on the simple additive index of all 9 binary sub-indicators of debtor coerciveness (see text). Each of the 9 sub-indicators is a dummy, which is coded 1 if the respective unilateral action by governments towards private external creditors is observed and zero otherwise. The overall additive index has a lower bound of 1 (low coerciveness, no unilateral policies observed) and a higher bound of 10 (highest degree of debtor coerciveness).

FIGURE 2

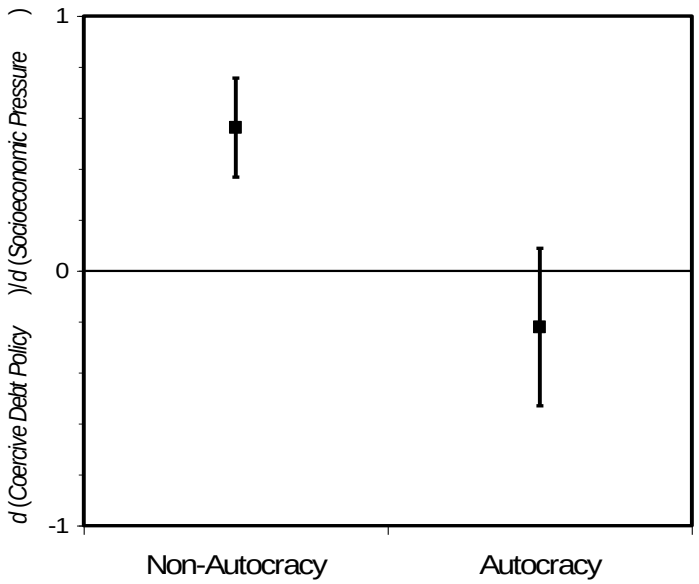
Conditional Marginal Effect of *Socioeconomic Pressure* on Debtor Coerciveness (1)



Note: The graph displays the coefficient value (marginal effect) of the variable *Socioeconomic Pressure* by level of democratization (Polity Score). The dependent variable is the degree of debtor coerciveness in crisis years as measured by the continuous index weighted through PCA (see text).

FIGURE 3

Conditional Marginal Effect of *Socioeconomic Pressure* on Debtor Coerciveness (2)



Note: The Graph displays the coefficient value (marginal effect) of the Variable *Socioeconomic Pressure* for Non-Autocracies and "Pure" Autocracies (with Polity Scores of -6 or lower). The dependent variable is the degree of debtor coerciveness in crisis years as measured by the continuous index weighted through PCA (see text).

TABLE 1

Crisis Episodes with High and Low Debtor Coerciveness

Country	Years	Regime Type	Established Democracy?	Socioeconomic Pressure
Episodes with High Debtor Coerciveness (Index values of 7 or higher)				
Argentina	2002 - 2005	Democratic	Yes	Very High
Brazil	1987 and 1989	Democratic	No	High
Dominican Rep.	1989 - 1990	Democratic	Yes	High
Nigeria	1990 - 1991	Autocratic		Intermediate
Peru	1985 - 1989	Democratic	Yes	Very High
Russia	1998	Democratic	Yes	High
Episodes with Very Low Debtor Coerciveness (Index values of 2 or lower)				
Algeria	1991 - 1993	Autocratic		High
Chile	1984 - 1989	Autocratic		High/Intermediate
Moldova	2002	Democratic	No	High
Morocco	1986 - 1988	Autocratic		High
Uruguay	1985 - 1988	Democratic	No	High/Intermediate
South Africa	1986 - 1987	Autocratic		High

Note: The table differentiates between debt distress episodes with very high debtor coerciveness (index values of 7, 8, 9 or 10, see upper part) and crisis periods with very low debtor coerciveness (index values 1 or 2, see lower part). The simple additive Index of Coerciveness (from 1 to 10) is used. Regime type is defined according to Przeworski et al. (2000). Established democracies are defined as countries with 5 or more years of consecutive democratic rule, again following Przeworski et al. (2000). Socioeconomic Pressure according to the inverted ICRG sub-indicator (scale 1-12), where "very high" pressure indicates values of 9 or higher, "high" stands for values from 6.00 to 8.99 and "intermediate" for values between 3.00 and 5.99. It should be noted that the table does not list all cases with particularly low index values (of 2 or lower). There are a few additional episodes not listed here - both in autocracies as in democracies.

