Coalition Governments and Sovereign Debt Crises

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Abstract

This article examines the domestic politics of sovereign debt repudiation. I contend that countries that are governed by a coalition of parties are less likely to reschedule their debts than those under single-party governments. I test this argument using cross-national data from 1971 to 1997 in 48 developing countries. My results show that *ceteris paribus*, the probability of debt repudiation is lower when there is a multi-party coalition rather than a single-party government in power. The effect of multi-party coalitions on sovereign defaults is quantitatively large and roughly of the same order of magnitude as liquidity factors such as debt burden and debt service. These results are robust to numerous specifications and samples. I complement my statistical findings with an examination of the Argentine default in 2001. I find that both the timing and the political circumstances under which the repudiation of the country's sovereign debt occurred correspond to the conditions identified in this paper.

Introduction

Defaults by sovereign governments on bonds and bank loans have historically reflected a variety of factors such as wars, revolutions, lax fiscal and monetary policies, and external economic shocks. More recently, fiscal discipline and debt management pose significant challenges for many countries. Beginning in the late 1970s, the proportion of governments with debt in default rose sharply and peaked at 29.6% in 1990. The total value of sovereign bonds and bank loans in default also reached its peak in 1990 (US$335 billion). Recent defaulters include Russia (1998-2000), Ecuador (1999-2000), Pakistan (1999), and Argentina (2001-2005). The Argentine default stands out; it was by far the largest, involving more than $100 billion of privately held debt.

The classic literature on sovereign debt identifies a "willingness to pay" as the main factor that distinguishes sovereign debt from ordinary debt owed by nongovernment entities. In the corporate world, debt contracts are enforced by the threat of liquidation in the event of default. In contrast, creditors have limited legal redress in the case of sovereign entities. Therefore, governments can (and sometimes do) default selectively on their obligations, even when they possess the financial capacity for timely debt service. [1]

This leads to the following question: why do some governments default on their sovereign debts while others do not? The existing literature suggests that countries may not be *willing* to repay their debts when their *ability* to do so is severely curtailed and thus deep sacrifices are needed. While most studies recognize that political constraints shape a country's willingness to adopt unpopular measures, little systematic work studies the role of domestic politics on debtor-creditor relations. This paper fills this gap in the literature by examining the politics

of debt repudiation across the developing world. In particular, I investigate how governments can commit to repaying debt when creditors are a minority of the population.

I claim that countries that are governed by a coalition of parties will be less likely to reschedule their debts than those under single-party governments. The logic of the argument is the following: when the government relies on a single party majority, the influence of a small group of creditors would be limited. However, if the government is supported by a coalition of parties, then creditors would have the opportunity to implement cross-issue deals inside the governing coalition.

I test this argument using cross-national data from 1971 to 1997 in 48 developing countries. My results show that the probability of debt repudiation is lower when there is a multi-party coalition rather than a single-party government in power. This finding is robust to numerous changes of specifications and samples. I further substantiate this claim by examining the Argentine default in 2001. Both the timing and the political circumstances under which the repudiation of the country's sovereign debt occurred are consistent with my predictions.

These findings have important implications for both scholars and policy makers who analyze sovereign borrowing. First, my results highlight the inappropriateness of the strategies used by official multilateral lenders. These agencies rarely focus on domestic politics to predict a country's debt sustainability and instead, rely almost exclusively on debt burden indicators to make those predictions.

My research also emphasizes the importance of domestic political forces on international financial relations. The international political economy literature finds that a policy assumed to be in the interest of a debtor country is not necessarily in the interest of everyone in that country. However, the specific mechanisms through which different preferences over policy

are aggregated are seldom discussed. As such, this paper explicitly focuses on two alternative mechanisms that aggregate these preferences: single-party versus multi-party coalitions. More specifically, the findings in this paper contribute to three related literatures in political economy: (1) the "democratic advantage" debate (Schultz and Weingast 2003, Stasavage 2003, Jensen 2005, Archer, Biglaiser, and DeRouen 2007); (2) studies of the interactions between politics and financial markets in emerging economies (Vreeland 2003, Leblang 2003, Martinez and Santiso 2003, Santiso 2005, Satyanath 2005); (3) research focusing on the policy consequences of political competition and of coalition governments (Dixit and Londregan 1998, Pinto and Timmons 2005, Bawn and Rosenbluth 2006, Iversen and Soskice 2006, Cheibub 2006, Kohlscheen 2006).

I present my argument and evidence in the following order. In the next section, I discuss the relevant literature on the politics of sovereign debt repayment and develop my own testable claims. The following section describes the data used in this study and the main empirical results. In the third section, I examine the Argentine case in light of the cross-national evidence. A final section concludes.

1 The Politics of Debt Repudiation

The popular press frequently asserts that public debt repayment depends both on economic and political conditions. This view is echoed by the scholarly literature. Most studies suggest that sovereign debt crises are usually preceded by serious economic downturns (Levy Yeyati 2006, Inter-American Development Bank 2007). However, the empirical evidence also suggests that while harsh economic circumstances can increase the likelihood of default, they are neither a necessary nor a sufficient condition for this to occur. Tomz and Wright

(2007) find that countries experiencing economic crises are just as likely as countries with good economic conditions to suspend payments on loans from private creditors. In fact, throughout the period between 1820 and 2004, several countries maintained debt service while facing adverse shocks (Tomz and Wright 2007).

These findings suggest that most of the time, macroeconomic conditions provide ample space for policy-making. As such, rulers can service the public debt by cutting public spending and/or raising taxes. However, sovereign governments can also stop making payments on their obligations and use the revenue to maintain their levels of public spending. Clearly, these examples imply that such choices have distributional consequences – deciding one way or another necessarily creates winners and losers. In other words, the economic consequences of default create constituencies that will either support or oppose debt repayment.[2]

So, when governments make decisions like these, they almost certainly need to account for those in society who own public debt and those who pay the taxes to service the public debt (Stasavage 2003). For those who own public debt, the government's decision will have a direct impact on their welfare. These individuals clearly have an incentive to demand from the government that sovereign debt be honored. For those who contribute to repay debts, the government decision may affect their burden of taxation. In fact, when the decision to default is motivated by the government's desire to finance its public expenditures at current levels, then every member of society will have induced preferences over debt repayment irrespective of whether he/she is actually a government creditor or not. As a result, many groups in the population may regard debt repudiation as the best way to promote their own personal welfare. For example, public sector employees will be among the main beneficiaries if budget cuts intended to create funds for debt repayment are no longer required. [3]

1.1 Government Coalitions and Sovereign Debt Repayment

Understanding the domestic politics of debt repayment requires an examination of instances when rulers would act on the lenders' behalf. As Stasavage (2003) notes, when creditors have a privileged position in society governments can credibly commit to repaying their debts. However, when government creditors lack such political influence, rulers will find it more convenient to default. Of course, in a representative democracy, elected officials are constrained by the voters; and while they may act as representatives of government creditors, they may also represent the beneficiaries of default.

When lenders form a majority of the population, the government will probably take their interest into account when making policy. Alternatively, one could imagine a situation where creditors would be in the minority, and thus the government would have an incentive to default on debt. This would seem all the more likely given that in most developing and transition economies the ownership of government debt is concentrated within a narrow segment of the population. This raises the question of how a representative government could commit to repaying debt if creditors are a minority of the population and/or when the majority of the population considers debt repudiation to be the optimal policy.

Society could commit to repaying debt if government creditors are able to from coalitions with other social groups (Stasavage 2003). Cross-issue coalitions can reduce the risk of default for the following reason: even if government creditors are a small minority, other groups may have incentives to support timely repayment of debts. Non-creditors could gain the support of creditors on non-economic issues such as religious tolerance, foreign policy or constitutional questions (Stasavage 2003). [4]

It should be noted, though, that Stasavage does not explicitly consider the electoral implications of his legislative model. Specifically, his model does not take into account the fact that the legislative bargaining process may be defined both by the relative vote shares of the parties and by the policy platforms they adopt to contest the election. Therefore, it is appropriate to extend his findings into two further directions. Consider first the disjuncture between the position of the majority party in the legislature and that of the societal median. Austen-Smith and Banks' (1988) model integrates electoral and legislative behavior. Their main finding is that under a two-party, winner-take-all, electoral mechanism, legislative influence is monotonic in votes. As a consequence, in equilibrium, both parties adopt the median voter's position, and this is the policy outcome. But, in environments characterized by three-party competition under proportional representation, the legislative influence of an elected party is not monotonic in its vote share. And, while the expected policy outcome will be at the median voter's ideal point, the realized final outcome will lie between the median and the position of either one of the other parties (Austen-Smith and Banks 1988). Therefore, Stasavage's analysis would fit better in an environment where there is at least a three-way competition and parties need to form multi-party coalitions to form a government (such as the second one described by Austen-Smith and Banks).

Secondly, Stasavage claims that cross-issue bargains are more durable when they are made by members of a common political party. This conjecture is based on the idea of "long coalitions" developed by Schwartz (1989), and the notion that the expected gains from multiple-issue log-rolls leads to the formation of legislative parties. This kind of model, though, is more appropriate when the analysis centers on the choice of particular policies in the legislature, and the conditions under which a majoritarian voting coalition can be

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arranged. A recent model by Bawn and Rosenbluth (2006) bridges this gap. The authors rely on the idea of "long coalitions", but their focus is on the process of government formation and its impact on policy decisions.

