

Sovereign Risk: Constitutions Rule

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Abstract

This paper models the executive's choice of whether to reschedule external debt as the outcome of an intra-governmental negotiation process. The executive's necessity of a confidence vote from the legislature is found to provide the rationale for why some democracies may not renegotiate their foreign obligations. Empirically, parliamentary democracies are indeed less prone to reschedule their foreign liabilities or accumulate arrears on them. Most of the democracies that have been able to significantly reduce their debt/GNP ratio without a 'credit incident' were parliamentary. Moreover, countries with stronger political checks on the executive and lower executive turnover have a lower rescheduling propensity. These results suggest that North and Weingast's account of the evolution of institutions in 17th century England gives substantial mileage in understanding the international debt markets in the contemporary developing world.

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The payment of foreign debt has been prioritized over the debt this country has with its own people. We are going to take the bull by the horns. I announce that the Argentine state will suspend payments on foreign debt.

(inauguration speech of president Rodriguez Saa, Argentina, Dec 2001)

1 Introduction

The incidence of external debt crises seems to follow an endemic pattern: a number of countries have repeatedly ended up in the unpleasant list of problem debtors.¹ Reinhart, Rogoff and Savastano (2003) recast the light on the pattern of reincidence of credit disruptions in some countries and coined the term '*serial defaulters*' to describe countries that have frequently resorted to defaults to reduce their debt stocks. The aim of this paper is to examine whether the institutional setting in borrowing countries affect their external debt policies and may explain the above pattern. I build on the basic observation that the decision on debt service is typically left to the executive, and not contemplated by the legislature. This stands in clear contrast to monetary policy which many countries have delegated to committees. Debt policy is not necessarily at the discretion of one agent or group however. The interaction of the executive with the legislature may affect the policy chosen, in particular if the legislature can credibly pose a threat to the very survival

¹ Lindert and Morton (1989) already noted that *There is a striking pattern of statistical significance. In either worldwide lending crisis (the 1930s and 1980-86), the problem debtors tended to be those who had problems earlier.*

of the executive, as is the case in parliamentary democracies.²

The paper shows that countries where the executive requires the confidence of the legislature to remain in office should exhibit a lower propensity to default on debts. It then finds empirical support for the hypothesis that, among developing countries, parliamentary democracies have a lower propensity to reschedule or accumulate arrears on their external liabilities. These findings are not sensitive to the classification of borderline regime cases, the quality of democracy and persist if Latin American countries are excluded from the sample. More generally, I find that the rescheduling propensity of a country is reduced by within regime institutional features as the checks and balances on the executive posed by political veto players and lower executive turnover. The results of the paper might be seen as being in line with those of Reinhart, Rogoff and Savastano in that they point out that history is of importance for debt policy. Instead of focusing on the economic record of a country, however, I find that one important channel through which history shapes debt policy is given by the form of government laid out at the time when the Constitution was written.

The theoretical model highlights two differences between forms of government that might drive the frequency of debt renegotiations. First, parliamentary and presidential regimes give rise to different micro-political games

² I follow the regime classification of Persson and Tabellini (2003) which relies on the executive's necessity for a confidence vote to characterize a parliamentary regime.

leading to different probabilities of policy reversals. Second, as these micro-political games are conditioned by strikingly different threat points, parliamentary and presidential regimes lead to different sets of enforceable relations between the executive and its support basis in the legislature, thereby affecting the policy outcome. More specifically, an executive needing the continuous assent of a legislative majority is likely to consider policy proposals by their impact on his ex post probability of retaining office. In particular, a halt to servicing of foreign obligations may restrict the sources of funding and overall economic efficiency in ways likely to be acknowledged and possibly exploited by political contenders and interest groups.

Interestingly, executive terms in democracies where the survival of the executive hinges on the assent of the legislature (henceforth parliamentary democracies) are typically shorter and show greater variation than in presidential democracies.³ This might lead to an expected greater likelihood of default on debt repayments in such countries, as economic models generally predict that governments with a higher likelihood of being replaced are more prone to implement measures implying short-term relief. The confidence requirement rationalizes the fact that parliamentary countries have resorted to debt reschedulings with lesser frequency in spite of their shorter average

³ For the sample of developing democracies of this paper the average term in a presidential regime is 4.05 years with a standard deviation of 1.85 (N=78). The corresponding figures for parliamentary countries are 3.53 and 2.08 (N=89). The null hypothesis of equal means can be rejected at the 5% confidence level.

office terms, since it gives the executive a strong motivation: the ability to remain in office. This check makes default a less likely equilibrium outcome in a parliamentary democracy.