TABLE 2

Summary Statistics and Data Sources (sample of debt crisis years employed)

Variable	Obs	Mean	Std. Dev.	Min	Max	Data Source
Index of Coerciveness (continuous, weighted by PCA)	238	0.00	1.67	-2.33	4.45	[AUTHORS]
Index of Coerciveness (simple additive index)	238	3.63	1.91	1.00	9.00	[AUTHORS]
Democracy Score (Polity)	228	3.42	6.41	-8.00	10.00	Polity IV
Democracy Score (Freedom House)	238	4.71	1.46	1.00	7.00	Freedom House (average of "Political Rights" and "Civil Liberties"), inverted
Democracy Dummy (Przeworski et al.)	226	0.61	0.49	0.00	1.00	Przeworski et al. (2000) and Saiegh (2005), inverted
External debt / GDP	220	0.76	0.35	0.17	2.31	GDF (World Bank)
Short-term Debt / Reserves	221	1.99	2.90	0.05	24.00	GDF (World Bank)
Share of Public Debt to Private Creditors	227	0.52	0.23	0.02	0.90	GDF (World Bank)
Inflation (log)	227	2.49	4.00	-11.51	9.42	WDI (World Bank)
GDP (% deviation from trend)	230	-0.03	0.12	-0.51	0.36	GDF (World Bank), authors calculation
Global Interest Rate (LIBOR)	238	7.57	2.97	1.22	16.87	IFS (IMF)
Total Net Capital Flows to Developing World	236	127701.90	107291.30	-12104.42	674427.00	GDF (World Bank)
Socioeconomic Conditions	199	4.85	1.28	1.50	8.00	ICRG

TABLE 3

Democracies behave more coercively towards creditors

	Model 1 with Dummy by Przeworski et al.	**Model 2** with Dummy based on Polity>0	**Model 3** with Dummy for Pure Democracies	**Model 4** with Dummy for Pure Autocracies
Democracy Dummy (Przeworski)	**1.076*** (0.231)**			
Democracy Dummy (Polity>0)		**1.258*** (0.278)**		
Pure Democracies Dummy (Polity ? 6)			**0.686*** (0.242)**	
Pure Autocracies Dummy (Polity ? -6)				**-0.862*** (0.329)**
External debt / GNI	1.386*** (0.279)	1.151*** (0.338)	1.154*** (0.357)	1.339*** (0.353)
Short-term Debt / Reserves	0.177*** (0.034)	0.161*** (0.033)	0.150*** (0.035)	0.153*** (0.037)
Share of Debt to Private Creditors	-1.309*** (0.421)	-0.757* (0.440)	-1.082** (0.429)	-1.067** (0.423)
Inflation (log)	0.122*** (0.035)	0.073** (0.033)	0.078** (0.033)	0.074** (0.033)
GDP (% deviation from trend)	-0.087 (0.489)	-0.684 (0.554)	-0.250 (0.533)	-0.196 (0.522)
Global Interest Rate (LIBOR)	-0.033 (0.046)	-0.041 (0.048)	-0.058 (0.050)	-0.069 (0.051)
Total Capital Flows to Developing World	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant	-1.760** (0.779)	-0.619 (1.143)	-0.273 (1.204)	0.410 (1.130)
Regional Dummies	YES	YES	YES	YES
Decade Dummies	YES	YES	YES	YES
Observations	202	206	206	206
Adj. R^2	0.315	0.274	0.239	0.234

Note: Pooled OLS Regression. The dependent variable is the degree of debtor coerciveness in crisis years as measured by the continuous index weighted through PCA (see text). ***/**/* denotes significance at a 1/5/10 % respectively. Robust standard errors in parentheses.

TABLE 4

Higher degrees of democracy imply higher debtor coerciveness

	Model 1 with Continuous Polity Score	**Model 2** with Democracy Interaction Term	**Model 3** with Continuous Freedom House Score
Poility Score	**0.063*** (0.020)**		
Polity x Dem.Dummy by Przeworski		**0.085*** (0.028)**	
Freedom House			**0.214*** (0.081)**
External debt / GNI	1.155*** (0.352)	1.002*** (0.347)	1.437*** (0.306)
Short-term Debt / Reserves	0.158*** (0.034)	0.174*** (0.037)	0.151*** (0.037)
Share of Debt to Private Creditors	-1.016** (0.432)	-1.400*** (0.432)	-1.038** (0.431)
Inflation (log)	0.076** (0.033)	0.118*** (0.036)	0.078** (0.033)
GDP (% deviation from trend)	-0.382 (0.539)	-0.129 (0.507)	-0.056 (0.509)
Global Interest Rate (LIBOR)	-0.055 (0.049)	-0.062 (0.048)	-0.064 (0.049)
Total Capital Flows to Developing World	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant	0.085 (1.159)	-0.802 (0.827)	-0.873 (1.162)
Regional Dummies	YES	YES	YES
Decade Dummies	YES	YES	YES
Observations	206	196	212
Adj. R^2	0.242	0.280	0.234

Note: Pooled OLS Regression. The dependent variable is the degree of debtor coerciveness in crisis years as measured by the continuous index weighted through PCA (see text). ***/**/* denotes significance at a 1/5/10 % respectively. Robust standard errors in parentheses.