They demonstrate that electoral competition differs under different types of government. This difference resides in electoral accountability; a single party in government is electorally accountable for all policy decisions it makes, but those in multiparty coalition governments, "... are held primarily responsible for only a subset of policy decisions: those in the policy areas in which they have the biggest stake." (Bawn and Rosenbluth 2006: 251). When the government relies on a single party majority, the main competition for votes is between the incumbent and the opposition; this dynamic pushes the incumbent towards policies that only benefit the voters represented in office. But if the government is supported by a coalition of parties, voters can distinguish between the parties in office, creating opportunities for cross-issue deals inside the governing coalition (Bawn and Rosenbluth 2006).

Multi-party coalition governments also provide guarantees for those with a stake in debt repayment because, regardless of their electoral size, coalition partners can potentially "make or break" governments. Kohlscheen (2006) finds that the confidence vote requirement makes default a less likely equilibrium outcome in parliamentary democracies. [5] Relatedly, Tsebelis (2002) demonstrates that the existence of a large number of veto players helps "lock in" economic policy. As coalition governments have more players who could potentially veto a change, they could uphold such a policy, and thus maintain debt service in the face of adverse shocks.

Empirical work has also focused on the effects of political institutions on sovereign debt default. For example, Kraay and Nehru (2004) find a negative relationship between measures

of the quality of policies and institutions (the World Bank's CPIA index) and the incidence of "debt distress" episodes. Van Rijckeghem and Weder (2004) and Kohlscheen (2006) show that the probability of debt rescheduling is lower in parliamentary democracies than in non-parliamentary regimes. Both studies also examine default propensities conditional on whether or not government parties hold a majority of seats in the legislature and whether the majority status is achieved alone or through the formation of a multi-party coalition.

However, these studies do not examine the government's coalition status directly. Instead, they use an aggregate index of *political constraints* developed by Henisz (2000). Kohlscheen (2006) considers the effect of coalition governments on debt rescheduling, but restricts his attention to parliamentary democracies. This is problematic because government coalitions are less frequent, but not exceptional under presidentialism. In fact, Cheibub et. al. (2004) calculate the number of cabinets that include members of opposition parties to be one of every four under presidentialism, or more than half excluding majority presidents. I fill this gap in the literature by directly estimating the effect of government coalitions on default and including cases of debt rescheduling under both presidentialism and parliamentarism.

1.2   Electoral Rules and Sovereign Debt Repayment

Finally, to properly evaluate how the government's partisan composition affects the politics of debt repayment, it is necessary to account for the confounding effects of electoral rules. A long tradition in comparative politics stresses the relationship between electoral rules and types of government. For instance, plurality rule and small district magnitude are associated with fewer parties than are proportional representation and a large district magnitude. Moreover, in parliamentary democracies, fewer parties are frequently associated with more

single-party majority governments, and fewer coalition governments.

The characteristics of the party system induced by the electoral rules can also lead to systematic differences in economic policy making. According to Myerson (1993) plurality voting rules tend to favor minority groups. Austen-Smith (2000) argues that proportional representation is associated with higher redistributive taxes than are two-party majoritarian systems. Lizzeri and Persico (2001) argue that majoritarian systems generate less public-good provision than proportional systems. Lastly, Persson, Roland and Tabellini (2003) find that proportional representation leads to more government spending than plurality rule.

Iverson and Soskice (2006) provide an even more sophisticated argument linking electoral rules and economic policies. They find that in the OECD countries, proportional representation is frequently associated with center-left coalition governments, while single-party right-wing governments are more frequent under majoritarian elections. This contention has two important implications for the argument presented in this paper. First, the correlation between the electoral rules and the government's ideology, rather than the prevalence of coalitions could explain why proportional representation systems adopt certain types of policies. Second, based on Iverson and Soskice's contentions, the net effect of the electoral formula on default should be indeterminate. While proportional representation should be associated with lower default probabilities (i.e. if the multiparty coalition effect dominates), it should also be associated with center-left governments. Therefore, in such systems we should expect governments to default more often.

Two additional caveats are worth mentioning. First, Iverson and Soskice assume that under proportional representation, when no party has a majority, governments must be based on a coalition of parties. [6] This is not the case in the countries that I examine in this

paper. Many presidents in Latin America are elected under proportional representation but form single-party minority governments. Furthermore, the correlation between proportional representation systems and center-left governments found by Iversen and Soskice is restricted to OECD countries. [7]

Second, recent studies suggest that the government's ideological makeup fails to have predictable effects on the implemented policies in the developing world. In fact, a few studies demonstrate that the effect of ideology is often at odds with cursory expectations. Leblang (2003) finds that right-wing governments are less likely to defend their exchange rate than they are to devalue after suffering a speculative currency attack. Similarly, Pinto (2005) provides compelling evidence that FDI regimes are more likely to be friendly to foreign capital under pro-labor than under pro-business governments. These findings are consistent with the Nixon-goes-to-China thesis (Packenham 1994, Cukierman and Tommasi 1998). Therefore, I am agnostic about the relationship between coalition status and ideology.

2   Empirical Evidence

The arguments presented in the previous section suggest that partisan compromises can reduce default risk, but they will be unable to do so unless creditor interests possess power within a representative government, either as an outright majority or as a part of a government coalition. The ownership of government debt is often concentrated within a small segment of the population in less developed countries. Therefore, the main observable implication is that in these countries, the probability of debt repudiation should be lower under a multi-party coalition than in a single-party government.

2.1 The Data

To evaluate the effect of domestic politics on sovereign default, I use an original dataset that draws on and updates the Cheibub, Przeworski, and Saiegh (2004) coalition governments data set, the Golder (2005) data set on electoral systems, and data on sovereign debt default collected by the World Bank. As such, this data set includes information about the coalitional structure of governments and data on debt rescheduling. The data also include information on the electoral settings under which these coalitions form.

My baseline dependent variable measures whether a debt rescheduling situation occur in a given year. I define default as an event when the scheduled debt service is not paid on the due date or the sovereign makes a restructuring offer which contains terms less favorable than the original debt, as opposed to an outright repudiation of debts or a unilateral suspension of payments. This conceptualization is consistent with the technical definition applied by credit-rating agencies (Beers and Chambers 2007, Inter-American Development Bank 2007) and with existing empirical studies (Kraay and Nehru 2004, Van Rijckeghem and Weder 2004, Kohlscheen 2006, Tomz and Wright 2007). Thus, my **Debt Restructuring** variable is defined broadly to include rescheduling or restructuring of debt, including arrears on either principal or interests. [8] It is a binary indicator that takes the value of 1 if such events are observed and 0 otherwise. [9]

The main independent variables of interest are government type and electoral rules. With respect to the former, Cheibub et. al. (2004) consider a government to be a multi-party coalition when two or more political parties represented in the national legislature hold cabinet positions.[10] Hence, **Government Coalition** is a binary indicator that takes the value of 1 if the government is a multi-party coalition, and 0 otherwise. Unlike previous

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studies (Henisz 2000, Van Rijckeghem and Weder 2004), this indicator enables me to conduct a direct test of the relationship between government coalitions and debt rescheduling.

I also use two alternative measures to capture the role of coalition partners in forging cross-issue deals inside the government. [11] The first measure, **Parties in Government**, is the natural logarithm of the number of parties included in the government. This indicator takes a non-negative value greater than zero if the government is a multi-party coalition, and 0 otherwise (i.e. $Ln(1) = 0$).

In many situations, though, the parties represented in the government may vary substantially in their seat shares. With this is in mind, I use the Herfindal-Hirschman (HH) index of concentration as my measure of a government's partisan concentration. Hence, **Concentration** is computed as

$$HH = \sum_i p_i^2,$$

where $p_i = s_i/S$, s_i is the number of seats of party i and S is the total number of seats held by the government. This indicator reaches its maximum value 1 under single-party governments ($p_k = 1$ for one party k and p_i=0, for all others). The minimum 0 is approached when all parties included in the government have equal numbers of seats and the number of parties increases (Theil, 1972). It is also worth noting that the HH index of concentration is the denominator of the well known Laakso-Taagepera (LT) index, which is commonly used to gauge the "effective" number of political parties (Laakso and Taagepera, 1979). Thus the LT index is the inverse of the HH index. As such, in contrast to the previous two measures, in this case we should expect to observe a positive correlation between the concentration index and sovereign debt rescheduling.

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My indicator for the electoral rules, **Proportional Representation**, takes the value of 1 if the electoral system in place employs proportional formulas, and 0 otherwise (i.e. majoritarian, multi-tier, or mixed type). These formulas include both quota systems (Hare, Droop, Imperiali, and Reinforced Imperiali), and highest average systems (d'Hondt, series, Sainte-Laguë series, and Modified Sainte-Laguë series). [12]

As discussed above, countries may be unwilling to repay their debt, based on a consideration of the relative costs and benefits of default. On the other hand, countries may be unable to repay their debt because they are either insolvent or illiquid. The literature suggests a number of macroeconomic factors that influence the likelihood of sovereign debt servicing difficulties and default. [13] Therefore, the core specifications include the following explanatory variables: [14]

(1) Debt/output ratio: In most models of sovereign borrowing, the level of debt plays a crucial role : whether a country is solvent or not depends on its stock of debt relative to its ability to pay (Edwards 1984; Sachs 1984). This variable captures the degree of solvency of a particular country. Therefore, ceteris paribus, it is expected that it will have a positive sign (Sachs and Cohen 1982; Min et. al. 2003).