The paper suggests that in the absence of a perfect commitment technology, institutions can play a role in enhancing the credibility of repayment promises. Such effects in 17th century Britain have been well documented by North and Weingast (1989):

These changes [the redesign of fiscal and governmental institutions] reflected an explicit attempt to make credible the government's ability to honor its commitments. Explicit limits on the Crown's ability unilaterally to alter the terms of its agreements played a key role here, for after the Glorious Revolution the Crown had to obtain Parliamentary assent to change in its agreements. As Parliamentarians represented wealth holders, its increased role markedly reduced the kings ability to renege. p. 804. and ...The Crown now had to deal with a parliament on an equal footing-indeed, the latter clearly had the advantage with its now credible threat of dethroning a sovereign who stepped too far out of line.... In combination, these changes greatly enhanced the predictability of government decisions. p. 829.

Relation to the literature. Tirole (2003) shows that international lending to developing countries can be seen as a dual agency problem in which the government of the borrowing country is always part of the contract, be it explicitly or implicitly, as in principle it holds the prerogative

of centralizing all operations involving foreign exchange. The repayment of external debt therefore requires the implicit consent of the government of the borrowing country, which is the focus of this paper. By and large however, the recent external debt literature has focused on the inability to repay rationally to explain sovereign defaults, assuming debt policy to be the result of decisions taken by a benevolent infinite-horizon planner. The main point of this paper is that one gains in understanding by looking at the institutional setup where a decision is taken. A decision to reschedule external debt is rarely uncontroversial. An indication that there are different assessments of the optimal debt policy for a country at a given time is given by the fact there have been instances when the announcement of default coincided with the inauguration speech of presidents (as in Peru 1989 and even the recent case of Argentina). Further, for strategic reasons, it is generally not optimal for countries to completely exhaust their reserves (Kohlscheen and O'Connell (2005)). However, if a default is triggered at a positive level of reserves, this suggests that it requires a purposeful action rather than being the passive result of a feasibility constraint. The hypothesis of the paper is that, given the differences in preferred debt policies, the institutional setting affects the frequency at which a country resorts to reschedulings.

A few studies have incorporated political features in the debt literature. In an influential paper, Alesina and Drazen (1991) showed that rational politicians could engage in wasteful wars of attrition leading to delays in

the stabilization of the debt dynamics. In their model, a divided government leads to a political stalemate due to conflicts over the distribution of the adjustment burden. This paper contrasts with that of Alesina and Drazen by stressing the commitment enhancing checks on the executive present within a divided government, that may be key when it comes to drastic measures such as the discontinuation of debt service. Chang (2002) modelled the sovereign default decision as a game between (a better informed) government and private agents, where the government announces its intended policy and the population may reverse the decision. I model the default decision as the result of a negotiating process within the political system. A somewhat related paper is Riboni (2003) which explores the role of committees and separation of powers in enhancing commitment in a post election bargaining game. In his model, however, the agenda setter's identity is fixed over time, while in this paper the main reason for risk premia on debt is the prospect of a change of the agenda setter.

On the empirical front, Block and Vaaler (2003) found that presidential elections are associated with an average one notch downgrading in the country's sovereign debt rating and that risk spreads on bonds rise in pre-election periods. They argue that sovereigns should preferably avoid issuing bonds in the six months ahead of (presidential) elections to avoid paying the election premium. As the executive in a parliamentary regime may influence the timing of an election, thereby creating an endogeneity problem, their research

excluded parliamentary countries. In contrast, in this study, the distinction between forms of government lies at the center of the analysis. To the best of my knowledge, no study has explicitly treated the difference between political systems in this context.

Outline. As the aim of the paper is to focus on institutional features, I depart from the altruistic, infinite horizon decision maker assumption pervading most of the sovereign debt literature. Section 2 compares debt policy when the policy decision is delegated to an incumbent whose survival depends on the approval of a veto player (a parliamentary regime) to the outcome when the incumbent does not face any such immediate threat to his survival in power and remains in office irrespective of the policy preferences of other politicians (a presidential regime).