TABLE 5

Younger democracies behave less coercively (subsample of democracies)

	Model 1	**Model 2**	**Model 3**
	Accounting for Infant Democracies	Accounting for Democratic Transitions	With Recent Democratic History
Infant Democracies (Dummy)	**-0.854*** (0.260)**		
Democratic Transitions (Dummy)		**-0.741*** (0.272)**	
Share of Democratic years in previous 5 years			**2.057*** (0.535)**
External debt / GNI	1.437*** (0.376)	1.308*** (0.376)	1.432*** (0.376)
Short-term Debt / Reserves	0.298*** (0.075)	0.256*** (0.077)	0.321*** (0.065)
Share of Debt to Private Creditors	-0.672 (0.508)	-0.593 (0.507)	-0.619 (0.503)
Inflation (log)	0.134*** (0.039)	0.138*** (0.039)	0.131*** (0.039)
GDP (% deviation from trend)	0.685 (0.535)	0.537 (0.497)	0.460 (0.521)
Global Interest Rate (LIBOR)	-0.088 (0.063)	-0.080 (0.063)	-0.084 (0.061)
Total Capital Flows to Developing World	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant	-0.923 (0.963)	-0.886 (0.939)	-2.913*** (1.017)
Regional Dummies	NO	NO	NO
Decade Dummies	YES	YES	YES
Observations	132	132	132
Adj. R^2	0.214	0.203	0.232

Note: Pooled OLS Regression in sub-sample of democracies, according to the classification by Przeworski et al. (2000). The dependent variable is the degree of debtor coerciveness in crisis years as measured by the continuous index weighted through PCA (see text). ***/**/* denotes significance at a 1/5/10 % respectively. Robust standard errors in parentheses.

TABLE 6

Socioeconomic pressure increases debtor coerciveness in democracies, but not in autocracies

	Model 1	**Model 2**	**Model 3**	**Model 4**
	Full Sample		Subsample of Pure Democracies	Subsample of Pure Autocracies
	Interaction Model with Polity Score	Interaction Model with Autocracy-Dummy	Basic Specification	Basic Specification
Socioeconomic Pressure	0.330***	0.578***	0.485***	-0.090
	(0.109)	(0.108)	(0.138)	(0.186)
Polity Score	0.248***			
	(0.069)			
SocioEcon. Pressure X Polity Score	0.036***			
	(0.014)			
Dummy for Pure Autocracies		-5.119***		
		(0.973)		
SocioEcon. Pressure X Autocracy Dummy		-0.790***		
		(0.196)		
External debt / GNI	0.249	0.518	0.658	1.436*
	(0.416)	(0.404)	(0.461)	(0.833)
Short-term Debt / Reserves	0.165***	0.178***	0.191**	0.172***
	(0.038)	(0.038)	(0.083)	(0.034)
Share of Debt to Private Creditors	-1.322***	-1.325***	-1.023*	2.027
	(0.452)	(0.440)	(0.587)	(1.656)
Inflation (log)	0.054	0.052	0.042	-0.016
	(0.038)	(0.038)	(0.043)	(0.053)
GDP (% deviation from trend)	-0.320	-0.214	-1.092	-1.722
	(0.593)	(0.591)	(0.973)	(1.556)
Global Interest Rate (LIBOR)	-0.087	-0.095	-0.154*	0.229
	(0.073)	(0.071)	(0.088)	(0.157)
Total Capital Flows to Developing World	-0.000	-0.000	-0.000	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	2.182	3.693***	4.432***	-7.338**
	(1.338)	(1.308)	(1.578)	(3.365)
Regional Dummies	YES	YES	YES	YES
Decade Dummies	YES	YES	YES	YES
Observations	176	176	116	28
Adj. R^2	0.328	0.345	0.263	0.641

Note: Pooled OLS Regression. The dependent variable is the degree of debtor coerciveness in crisis years as measured by the continuous index weighted through PCA (see text). ***/**/* denotes significance at a 1/5/10 % respectively. Robust standard errors in parentheses.