(2) Debt service ratio: This indicator, computed as the ratio of debt service to exports, measures possible liquidity (as opposed to solvency) problems faced by a particular country (Edwards 1984). A debt crisis can also occur if a country is illiquid rather than insolvent (Roubini and Manasse 2005). Given the adverse effect of higher debt service ratios on a country's ability to repay its debt, I expect its coefficient to have a positive sign.

(3) The ratio of the current account to GNP: Current account imbalances may also affect a country's ability to repay, for any given level of existing debt. The higher

the current account balance-to-GDP ratio, the smaller will be the possibility of a liquidity crisis (Sachs 1981). In addition, this indicator measures the quantity of investment financed through borrowing from abroad. As such, it should capture a country's perspectives for future growth and therefore be negatively related to rescheduling probabilities (Cohen and Sachs 1986; Edwards 1984).

(4) **The ratio of international reserves to total debt**: This variable measures the level of international liquidity held by a country. In contrast to the previous variable, the lower the international reserves to debt ratio, the greater there will be a threat of a sudden liquidity crisis, so it is expected that the coefficient on this variable will be negative (Edwards 1984; Min et. al. 2003; however, Gersovitz 1985 claimed that the sign would be positive).

(5) **Change in Gross National Product** (Growth): It has been argued that a decline in the growth rate of output can contribute to a long-term insolvency problem leading to higher default probabilities (Feder and Just 1977). On the other hand, a decline in growth may ameliorate an external liquidity constraint through lower imports and can lead to a lower probability of a debt crisis; therefore, the impact of this variable on default is uncertain (Min et. al. 2003).

(6) **The ratio of short-term debt to total debt**: The link between short-term debt and crises has been rationalized through models of sovereign debt rollover (Rodrik and Velasco 1999; Jeanne 2004). In these models, a sovereign debtor needs to service a large amount of obligations coming due. If creditors do not roll over some or all of the maturing debt, default is the optimal choice, while if the loan is rolled over the debtor country is better off repaying (Detragiache and Spilimbergo 2001). This variable thus captures the fact that many countries are able to avoid a rescheduling of their sovereign debt by borrowing short-

term funds in the international markets. It should be negatively correlated to rescheduling probability.

(7) Sum of past reschedulings: As suggested by the "debt intolerance" hypothesis (Reinhart et. al. 2003), a "history" of past defaults may bear on the credibility of a sovereign and thus affect the default probability. This variable measures how countries' rescheduling probabilities are affected by their past behavior. In particular, I expect the coefficient on this variable to be positive.

2.2   Variation in debt rescheduling across government types

The sample consists of 502 observations on 48 countries for the 1971-1997 period. It includes 324 debt rescheduling cases that covers 43 countries. The choice of these countries is dictated by data availability. Appendix II provides a list of countries included in the sample. [15] Table 1 provides the descriptive statistics for the country-year observations, classified by their type of government. These figures demonstrate that multi-party coalition governments reschedule their debts less often than single-party governments. The unconditional probability of a multi-party coalition government rescheduling its sovereign debt in any given year during the period was 56%, compared to 71% for single-party governments. [16]

Table 1 Here

The observed differences across these types of governments with respect to their solvency and liquidity can be attributed to outlying observations from two countries in the sample (Nicaragua 1990-1996 and Malta 1971-1987). No significant differences exist between multi-party coalitions and single-party governments in the solvency and liquidity indicators when

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I exclude these observations. [17] Contrary to what occurs in OECD countries, proportional representation systems in the developing world are not necessarily associated with multy-party coalition governments (the two variables are correlated at .15).

Next, I present my statistical results. The following probit specification is used to model the probability of default:

$$P[y_{ct} = 1] = \Phi(\beta' \mathbf{X}_{ct})$$

where y_{ct} is my indicator of rescheduling episodes, each corresponding to country c at time t; $\Phi(\cdot)$ denotes the normal distribution function; $\mathbf{X}_{ct}$ denotes a vector of determinants of default; and β is a vector of parameters to be estimated. [18]

Table 2 reports the core specifications. The second column presents the results of the model that excludes the government coalition variable. The third and fourth columns report the models including the type of government and electoral rules among the independent variables. The last two columns present the results of the models including the alternative measures of the government's partisan composition.

Table 2 Here

These estimates lend considerable support to my hypothesis that in the developing world, multi-party coalition governments are less likely to reschedule their debts than are single-party governments. When the government status is measured using the logarithm of the number of government parties the results are almost identical. Likewise, the higher the government's partisan concentration, the greater is the probability of a debt crisis.

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To gain a more substantive understanding of this relationship, I calculate marginal effects based on the estimates reported in column four. They are calculated as the change in the probability of debt rescheduling given a country's coalition status, while keeping all the other independent variables at their means. Having a multi-party coalition government diminishes the probability of debt rescheduling by 19%. To place this percentage in context, recall that the difference in the unconditional probability of default between single-party and multi-party coalition governments in my sample is 15%.

My results also corroborate the effect of coalition governments after controlling for economic variables used in previous studies as well as electoral rules. Moreover, they suggest that proportional representation polities default more often than majoritarian systems, which is consistent with the empirical results in Austen-Smith (2000).[19]

The estimated coefficients for the economic variables are in line with the expectations laid out above. The coefficient for the debt-output ratio is positive and statistically significant, indicating that a higher level of indebtedness is associated with a higher probability of debt rescheduling. With respect to the debt-service ratio, the probability of default increases as liquidity problems are more acute. Substantively, this means that at the mean of the covariates, a one-standard deviation increase in the debt-output ratio raises the probability of debt rescheduling by 26%. Liquidity problems, measured by a one-standard deviation increase in a country's debt service ratio, raise the probability of default by 15%.

The effect of the current account ratio is statistically indistinguishable from zero. Recall that this variable measures the quantity of investment financed through borrowing from abroad. Therefore, if investment programs involve returns that are inadequate to repay their financing costs, creditors might consider this country to lack the economic control

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necessary to generate the revenue for debt service (McFadden et al. 1985). Both short term debt and past defaults have the expected effects. In the case of short term loans, it reflects that a country's behavior is similar to the one displayed by individuals. As their financial conditions deteriorate, countries seek the acquisition of short-term debt to cover liquidity problems. Yet, the marginal effects suggests that at the mean of the covariates, the ability of borrowing short-term funds (a one standard deviation increase in short-term debt) decreases the probability of debt rescheduling by less than 4%. Finally, the variable measuring countries' past behaviors indicates that countries with poor records tend to have higher rescheduling probabilities than those countries with better records. [20]

The results also demonstrate that the more fully-specified model including the government type predicts default better than the base model. The probability of a greater χ^2, with 1 degree of freedom is low enough to reject the null hypothesis; therefore the coalitional nature of the government has a statistically significant effect on default. The model also performs fairly well in predicting debt rescheduling. Taking the mean of the dependent variable (.65) as the cutoff probability, the model correctly predicts that debt rescheduling will not occur below that threshold in 64% of the cases. Most importantly, a "false negative" (i.e. the prediction that no default will occur when there is one) only exists for 8.6% of the cases.

2.3   Sensitivity and Robustness Checks

This pooled cross-sectional time-series sample inevitably raises concerns regarding time and country effects. In particular, if the observations are temporally dependent, the results of an ordinary probit analysis may be misleading. I estimate a series of additional models to address these concerns.

First, I include a series of dummy variables indicating the number of periods (in years) since the first time an observation enters the data set in the model specification. This simple solution recognizes that time-series cross-section data with a binary dependent variable are essentially grouped duration data. This formulation is therefore equivalent to an event-history model with discrete time duration data (Beck et. al. 1998). In addition, this specification takes into account the possibility of multiple *failures* (i.e. more than one event of default per country) (Beck et. al. 1998). I handle the existence of repeated events with the variable **sum of past reschedulings**, which is a count of the number of previous events.

To further account for possible problems caused by a temporal correlation of the observations, I also estimate a "transition" model. This model analyzes the transitions from a lagged value of the dependent variable of 0 or 1 to a current value of the dependent variable of 0 or 1 (based on simple first order Markov assumptions). This allows for different processes based on the lagged value of the dependent variable (Amemiya, 1985; Beck, Epstein, Jackman, and O'Halloran 2002). I also address concerns over cross-sectional dependence by estimating a probit model that includes a set of regional dummy variables. This includes Sub-Saharan Africa, South Asia, East Asia, South East Asia, Middle East, Latin America, the Caribbean, Oceania, Europe, and Eastern Europe. [21]

A related issue is case selection. As noted above, the choice of the countries included in this study was dictated by data availability. As a result, the coverage varies across countries. This raises the possibility that the results could be affected by the fact that some countries are sampled more often than others. To address this potential problem, I also conduct the analysis separately for two sub-samples of the data: one including those countries with less than ten observations and another that comprises those countries with ten or more.