As the predictions of institutional modelling might be quite sensitive to the details of the model, the ultimate appeal of an hypothesis, such as the one in this paper, must be empirically established. This is done in sections 3 and 4, based on a sample covering 59 countries from 1976 to 1999. Using probit and tobit analysis, I find support for the theoretical predictions.

2 Debt Policy with Delegation

For political institutions to play an interesting role, some heterogeneity must lead to a conflict of interests. It is clear that, in the limit, for sufficiently low (high) levels of net external debt repayments all economic agents might

favor debt servicing (default). For intermediate levels of net debt repayments (that are likely to occur unless rational international investors are infinitely risk averse) debt policy involves the resolution of such conflict of interests. In this section, I show that in this range the mapping of net debt repayments to the probability of default is a function of the institutions through which a decision is reached.

I shall analyze the default decision (henceforth debt policy) when the electorate consists of two types of voters: stakeholders, who own shares in the sector bearing an efficiency cost from default, and peasants. Peasants are only affected by the impact of debt policy on the relative price of their endowment (that could be inelastically supplied labor). The costs of default (such as depressed asset prices) endure as long as the relations with creditors are not normalized.

Let Δ^J denote the utility gain conditioned on the continuation of debt service relative to default for an agent of type $J \in \{S, P\}$, where S denotes a stakeholder and P a peasant. I will assume that $\Delta^S \geq 0$ and $\Delta^P \leq 0$, i.e., a stakeholder's utility conditioned on the continuation of debt service exceeds his utility under default, while the opposite is true for a peasant.⁴ In Appendix A, I show that although a debt overhang situation could invert this assumption, rational investors would never let debt levels reach such situation if there are small office rents for coalition members. As already

⁴ Since peasants do not internalize the effect of debt policy on asset prices, I will assume them to be less keen on debt servicing.

stated, debt policy will not be affected by institutions if the signs of Δ^J are equal.

Given these assumptions about the conflicting interests over debt policies, I next ask whose preference prevails. In practice, societies delegate debt policy decisions to policy makers. As this introduces a principal-agent relationship, the policy outcome may critically hinge on the motivation of the politicians deciding over policy. In Section 2.1, I start out with the assumption that citizen-candidate politicians are mainly motivated by their ability to influence policy, but that compensating offers can be made. In the Appendix I introduce office rents as an additional motivation.

On debt policy issues, electoral promises are likely not to be perfectly enforceable, so that politicians might be tempted to behave opportunistically, announcing whichever policy platform that maximizes their chances of election. Assume that the distribution of preferences of the electorate is common knowledge, whilst the type of a particular individual is private information. With this informational structure there is likely to be a pooling of (irrelevant) platforms. In such a context (or alternatively when the electoral process is decided on issues orthogonal to debt policy) the selection of the government from the pool of politicians is equivalent to a random draw as long as the type priors are equal for all candidates. This is why I largely abstract from the pre-electoral stage.⁵ Note also that, as a result of the lack of commitment,

⁵ The pre-electoral stage could be important if, for instance, stakeholders could make campaign contributions that affect the popular vote.

only preferences of politicians will be relevant. To the extent that the stakes of stakeholders are higher than those of peasants, stakeholders are likely to be over-represented in the pool of politicians, since they will face stronger incentives to enter politics in a citizen-candidate model. The most relevant proportion in the model is therefore θ , defined as the share of stakeholders in the pool of politicians. In other words, $\theta > \theta'$ if θ' represents the share of stakeholders in the population.

2.1 Form of Government

Assume that the status quo is debt servicing and let n denote the number of elected (groups of) politicians, where only politicians that could potentially become heads of the executive are considered. Let a parliamentary decision structure be defined as follows:

I. A senior and a junior coalition partner are elected from the pool of n politicians to form a government.

II. Senior coalition member proposes a binary debt policy (service or default) and a transfer $b \geq 0$ to junior.

III. Junior coalition member accepts proposal of senior or walks away. If he walks away, the game returns to step I.

IV. Policy is implemented

The senior and junior member could be interpreted as the prime-minister and his support basis in the legislature, respectively. In other words, n is not simply the number of parties. In particular, in a parliamentary system the prime-minister and his party in parliament count as two (the senior and the junior coalition member in the model).