TABLE 7:

Results in Ordered Probit Models

	Model 1 with Dummy by Przeworski	Model 2 with Polity Score	Model 3 Accounting for Infant Democracies	Model 4 Accounting for Socioeconomic Pressure
Democracy Dummy (Przeworski)	0.783*** (0.185)			
Polity Score		0.044*** (0.015)		0.190*** (0.058)
Established Democracies (Dummy)			-0.603*** (0.214)	
Socioeconomic Pressure				0.233** (0.092)
SocioEcon. Pressure X Polity				0.028** (0.012)
External debt / GNI	1.039*** (0.221)	0.744*** (0.244)	1.088*** (0.283)	0.077 (0.301)
Short-term Debt / Reserves	0.140*** (0.027)	0.117*** (0.024)	0.237*** (0.061)	0.128*** (0.027)
Share of Debt to Private Creditors	-0.909*** (0.330)	-0.662** (0.305)	-0.624 (0.412)	-0.937*** (0.340)
Inflation (log)	0.099*** (0.030)	0.056** (0.024)	0.100*** (0.034)	0.039 (0.028)
GDP (% deviation from trend)	-0.055 (0.364)	-0.224 (0.357)	0.428 (0.440)	-0.233 (0.417)
Global Interest Rate (LIBOR)	-0.025 (0.036)	-0.043 (0.036)	-0.091* (0.048)	-0.069 (0.052)
Total Capital Flows to Developing World	0.000* (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)
Regional Dummies	YES	YES	YES	YES
Decade Dummies	YES	YES	YES	YES
/cut1	0.180 (0.591)	-1.048 (0.782)	-0.411 (0.734)	-2.662*** (0.992)
/cut2	0.690 (0.591)	-0.551 (0.786)	-0.046 (0.734)	-2.154** (0.996)
/cut3	1.296** (0.600)	-0.018 (0.793)	0.610 (0.739)	-1.625 (1.003)
/cut4	1.847*** (0.600)	0.505 (0.796)	1.261* (0.741)	-1.059 (0.998)
/cut5	2.618*** (0.600)	1.192 (0.798)	2.109*** (0.753)	-0.282 (0.986)
/cut6	3.219*** (0.597)	1.739** (0.779)	2.663*** (0.742)	0.263 (0.968)
/cut7	3.599*** (0.620)	2.101*** (0.791)	3.077*** (0.784)	0.681 (0.986)
/cut8	4.062*** (0.657)	2.702*** (0.819)	3.493*** (0.815)	1.238 (1.004)
Regional Dummies	YES	YES	YES	YES
Decade Dummies	YES	YES	YES	YES
Observations	202	206	132	176
Adj. R^2	0.102	0.080	0.098	0.112

Note: Ordered Probit Regression. The dependent variable is the degree of debtor coerciveness in crisis years as measured by the simple additive index ranging from 1 (low coerciveness) to 10 (high coerciveness). The 9 binary sub-indicators of the index are defined in the text . ***/**/* denotes significance at a 1/5/10 % respectively. Robust standard errors in parentheses.

TABLE 8

Results in Panel Data Models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	Random Effects (Democ. Dummy)	Fixed Effects (Democ. Dummy)	Random Effects (Polity Score)	Fixed Effects (Polity Score)	Random Effects (Dem. Experience)	Fixed Effects (Dem. Experience)	Random Effects (Socioecon. Pressure)	Fixed Effects (Socioecon. Pressure)
Democracy Dummy (Przeworski)	0.957***	0.870***						
	(0.273)	(0.320)						
Polity Score			0.048**	0.045**			0.192***	0.108
			(0.020)	(0.022)			(0.066)	(0.070)
Established Democracies (Dummy)					-0.132	0.223		
					(0.262)	(0.286)		
Socioeconomic Pressure							0.239**	-0.001
							(0.107)	(0.120)
SocioEcon. Pressure X Polity Score							0.024*	0.007
							(0.013)	(0.013)
External debt / GNI	1.685***	1.816***	1.870***	2.370***	2.234***	3.249***	0.593	1.519*
	(0.385)	(0.521)	(0.485)	(0.590)	(0.626)	(0.817)	(0.496)	(0.849)
Short-term Debt / Reserves	0.180***	0.177***	0.153***	0.151***	0.188***	0.110*	0.172***	0.163***
	(0.036)	(0.038)	(0.035)	(0.036)	(0.069)	(0.066)	(0.041)	(0.044)
Share of Debt to Private Creditors	-1.046*	-0.273	-0.527	0.177	-1.888**	-4.195***	-1.159**	0.803
	(0.594)	(1.041)	(0.671)	(1.134)	(0.879)	(1.501)	(0.544)	(1.342)
Inflation (log)	0.087***	0.071**	0.040	0.030	0.087**	0.069**	0.041	0.019
	(0.032)	(0.030)	(0.031)	(0.028)	(0.040)	(0.035)	(0.038)	(0.033)
GDP (% deviation from trend)	-0.607	-0.776	-0.853	-0.537	0.579	1.095	-0.796	-1.370
	(0.569)	(0.766)	(0.676)	(0.836)	(0.710)	(0.969)	(0.669)	(1.028)
Global Interest Rate (LIBOR)	-0.028	-0.035	-0.042	-0.049	-0.080	-0.031	-0.049	-0.037
	(0.039)	(0.044)	(0.040)	(0.045)	(0.055)	(0.060)	(0.066)	(0.065)
Total Capital Flows to Developing World	0.000	0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Regional Dummies	YES	NO	YES	NO	YES	NO	YES	NO
Decade Dummies	YES	YES	YES	YES	YES	YES	YES	YES
Constant	-1.352*	-1.398	-0.730	-1.360	-0.845	-1.189	1.451	-0.415
	(0.798)	(0.975)	(1.250)	(1.500)	(1.141)	(1.473)	(1.396)	(2.153)
Observations	202	202	206	206	132	132	176	176
Adj. R^2		0.267		0.260		0.245		0.226