Table 3 Here

Table 3 presents these alternative specifications. The second column reports the results of the logit model with temporal dummies, while the third column presents the results of the transition model. Column four presents the results of the logit model with regional dummies. In the last two columns, the results of the two sub-samples (countries with less (more) than ten observations) are presented. Irrespective of these alternative specifications and sample sizes, the effect of the government type on the probability of default remains robust and statistically significant.

I carry out a few more checks to assess the sensitivity of the results. First, I look at the role of external debt. Developing countries rely on domestic debt to a lesser extent than developed countries and borrow mostly abroad. This raises the issue of the differential ability of domestic and foreign residents to "punish" a government that takes actions detrimental to the value of their holdings. Note that the argument advanced in this paper is that rulers make their repayment decisions taking into account who stands to win and lose from a debt repudiation policy, regardless of whether bondholders/creditors are predominantly foreigners or not. Nonetheless, the consequences for debt crises when most of the debt is held off-shore are worthy of examination.

I use data from Cowan, Levy-Yeyati, Panizza and Sturzenegger (henceforth CLYPS 2006) to explore the role of external debt. The CLYPS database comprises all countries in the Americas and three non-American economies (New Zealand, Pakistan, and South Africa). The data set aims at covering the 1980-2004 period but has missing information for some countries in the 1980s and early 1990s. [22]

Debt is classified according to the the legal jurisdiction where debt has been issued. Accord-

ingly, CLYPS define external liabilities as obligations issued under international (as opposed to domestic) law. Therefore, external debt comprises all liabilities issued in foreign jurisdictions, while domestic debts denotes debt under the rule of domestic courts (CLYPS 2006). Conceptually, the distinction should focus on the residence of the creditor (i.e. external debt is owed to non-residents). However, as Cowan et. al. (2006) note, "... the distinction between debt held by residents and nonresidents is in practice virtually impossible to make...". The data provide a clear measure of the investor base of bank loans, however "... the holder composition is by definition impossible to track for bonded debt that is continuously traded in anonymous secondary markets..." For these reasons, the distinction by holder, "... while theoretically relevant, is practically feasible only for countries where the stock of marketable debt is negligible..." (Cowan et. al. 2006).

Given this classification, the "external" debt data may be an imperfect proxy of the actual liabilities held by non-residents (Panizza 2006). Therefore, in order to fully capture the effect of off-shoring/onshoring, I also consider an additional measure of domestic debt: the presence of domestic institutional investors. As Cowan et. al. (2006) note, in many developing countries, pension reforms created a captive market for public debt. In most cases, offshore investment by pension funds is severely restricted, while domestic investment is usually limited to a set of low-risk assets (Cowan et. al. 2006).

With this is in mind, the model presented in Table 4 includes the variable **Off-Shore Debt**. This measure is calculated as the ratio of total external debt to total debt. [23] I also include the variable **Pension Fund Holdings** to further account for the domestic share of public debt. This variable indicates the private pension holdings of public debt and is measured in millions of US dollars (CLYPS 2006).

Table 4 Here

The second and third columns contain the results obtained from the estimation of these additional models. Broadly speaking, the empirical evidence shows that government coalitions reschedule their debts less often, regardless of the creditors' residence. Both the coefficients of the **Government Coalition** and the **Concentration** variables are statistically significant and have the correct signs (negative, and positive, respectively). Notice also that the coefficient of pension fund holdings is significantly negative. This suggests that higher levels of domestic debt will be associated with a lower probability of debt rescheduling.

So far, the analysis has focused on debt crises involving both debt restructuring and default. While the former has been the prevalent form of sovereign debt repayment problems, episodes of outright default have become more frequent in recent years. In fact, the narrative of the Argentine case presented in the next section highlights a case in which formal default was declared. To account for this extreme form of delinquency, I estimate a model where debt rescheduling excludes arrears on either principal or interests. In the last column of Table 4, I report the results of this "stringent" model. Consistent with my previous findings, the probability that a country would repudiate its sovereign debt is lower for multi-party coalitions than for single-party governments. [24]

My final check accounts for the potential confounding effects of other institutional variables omitted from my core specifications. This is to ensure that the main finding is not an artifact of parliamentary democracies having fewer reschedulings (Van Rijckeghem and Weder 2004, Kohlscheen 2006). To identify the effects of the parliamentary governments on debt rescheduling, I classify political regimes according to the criteria developed by Cheibub (2006). This classification, distinguishes presidential from parliamentary and mixed democ-

racies based on the absence of the vote of confidence, which allows the legislature to remove the government during the legislative term (Cheibub 2006). [25] According to this criteria, 16 of the 48 countries in the sample are parliamentary.

Another potential concern relates to a governments' ideological makeup (Iversen and Soskice 2006), where center-left governments may be more predisposed to declare a moratorium on their sovereign debts than are center-right governments. If this is the case, then a government's ideological orientation may have an effect on debt repayment, regardless of its coalition status. Leblang (2003) provides data on the ideological orientation of the government, which is based Database of Political Institutions (DPI). The variable **Right** is a binary indicator that takes the value of 1 if the government comprises right-wing parties, and 0 otherwise (Leblang 2003).

Table 5 reports the results of the probit models which control for the regime type and government's ideological orientation variables in addition to my core specifications. In columns 3-5, I report the results obtained when the variable measuring the ideological orientation of the government is included in the estimation.

Once again, the effect of coalition governments is robust even with the inclusion of the regime type. Parliamentarism has a negative effect on sovereign debt default relative to presidentialism (the excluded category). But regardless of the confidence vote requirement, the effects of coalition remain strong both in statistical and substantive terms. These results should not be surprising. As Cheibub (2006) notes, parties are usually concerned with both cabinet positions and policies. Therefore, coalition partners can also make credible threats under presidentialism because they can withdraw support for policies that the government wishes to pass (Cheibub 2006). [26]

Unfortunately, due to data restrictions, including the ideology variable reduces the sample size considerably. To ensure that the effect of this variable is not attributed to changes in the sample size, I report the results of my core specification using this reduced sample in column three. In the next column, I present the results of the model including the government's ideological orientation. The findings corroborate the robustness of the effect of multi-party coalitions after controlling for governments' ideological orientations. [27] Finally, column five of Table 5 presents a model in which both the form of government and the government's ideological orientation are included. Once again, the results demonstrate that multi-party coalitions are less likely to reschedule their debts irrespective of the vote of confidence requirement and the government's ideological makeup. In fact, unlike the coefficient of government coalitions, when both variables are included in the analysis, their respective effects become statistically indistinguishable from zero.

In summary, the empirical evidence provides strong support for the claim that, *ceteris paribus*, the probability of debt repudiation is lower under a multi-party coalition than in a single-party government. The next section complements these statistical results by exploring a more detailed out-of-sample case of sovereign debt default; that of Argentina in 1999-2001.

3   A tale of two elections: Argentina 1999 and 2001

In December 2001, Argentina's government formally repudiated the country's sovereign debt, totaling over $130 billion. The sovereign debt crisis was preceded by a serious economic downturn. However, a closer examination of the events occurring in Argentina between 1999

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and 2001 suggests that both the timing and the political circumstances driving this decision can be attributed to the factors identified in this paper. This decision to default can be viewed as the culmination of a series of events that occurred in the previous two years.

In the presidential campaign of 1999, debt repayment took center stage and the two leading contenders adopted opposing positions on the issue.The Peronist party candidate, Eduardo Duhalde, argued that debt payments were "bleeding" the country and stated that "with current levels of debt servicing there would be no possible recovery" for Argentina. He then called on foreign creditors to cancel the debt (quoted in Tomz 2002: 10). However the candidate of the multi-party coalition (*"Alianza,"*), Fernando de la Rua, maintained that the country should uphold its commitments. To reinforce the differences with Duhalde, de la Rua's running mate Carlos Alvarez argued that making default a campaign issue would hurt the country. Yet, as the months progressed, Duhalde insisted with the idea of debt forgiveness, while de la Rua continued to stand by his position on debt repayment, even if it meant austerity at home (Tomz 2002: 11). Clearly, as argued in this paper, the multi-party coalition candidate behaved in a manner distinct from the single-party candidate.

The *Alianza* won the 1999 election with a plurality of the vote. Nonetheless, the coalition government almost dissolved a year later when Carlos Alvarez, the leader of one of the parties in the coalition government, announced his resignation from the Vice-Presidency. Following this incident, de la Rua sought to strengthen the government coalition by inviting Domingo Cavallo to join the cabinet; but the incorporation of this new partner generated further internal divisions within the government. The fate of de la Rua's presidency was definitively sealed on the night of October 14 2001. After almost two years in power, his administration lost control of Congress to the Peronist party.

The 2001 legislative elections have been characterized as a referendum on the austerity needed to meet IMF targets and remain current with creditors (see Tomz 2003). The de la Rua administration implemented a series of budget cuts required for debt repayment, including the "zero deficit" plan and a reduction in salaries for public sector employees. As the 2001 congressional elections approached, the disintegration of the Alianza became more apparent. In the final months of the campaign, even members of de la Rua's party, the UCR, decided to break with the president over the issue of debt repayment. Meanwhile, the Peronist party candidates openly campaigned using a pro-default rhetoric. The election outcome was clearly a victory for those who did not want to repay the sovereign debt (Tomz 2002 & 2003).

Without popular support, increasingly isolated within its own coalition and lacking majority backing in the legislature, de la Rua presented his resignation on December 19 2001. Although the macroeconomic conditions had not changed following his resignation, the new authorities rushed to declare a moratorium. On December 24, Adolfo Rodriguez Saa was appointed as interim president and officially announced his plan to halt payment on government debt. His successor, Eduardo Duhalde, closed the circle and on January 3, 2002 defaulted on a $28 million interest payment due on an Italian lira bond.

Conclusion

This research validates and supports the view that policies and institutions matter for debt sustainability. It also squares well with the notion that relationships between creditor and debtor countries are largely driven by domestic rather than international politics. I find that

multiparty coalition governments provide a vehicle to represent the view of those individuals with a stake in debt repayment. My empirical analysis also demonstrates that the effect of multi-party coalitions is quite significant. Having a multi-party coalition government diminishes the probability of debt rescheduling by 19 percent. To place this percentage in context, recall that a typical increase in a country's debt-output ratio would raise the probability of default by 26 percent.

My case study validates these empirical findings by demonstrating how electoral competition differs under different types of government. When the Argentine government was supported by a coalition of parties, the authorities implemented a series of austerity measures required for debt repayment, including a reduction in salaries for public sector employees. However, as soon as de la Rua resigned, the political influence of creditors became negligible.

This research fills a gap in the literature by examining the relationship between domestic politics and sovereign debt repudiation focusing on the role of government coalitions. More broadly, my findings pose important implications for the lending strategies of official creditors such as the World Bank and the IMF. As Kraay and Nehru note, these organizations tend to focus exclusively on economic indicators to evaluate a country's debt sustainability (Kraay and Nehru 2006).

As I argue in this paper, when government debt is owned by a minority of the population – as in most LDCs– and there is a generalized perception that public funds are directed to high debt service rather than to needed public services, political parties have strong incentives to repudiate the sovereign debt. Therefore, the evaluation of a country's debt sustainability would be incomplete without accounting for the relationship between the government's partisan composition and the politics of debt repayment.

Notes

[1]For an excellent survey of this literature see Eaton and Fernandez (1995).

[2]Following Rajan (2006), I consider a constituency to be a group where each member has similar preferences over policies even without being formally organized.

[3]Public opinion data show that in Argentina public sector employees and unemployed individuals favored sovereign debt repudiation, whereas those employed in the private sector preferred repayment (see Tomz 2003).

[4]Dixit and Londregan (1998) suggest that when politically powerful groups invest in government debt, then the repayment promise is more credible.

[5]His results also consider the case of multiple veto players checking the executive, but exclude cases of government coalitions under presidentialism.

[6]The results by Persson, Roland and Tabellini (2003) also cast some doubt on the arguments advanced by Iversen and Soskice.

[7] I am not aware of any study that would confirm or disconfirm this finding in the developing world.

[8]Alternatively, a more stringent definition of debt rescheduling – one that excludes arrears on either principal or interests– can be adopted. I discuss this possibility and its effect on the estimation results below (Table 4)

[9]The variable was constructed with data in the World Bank's Global Development Finance Report (1999).

[10]These portfolio coalitions are different from legislative or policy coalitions. If parties are

disciplined, then every government coalition is a legislative coalition. Legislative coalitions, in turn, may vary from one issue to another. Such variations may arise from the fact that parties may vote together on some but not all issues or from lack of party discipline among members. Amorim Neto (2000) claims that, as distinct from parliamentarism, under presidentialism participation in a portfolio government does not bind legislators to support the president. Yet even if party discipline were to be lower under presidentialism – something about which I am agnostic – the effect on presidential coalitions would be indeterminate: it would depend on which parties, government or opposition, are less disciplined.

[11]The data used to construct these measures were obtained from Cheibub et. al. (2004).

[12]The data were obtained from Golder (2005).

[13]It is worth mentioning that no "canonical" model exists in the literature (Palac-McMilken 1995; Roubini and Manasse 2005). I estimated a number of different models including variables suggested by existing studies. A summary of the results from the different models are available upon request. The model used here is based on Edwards (1984), who looks specifically at developing countries' foreign borrowing and default risk.

[14]The data were obtained from the World Bank Global Development Finance Report (1999) and the World Bank Development Report (1999).

[15]The coverage depends on the World Bank's classification of LDCs. This is why, for example, Malta –a European country– is included in the sample.

[16]A comparison of means test allows us to reject the hypothesis that the average rescheduling for multi-party coalitions and single-party governments are equal. Bartlett's chi-squared statistic (0.134) does not reject the null hypothesis of equal variance. Therefore, the t-test is valid (t=3.654 and $p < .0001$).

[17]None of the results presented below are sensitive to these two cases.

[18]This simple probit specification is adequate because my interest here is the incidence of rescheduling episodes rather than their precise timing. See Kraay and Nehru (2004) for a similar treatment.

[19]I also estimated the model taking into account separation of powers (see below). As an additional robustness check, I recoded the variable proportional representation to include multi-tier and mixed systems. This modification had no effects on the results.

[20]A similar finding has been reported recently paper by Reinhart, Rogoff and Svastano (2003). The authors propose the idea of "debt intolerance," and argue that it is linked to the pervasive phenomenon of serial default. Default often exacerbates these problems, making past defaulters more prone to future default.

[21]I also estimated a random-effects probit model and obtained very similar results.

[22]Unfortunately there are very few other systematic sources on the composition of public debt. There have been some attempts to build comparable cross-country datasets, but some of them are not publicly available and all of them have a limited country and time coverage.

[23]Total external debt is defined as total debt instruments issued under international law plus official debt. It is equal to external market instruments plus foreign banks loans plus official debt. The variable is measured in millions of US dollars. Source: CLYPS (2006). Total debt is defined as total central government gross debt. It is equal to total external debt plus total domestic debt. The variable is measured in millions of US dollars. Source: CLYPS (2006).

[24]Even in the "stringent" specification, where I am looking at a relatively rare event –an outright default–, the t-statistic of the coefficient for government coalition is 1.726.

[25]What distinguishes parliamentary from mixed systems is that the government's existence in the latter depends both on the legislature (through the vote of no confidence) and on a directly elected president, who can remove the government unilaterally or by dissolving the legislature (Cheibub 2006).

[26]To further test the possibility that the effect of coalition governments on default may depend on having a vote of confidence procedure, I estimated an alternative model to the one presented in column two including an interaction term between parliamentarism and the government's coalition status. The results remain unchanged. Moreover, the interaction effects are for the most part statistically insignificant. See Appendix I for more details.

[27]To check if the effect of coalitions depends on having a right-wing government, I estimated an alternative model including an interaction term between the government's ideological orientation and its coalition status. The results remain unchanged, and the interaction effects are for the most part statistically insignificant. See Appendix I for more details.

References

Ai, Chunrong, and Edward C. Norton. 2003. "Interaction Terms in Logit and Probit Models," *Economic Letters*, 80: 123-129.

Amemiya, T. 1985. *Advanced Econometrics*, Cambridge, MA: Harvard University Press.

Amorim Neto, Octavio. 2000. "Presidential Cabinets, Electoral Cycles, and Coalition Discipline in Brazil", in S. Morgenstern and B. Nacif, (eds.), *Legislative Politics in Latin America*. Cambridge: Cambridge University Press.

Archer, Candace A., Glen Biglaiser, and Karl DeRouen Jr. 2007. "Sovereign Bonds and the

'Democratic Advantage'," *International Organization*, 61: 341365.

Austen-Smith, David. 2000. "Redistributing Income under Proportional Representation," *Journal of Political Economy,* 108: 1235-1269.

Austen-Smith, David, and Jeffrey S. Banks. 1988. "Elections, Coalitions, and Legislative Outcomes," *American Political Science Review*, 82: 405-422.

Bawn, Kathleen, and Frances Rosenbluth. 2006. "Short versus Long Coalition,"*American Journal of Political Science*, Vol 50, 251-265.

Beck, Neal, Jonathan Katz, and Richard Tucker. 1998. "Taking Time Seriously," *American Journal of Political Science,* 42: 1260-1288.

Beck, Neal, David Epstein, Simon Jackman, & Sharyn O'Halloran. 2002. *Alternative Models of Dynamics in Binary Time-Series Cross-Section Models*, Politics Department, NYU.

Beers, David T, and John Chambers. 2007. "Commentary," Standard and Poor's.

Cheibub, Jose Antonio "Presidentialism, Electoral Identifiability, and Budget Balances in Democratic Systems," *American Political Science Review*, Vol. 100: 353-368.

Cheibub, Jose Antonio, Adam Przeworski and Sebastian Saiegh. 2004. "Government Coalitions and Legislative Success Under Presidentialism and Parliamentarism," *British Journal of Political Science*, Vol. 34, No. 4: 565-587.

Cohen, D., and J. Sachs. 1986. "Growth and External Debt under Risk of Debt Repudiation." *European Economic Review*, 30, 529-60.

Cowan, Kevin, Eduardo Levy-Yeyati, Ugo Panizza, and Federico Sturzenegger. 2006. "Sovereign Debt in the Americas: New Data and Stylized Facts," Working Paper, Washington DC: Inter-American Development Bank.