Note: Fixed and Random Effects Panel Regression. The dependent variable is the degree of debtor coerciveness in crisis years as measured by the continuous index weighted through PCA (see text). ***/**/* denotes significance at a 1/5/10 % respectively. Robust standard errors in parentheses.

TABLE 9

Results in Heckman Selection Models

	Heckman Selection Model (with Democracy Dummy)		Heckman Selection Model (with Polity Score)	
	Primary Eq. (Coerciveness)	**Selection Eq. (Default)**	**Primary Eq. (Coerciveness)**	**Selection Eq. (Default)**
Democracy Dummy (Przeworski)	1.025***	0.423***		
	(0.261)	(0.158)		
Poility IV Score			0.064***	0.037***
			(0.023)	(0.012)
External debt / GNI	0.009*	0.021***	0.012**	0.021***
	(0.005)	(0.002)	(0.006)	(0.002)
Short-term Debt / Reserves	0.149***	0.113**	0.153***	0.119***
	(0.040)	(0.044)	(0.045)	(0.043)
Share of Debt to Private Creditors	-1.471***	1.596***	-0.805	1.472***
	(0.534)	(0.282)	(0.585)	(0.265)
Inflation (log)	0.104***	0.071***	0.083***	0.053***
	(0.032)	(0.022)	(0.032)	(0.019)
GDP (% deviation from trend)	-0.049	-0.987	-0.209	-1.119*
	(0.983)	(0.699)	(1.050)	(0.641)
Global Interest Rate (LIBOR)	0.006	-0.090***	-0.054	-0.090***
	(0.059)	(0.030)	(0.064)	(0.028)
Total Capital Flows to Developing World	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Share of Bonds in Total Debt		-1.976***		-1.442***
		(0.447)		(0.386)
Regional Dummies	YES	YES	YES	YES
Decade Dummies	YES	YES	YES	YES
Share of Public External Debt in Bond Form		-1.976***		-1.442***
		(0.447)		(0.386)
Constant	-1.260	-8.552	-0.587	-3.136***
	(0.926)		(1.666)	(0.332)
Lambda	-0.437		0.043	
	(0.416)		(0.504)	
Observations	1,002		1,200	

Note: Two-Step Heckman Selection Model. The binary dependent variable in the selection equation (first stage) is debt distress, based on the S&P criterion of default and details on the start of negotiations. The dependent variable in the primary equation (second stage) is the degree of debtor coerciveness in debt distress years as measured by the continuous index weighted through PCA (see text).The country sample included in the selection equation is the following: Albania, Algeria, Argentina, Armenia, Azerbaijan, Belarus, Bolivia, Brazil, Bulgaria, Chile, Colombia, Costa Rica, Czech Rep., Dominican Rep., Ecuador, Estonia, Georgia, Hungary, India, Kazakhstan, Kyrgyz Rep., Latvia, Lithuania, Malaysia, Mexico, Moldova, Morocco, Nigeria, Oman, Pakistan, Panama, Papua New Guinea, Philippines, Poland, Romania, Russia, Sri Lanka, Tajikistan, Thailand, Tunisia, Turkey, Ukraine, Uruguay and Venezuela. ***/**/* denotes significance at a 1/5/10 % respectively.

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