Cukierman, Alex, and Mariano Tommasi. 1998. "When Does It Take a Nixon to Go to China?," *American Economic Review*, Vol. 88: 180-197.

Detragiache, Enrica, and Antonio Spilimbergo. 2001. "Crisis ad Liquidity: Evidence and Interpretation," *IMF Working Paper*, Washington DC: IMF.

Dixit, Avinash, and John Londregan. 1998. "Political Power and the Credibility of Government Debt," *Journal of Economic Theory*, Vol. 94: 80-105.

Eaton, Jonathan, and Raquel Fernandez. 1995. *Sovereign debt.* Cambridge, MA: National Bureau of Economic Research.

Edwards, Sebastian. 1984. "LDC Foreign Borrowing and Default Risk," *American Economic Review*, 74, 726-734.

Feder, G. and Just, R.E. 1977. "A Study of Debt Servicing Capacity Applying Logit Analysis," *Journal of Development Economics*, Vol. 4.

Gersovitz, Mark 1985. "Banks' international lending decisions: What we know and implications for future research," in Smith G., and Cuddington J. (eds.). *International debt and the developing countries.* Washington, DC: World Bank.

Golder, Matt. 2005. "Democratic electoral systems around the world, 1946-2000," *Electoral Studies*, 24: 103-121.

Henisz, Witold. 2000. "The institutional environment for economic growth," *Economics and Politics*, 12: 1-31.

Inter-American Development Bank. 2007. *Living with Debt How to Limit the Risks of Sovereign Finance.* Washington DC: IADB.

Iversen, Torben, and David Soskice. 2006. "Electoral Institutions and the Politics of Coalitions," *American Political Science Review*, Vol. 100, 165-181.

Jeanne, Olivier. 2004. "Debt Maturity and the International Financial Architecture," *IMF Working Paper*, Washington DC: IMF.

Jensen, Nathan. 2005. "Measuring Risk: Political Risk Insurance Premiums and Domestic Political Institutions," mimeo, Department of Political Science, Washington University.

Kohlscheen, Emanuel. 2006. "Sovereign Risk: Constitutions Rule," mimeo, Department of Economics, University of Warwick.

Kraay, Aart, and Vikram Nehru. 2006. "When Is External Debt Sustainable?," *The World Bank Economic Review*, 20:341-365.

Laakso, M., and Taagepera, R. 1979. " 'Effective' number of parties. A measure with application to West Europe," *Comparative Political Studies*, 12: 327.

Leblang, David. 2003. "To Devalue or to Defend? The Political Economy of Exchange Rate Policy," *International Studies Quarterly*, 47: 533559.

Levy Yeyati, Eduardo. 2006. "Optimal Debt? On the Insurance Value of International Debt Flows," *Research Department Working Paper no. 574*, Washington DC: Inter-American Development Bank.

Lizzieri, Alessandro, and Nicola Persico. 2001. "The Provision of Public Goods Under Alternative Electoral Incentives," *American Economic Review*, 91: 225-239.

Martinez, Juan and Javier Santiso. 2003. "Financial Markets and Politics," *International Political Science Review*, Vol. 24: 363-395.

McFadden, D., R. Eckaus, G. Feder, V. Hajivassiliou, & S. O'Cormell. 1985. "Is there

life after debt?," in Smith & Cuddington (Eds.), *International Debt and the Developing Countries.* (179-209). Washington DC: IBRD.

Min, Hong-Ghi, Duk-Hee Lee, Changi Nam, Myeong-Cheol Park, and Sang-Ho Nam. 2003. "Determinants of emerging-market bond spreads: cross-country evidence," *Global Finance Journal*, 14: 271-286.

Myerson, Roger B. 1993. "Incentives to Cultivate Favored Minorities Under Alternative Electoral Systems," *American Political Science Review*, 87: 856-869.

Norton, Edward C., Hua Wang, and Chunrong Ai. 2004. "Computing Interaction Effects and Standard Errors in Logit and Probit Models," *The Stata Journal*, 4: 154-167.

Packenham, Robert A. 1994. "The politics of economic liberalization : Argentina and Brazil in comparative perspective," working paper 206, *Kellogg Institute.*

Panizza, Ugo. 2006. "Domestic and External Public Debt in Developing Countries," mimeo, UNCTAD.

Palac-McMilken, E. D. (1995). *Rescheduling, Creditworthiness and Market Prices.* Aldershot: Averbury.

Persson, Torsten, and Guido Tabellini. 2005. *The Economic Effect of Constitutions.* Cambridge: MIT Press.

Persson, Torsten, Gerard Roland, and Guido Tabellini. 2003. "How Do Electoral Rules Shape Party Structures, Government Coalitions, and Economic Policies?," *NBER Working Papers*, 10176, National Bureau of Economic Research.

Pinto, Pablo M. 2005. "Does Partisanship Affect the Regulation of Foreign Investment?," mimeo, Department of Political Science, Columbia University.

Pinto, Pablo M., and Jeffrey F. Timmons. 2005. "The Political Determinants of Economic Performance," *Comparative Political Studies*, Vol. 38: 26-50.

Rajan, Raghuram G. 2006. "The Persistence of Underdevelopment: Constituencies and Competitive Rent Preservation," mimeo, *University of Chicago*.

Reinhart, Carmen M., Kenneth S. Rogoff, and Miguel A. Savastano. 2003. "Debt Intolerance," *Brookings Papers on Economic Activity*, No. 1: 32-74.

Rijckeghem, Caroline van, and Beatrice Weder. 2004. *The politics of debt crises.* London: Centre for Economic Policy Research.

Rodrik, Dani and Andres Velasco. 1999. "Short-Term Capital Flows," paper presented at the 1999 World Bank ABCDE Conference.

Roubini, Nouriel and Manasse, Paolo. 2005. " 'Rules of Thumb' for Sovereign Debt Crises," *IMF Working Paper*, No. 05/42.

Sachs, Jeffrey. 1981. "The current account and macroeconomic adjustment in the 1970s," *Brookings Papers on Economic Activities*, 1: 201- 268.

Sachs, Jeffrey. 1984. "Theoretical issues in international borrowing," *Princeton studies in International Finance*, 54.

Sachs, Jeffrey and Daniel Cohen. 1982. "LDC Borrowing with Default Risk," *NBER*, Working Paper 925.

Santiso, Javier. 2003. *The political economy of emerging markets: actors, institutions and crisis in Latin America.* New York: Palgrave Macmillan.

Satyanath, Shanker. 2006. *Globalization, politics, and financial turmoil: Asia's banking crisis.* Cambridge: Cambridge University Press.

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Schultz, Kenneth, & Barry Weingast. 2003. "The Democratic Advantage". *International Organization*, 57, 3-42.

Schwartz, Thomas. 1989. "Why Parties?," mimeo, *UCLA*.

Stasavage, David. 2002. "Credible Commitment in Early Modern Europe: North and Weingast Revisited", *Journal of Law, Economics, and Organization*, Vol. 18, 155-186.

Stasavage, David. 2003. *Public Debt and the Birth of the Democratic State*. New York: Cambridge University Press.

Theil, Henry. 1972. *Statistical Decomposition Analysis*. North-Holland, Amsterdam.

Tomz, Michael. 2002. "Democratic Default: Domestic Audiences and Compliance with International Agreements," mimeo, Department of Political Science, Stanford University.

Tomz, Michael. 2003. "Domestic Attitudes Toward Debt Repayment," mimeo, Department of Political Science, Stanford University.

Tomz, Michael, and Mark L. J. Wright. 2007. "Do Countries Default in Bad Times?," *Journal of the European Economic Association*, 5 (2-3).

Tsebelis, George. 2002. *Veto Players: How Political Institutions Work*. Princeton: Princeton University Press.

Vreeland, James Raymond. 2003. *The IMF and economic development*. New York: Cambridge University Press.

World Bank. 1999. *Global Development Finance 1999*. Washington, D.C.: World Bank.

World Bank. 1999. *World Development Report 1999/2000: Entering the 21st Century*. Washington, D.C.: World Bank.

Table 1
Descriptive statistics for country-year observations
Means (Standard deviations in parentheses.)

	All	Multi-Party Coalition	Single-Party
Default (including arrears)	0.64	0.56^a	0.71^a
	(0.48)	(0.50)	(0.45)
Default (excluding arrears)	0.31	0.27	0.33
	(0.46)	(0.45)	(0.47)
Proportional Representation	0.39	0.37	0.42
	(0.49)	(0.48)	(0.49)
Debt/Output	61.44	50.56	70.29
	(96.62)	(27.94)	(127.03)
Debt/Service Payments	221.04	189.96	246.28
	(307.49)	(120.54)	(398.01)
Current Account/GNP	-0.03	-0.03	-0.03
	(0.07)	(0.05)	(0.08)
Reserves/Total Debt	72.72	31.53	106.18
	(212.96)	(29.71)	(281.24)
Growth	0.05	0.06	0.05
	(0.16)	(0.13)	(0.18)
Short-Term/Total Debt	17.44	16.13	18.49
	(15.08)	(11.89)	(17.18)
Past Reschedulings	7.62	7.97	7.33
	(6.68)	(7.56)	(5.87)
N	502	225	277

a I use a t-test to examine differences in average debt rescheduling under multi-party coalitions and single-party governments. Bartlett's chi-squared statistic (0.134) does not reject the null hypothesis of equal variance. Therefore, the t-test is valid (t=3.654 and p < .0001). The t-statistic and its p-value reject the null hypothesis that the difference in means is zero.

Table 2
Table 2
Binary Probit Estimates of Debt Rescheduling

	Initial Model	Gov. Coal.	Elect. Rules	Gov. Parties (Ln)	Conc.
Constant	−1.140***	−0.724***	−0.732***	−0.718*	−2.319***
	(0.249)	(0.272)	(0.276)	(0.278)	(0.362)
Government Coalition		−0.714***	−0.750***		
		(0.157)	(0.160)		
Parties in Gov. (Ln)				−0.743***	
				(0.146)	
Concentration Index					1.565***
					(0.314)
Prop. Rep.			0.473**	0.0463*	0.532**
			(0.186)	(0.187)	(0.189)
Debt/Output	0.009**	0.010**	0.013***	0.013***	0.013***
	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
Debt/Service Payments	0.003***	0.002**	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Current Account/GNP	−0.821	−1.782	−1.598	-1.763	-1.214
	(1.450)	(1.513)	(1.530)	(1.531)	(1.541)
Reserves/Total Debt	0.001	−0.001	−0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Growth	-0.692	−0.580	−0.684	-0.630	-0.628
	(0.593)	(0.630)	(0.656)	(0.663)	(0.650)
Short-Term/Total Debt	−0.007	−0.010*	−0.010*	−0.010*	−0.008*
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Past Reschedulings	0.138***	0.140***	0.133***	0.127***	0.125***
	(0.015)	(0.016)	(0.016)	(0.015)	(0.015)
Log-L0	-326.418	-326.418	-326.418	-324.337	-319.269
Log-L	-198.994	-188.259	-184.938	-181.603	-181.215
Pseudo R^2	.391	.423	.433	.440	.432
N=502	502	502	502	500	486

Standard errors are in parentheses. * indicates significance at a 10% level; ** indicates significance at a 5% level; *** indicates significance at a 1% level.

Table 3
Fixed Effects, "Transition", and Split Sample Estimates

	Logit Dummy[a]	Transition[b]	Regional FE [c]	Less 10	10 or More
Constant	-2.481	-0.356	-1.678^*	-2.303^*	-0.833^{***}
	(1.914)	(0.522)	(0.916)	(1.246)	(0.319)
Government Coalition	-1.411^{***}	-0.667^{**}	-0.532^{**}	-1.100^*	-0.878^{***}
	(0.305)	(0.332)	(0.222)	(0.583)	(0.187)
Prop. Rep.	0.758^{**}	0.605^*	0.236	-2.180^{***}	0.840^{***}
	(0.352)	(0.354)	(0.268)	(0.749)	(0.225)
Debt/Output	0.024^{**}	0.009	0.016^{**}	0.038^{**}	0.013^{**}
	(0.008)	(0.009)	(0.006)	(0.016)	(0.005)
Debt/Service Payments	0.002	-0.005^{**}	0.003^{**}	0.004	0.001
	(0.002)	(0.002)	(0.001)	(0.003)	(0.001)
Current Account/GNP	-1.236	-4.338	-2.158	5.015	-2.385
	(2.957)	(2.692)	(1.860)	(4.524)	(1.767)
Reserves/Total Debt	-0.001	-0.001	-0.001	0.019^*	-0.001
	(0.001)	(0.001)	(0.001)	(0.009)	(0.001)
Growth	-1.727	1.191	-0.403	-2.259	-0.895
	(1.268)	(1.354)	(0.780)	(1.880)	(0.776)
Short-Term/Total Debt	-0.010	-0.014^*	-0.006	-0.008	-0.007
	(0.009)	(0.008)	(0.008)	(0.015)	(0.005)
Past Reschedulings	0.284^{***}		0.121^{***}	0.245^{***}	0.135^{***}
	(0.036)		(0.021)	(0.066)	(0.018)
Default					
(Lagged)		1.095			
		(0.691)			
Log-L0	-325.540	-294.6159	-304.918	-66.604	-256.481
Log-L	-175.098	-122.3442	-152.476	-28.905	-142.871
Pseudo R^2	.462	.585	.499	.566	.443
N	500	454	482	117	385

Standard errors are in parentheses. $*$ indicates significance at a 10% level; $**$ indicates significance at a 5% level; $***$ indicates significance at a 1% level.

[a] 25 temporal dummy variables in specification not shown; two temporal dummies were dropped from the analysis for estimation purposes.

[b] In the transition model the independent variables are lagged by one year.

[c] 8 regional dummy variables in specification not shown; Europe was used as the baseline category; the Oceania dummy was dropped from the analysis.

Table 4
Table 4
Off-Shore/Domestic Debt and "Stringent" Estimates of Default

	Off-Shore/Domestic	Off-Shore/Domestic	Default
Constant	−0.850	−2.065*	−1.119***
	(0.848)	(0.913)	(0.342)
Government Coalition	−0.551*		−0.297*
	(0.293)		(0.172)
Concentration Index		1.354*	
		(0.772)	
Proportional Representation	−0.216	-0.261	0.700***
	(0.562)	(0.534)	(0.173)
Off-Shore Debt	0.781	0.473	
	(1.069)	(1.013)	
Pension Fund Holdings	−0.002*	−0.002*	
	(0.001)	(0.001)	
Debt/Output	0.023	0.021	0.011***
	(0.018)	(0.018)	(0.003)
Debt/Service Payments	0.002	0.002	0.001
	(0.002)	(0.002)	(0.001)
Current Account/GNP	−3.141*	−3.680*	4.111**
	(1.808)	(1.770)	(1.724)
Reserves/Total Debt	-0.001	-0.001	−0.028***
	(0.002)	(0.002)	(0.008)
Growth	-0.343	-0.308	0.274
	(0.847)	(0.786)	(0.459)
Short-Term/Total Debt	0.002	0.003	−0.028***
	(0.021)	(0.020)	(0.011)
Past Rechedulings	0.082*	0.089*	0.171***
	(0.036)	(0.035)	(0.023)
Log-L0	-52.558	-52.476	-310.290
Log-L	-24.781	-24.455	-159.370
Pseudo R^2	.528	.534	.486
N	191	190	502

Standard errors are in parentheses. * indicates significance at a 10% level; ** indicates significance at a 5% level; *** indicates significance at a 1% level.

Table 5
Robustness Checks: Role of Regime Type and Ideology

	Regime[a]	Core[b]	Right Gov.	Augmented
Constant	-0.358	-0.162	0.038	-0.481
	(0.335)	(0.663)	(0.681)	(0.857)
Government Coalition	-0.719^{***}	-1.129^{***}	-1.223^{***}	-1.319^{***}
	(0.162)	(0.292)	(0.306)	(0.328)
Proportional Representation	0.344^{*}	0.339	0.675	0.882^{**}
	(0.203)	(0.349)	(0.419)	(0.447)
Parliamentarism	-0.451^{**}			0.331
	(0.191)			(0.395)
Mixed	0.091			1.684^{**}
	(0.342)			(0.777)
Right-wing.			-0.506^{*}	-0.413
			(0.306)	(0.311)
Debt/Output	0.013^{***}	0.014^{*}	0.015^{**}	0.016^{**}
	(0.004)	(0.007)	(0.007)	(0.007)
Debt/Service Payments	0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Current Account/GNP	-1.486	-0.798	-2.409	-2.214
	(1.547)	(2.996)	(3.211)	(3.367)
Reserves/Total Debt	-0.001	-0.001	-0.002	-0.002
	(0.001)	(0.007)	(0.007)	(0.007)
Growth	-0.918	0.457	0.566	0.557
	(0.674)	(1.342)	(1.347)	(1.501)
Short-Term/Total Debt	-0.011^{**}	-0.031^{***}	-0.031^{**}	-0.024^{*}
	(0.005)	(0.011)	(0.012)	(0.013)
Past Reschedulings	0.123^{***}	0.144^{***}	0.138^{***}	0.145^{***}
	(0.016)	(0.021)	(0.021)	(0.025)
Log-L0	-326.418	-146.576	-146.576	-146.576
Log-L	-181.202	-71.864	-70.486	-67.259
Pseudo R^2	.445	.509	.519	.541
N	502	245	245	245

Standard errors are in parentheses. $*$ indicates significance at a 10% level; $**$ indicates significance at a 5% level; $***$ indicates significance at a 1% level.
a The excluded category is presidentialism.
b This is like my specification (Table 2), but using the reduced sample.

Appendix I

To complement the robustness checks to the specification presented in section 2.3, I also estimated two additional models including interaction terms between (1) parliamentarism and the government's coalition status; and (2) the government's ideological orientation and its coalition status. The results are presented in the following table:

Robustness Checks: Interaction Effects

	Regime	Right Gov.
Constant	-0.343	-0.011
	(0.341)	(0.697)
Government Coalition	-0.761^{***}	-1.188^{***}
	(0.237)	(0.356)
Proportional Representation	0.347^{*}	0.688
	(0.204)	(0.427)
Parliamentarism	-0.485^{**}	
	(0.242)	
Mixed	0.097	
	(0.344)	
Right-wing.		-0.448
		(0.428)
Coal $\times$ Parliam.	0.076	
	(0.323)	
Coal $\times$ Right		-0.101
		(0.529)
Debt/Output	0.012^{***}	0.015^{**}
	(0.004)	(0.007)
Debt/Service Payments	0.001	-0.001
	(0.001)	(0.001)
Current Account/GNP	-1.461	-2.442
	(1.551)	(3.211)
Reserves/Total Debt	-0.001	-0.002
	(0.001)	(0.007)
Growth	-0.932	0.553
	(0.677)	(1.351)
Short-Term/Total Debt	-0.011^{**}	-0.031^{**}
	(0.005)	(0.012)
Past Reschedulings	0.124^{***}	0.137^{***}
	(0.017)	(0.021)
Log-L0	-326.418	-146.576
Log-L	-181.174	-70.486
Pseudo R^2	.445	.519
N	502	245

Standard errors are in parentheses. $*$ indicates significance at a 10% level; $**$ indicates significance at a 5% level; $***$ indicates significance at a 1% level.

What emerges from the examination of the results is that the effect of coalition governments is clearly robust to the inclusion of the interaction terms. With respect to the interaction effects, following Ai and Norton (2003), I calculate them by computing cross differences, not just by looking at the coefficient in the interaction term. Recall that y is my indicator of rescheduling episodes, and $\mathbf{X}$ denotes a $k \times 1$ vector of independent variables, so $\mathbf{X}' = (x_1, ..., x_k)$. The expected value of y given $\mathbf{X}$ is

$$E[y|\mathbf{X}] = F(x, \beta),$$

where F is the probability that $y = 1$ (for the probit model $F(\cdot)$, is the familiar normal, cumulative distribution function). The *interaction effect* is defined to be the change in the predicted probability that $y = 1$ for a change in both x_1 and x_2 (which are both dummy variables). Therefore, the interaction effect is the discrete double difference (Norton et. al. 2004: 157):

$$\frac{\Delta^2 F(\mathbf{X}, \beta)}{\Delta x_1 \Delta x_2} = \frac{\Delta\{F(\beta_1 + \beta_2 x_2 + \beta_{12} x_2 + \mathbf{X}\beta) - F(\beta_2 x_2 + \mathbf{X}\beta)\}}{\Delta x_2}$$
$$= F(\beta_1 + \beta_2 + \beta_{12} + \mathbf{X}\beta) - F(\beta_1 + \mathbf{X}\beta) - F(\beta_2 + \mathbf{X}\beta) + F(\mathbf{X}\beta)$$
$$= \Phi(\beta_1 + \beta_2 + \beta_{12} + \mathbf{X}\beta) - \Phi(\beta_1 + \mathbf{X}\beta) - \Phi(\beta_2 + \mathbf{X}\beta) + \Phi(\mathbf{X}\beta)$$

Ai and Norton (2003) also derive the standard errors for the interaction effect in probit models, applying the Delta method. For the case of two dummy variables, the asymptotic variance of the estimated interaction effect is estimated consistently by:

$$\frac{\partial}{\partial \beta'}\left[\frac{\Delta^2 F(\mathbf{X}, \hat{\beta})}{\Delta x_1 \Delta x_2}\right] \hat{\Omega}_\beta \frac{\partial}{\partial \beta}\left[\frac{\Delta^2 F(\mathbf{X}, \hat{\beta})}{\Delta x_1 \Delta x_2}\right]$$

where $\hat{\Omega}_\beta$ is a consistent covariance estimator of $\hat{\beta}$ (which, in turn, is a consistent estimator of β) (Norton et. al. 2004: 157). The command **inteff** in Stata, developed by Norton, Wang and Ai, calculates the interaction effect, standard error, and z-statistic for each observation (Norton et. al. 2004).

The results in the preceding table, and an examination of figures 1-4 below, indicate that in both cases, for some observations, the interaction effect is positive, and, for others is negative. However, in terms of their statistical significance, we can conclude that both the interaction between parliamentarism and government coalitions and the one between ideological composition and coalition status are essentially zero. In other words, I can discard the notion that the effect of coalition governments on default depends on having a vote of confidence procedure, or on having a right-wing government.

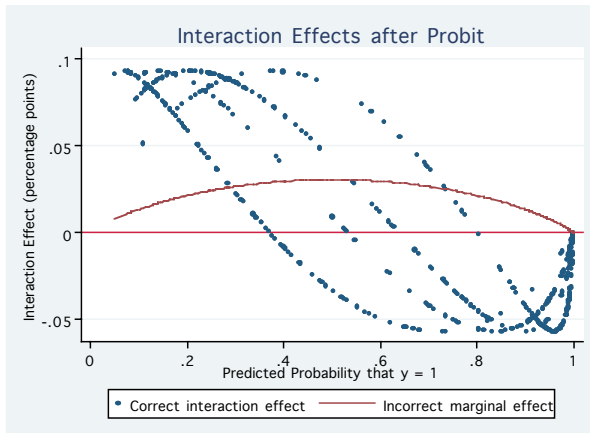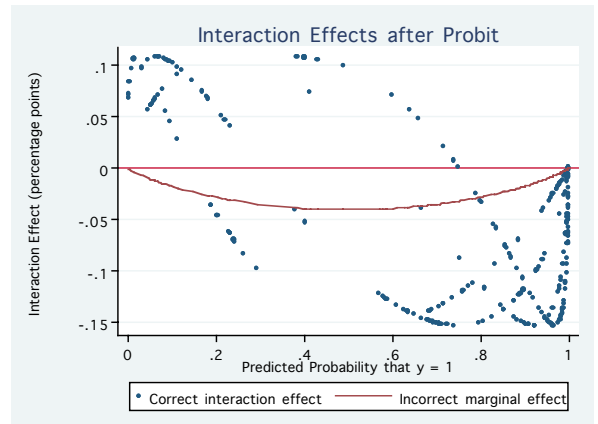Figure 1. Coalition X Parliamentarism

Interaction Effects after Probit

Correct interaction effect   Incorrect marginal effect

Figure 3. Coalition. X Ideology

Interaction Effects after Probit

Correct interaction effect   Incorrect marginal effect

Figure 2. Coalition X Parliamentarism

z-statistics of Interaction Effects after Probit
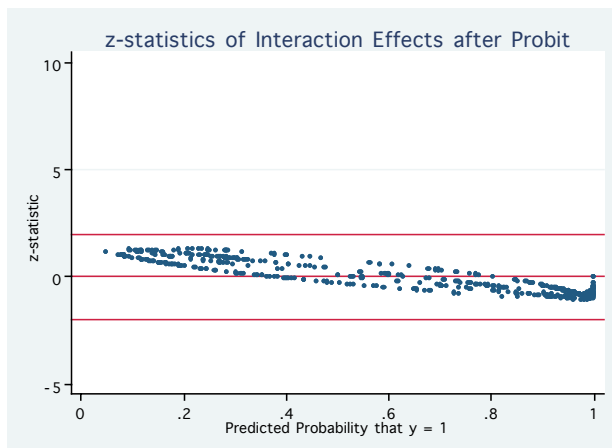
Figure 4. Coalition X Ideology

z-statistics of Interaction Effects after Probit
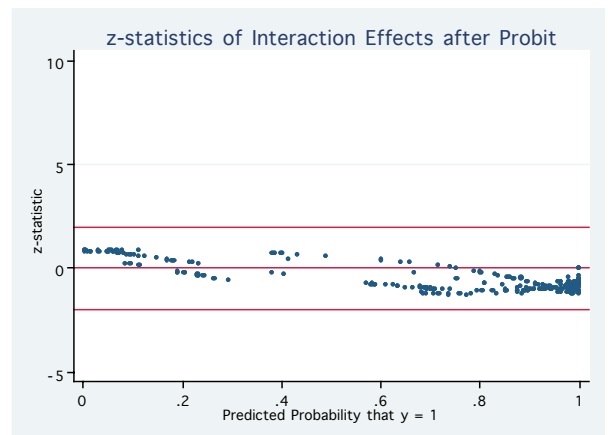
Appendix II

List of Countries in Sample

Country	Total Years	Debt Reschedulings
Argentina	15	14
Bangladesh	7	7
Barbados	16	14
Benin	4	4
Bolivia	13	13
Brazil	14	14
Bulgaria	7	7
Central African Republic	2	2
Chile	5	1
Colombia	27	18
Comoros	3	3
Costa Rica	19	18
Czech Republic	2	2
Dominican Republic	24	24
Ecuador	17	16
El Salvador	13	13
Ghana	2	2
Guatemala	10	5
Haiti	2	2
Honduras	13	13
Hungary	8	1
India	23	2
Jamaica	12	10
Latvia	5	1
Malawi	1	1
Mali	6	6
Malta	26	5
Mauritius	21	14
Mongolia	2	2
Nepal	7	7
Nicaragua	7	7
Niger	3	3
Nigeria	4	3
Papua New Guinea	20	0
Peru	6	6
Philippines	10	6
Poland	7	7
Romania	8	0
Slovak Republic	4	2
South Africa	3	0
South Korea	10	0
Sri Lanka	9	9
Thailand	15	0
Trinidad and Tobago	19	13
Turkey	21	6
Uruguay	2	1
Venezuela	27	19
Zambia	1	1
Total	502	324