The main feature of an equivalent presidential game is the absence of steps II and III. The survival of the senior executive does not hinge on the approval by another player (or group). Typically, dismissal only occurs for criminal activities. It might be argued that the legislature could punish presidential actions it is not pleased by through voting against bill proposals of the presidency. Such threats, however, turn out not to be subgame perfect: once debt policy has been implemented, representatives will vote taking debt policy as a bygone since there is no direct way of credibly linking the issues. This is not the case in a parliamentary regime where the threat of unseating the prime-minister is credible. Since the intended implementation of a default reveals the type of the senior coalition member, the junior member might want to replace him by a politician that will seek normalization of international flows.

As usual, the SPNE is found by solving backwards. After computing their utilities in the two possible outcomes in stage IV, politicians will act to achieve their highest payoff in the preceding stages. Coalition members might be "bought out" of their ex ante debt policy preferences through side

payments (b). Note that these cannot be made conditional on type, since type is not observable ex ante. This implies that both types would extract transfers when acting as junior coalition members. Further, implicit in this step is the assumption that transfers can be undone if the support is withdrawn. This could for instance be the concession of jurisdiction in a given policy area (ministry) for the coalition member. Transfers in specie are not an alternative, since once transfers have occurred, nothing precludes the first politician from requesting a second transfer or act according to his preferred policy anyway. Conversely, if the policy is decided upon before the transfer, the second politician would find it optimal to default on the transfer. Hence, only a compensation instrument directly tied to the survival of the executive would be credible.

The proof of the following proposition can be found at the end of the paper:

Proposition 1 *Assume that there is some heterogeneity over debt policy preferences and that there are at least three politicians eligible for government, with no more than three pro-default (and $\theta \neq \frac{1}{4}$ or $n \neq 4$). Then: I) If at least two candidates favor default, and the stakes of stakeholders in debt policy exceed those of peasants by a factor in excess of $\min[\frac{n-1}{n(1-\theta)}; \frac{5}{3}]$, a parliamentary game leads to a weakly (strictly) lower positive probability of default than a presidential one. II) If one candidate only favors default, the probability*

of default in a parliamentary game is nil.

The satisfaction of the condition on stakes assures that either only stakeholder politicians make positive transfers to their support basis in the legislature when acting as senior coalition members or, if transfers are optimally set to zero, the status quo bias is stronger in a parliamentary regime. The likelihood of default in a parliamentary regime thus equates to the likelihood of an all peasant government coalition remaining in power, which is shown to be lower than the probability of a pro-default politician becoming president in a presidential regime ($1 - \theta$).

Note that the proposition holds despite of the fact that the parliamentary game leads to a higher expected turnover of the executive within a given period. The proposition therefore can explain the empirical fact that parliamentary regimes reschedule their debts less often in spite of higher executive turnover (see below). Appendix B shows that the proposition can be generalized to the case of multiple veto players.⁶

The above result hinges on the inability of coalition members to credibly signal their types before policy is chosen (as in Alesina and Drazen (1991)). Note that this inability creates a potential inefficiency in the case when both coalition members are peasants. This is caused by the credible threat of unseating the government posed by the stakeholder in case a default is proposed.

⁶ Also, it can be shown that the results extend to the case where it is common knowledge that government dissolution would be followed by non-democratic appointment of the executive.

Interestingly, the results would not change if we gave coalition members the ability to signal their types to each other before the policy proposal is made, since stakeholders would have incentives to introduce noise into the signalling device.

2.2 Welfare Analysis

A few lines on the efficiency of policies under the different institutional arrangements might be worthwhile. First, in the absence of a compensation mechanism, debt policy will always pick a winning and a losing group if Δ^S and Δ^P have distinct signs. Depending on the policy decision structure, defaults may either be too frequent or too rare relative to the first best in the long run. Note that a default is socially desirable if (and only if)

$$\Delta = \theta' \Delta^S + (1 - \theta') \Delta^P < 0 \quad (1)$$

If types were separable, it would be straightforward that an internal transfer mechanism across groups conditioned on policy could be Pareto improving. If condition (1) does not hold in a presidential country, a constitutional transfer from stakeholders to peasants conditioned on debt repayment would be a way of attaining the first best outcome and at the same time reduce the risk premia of international contracts. No such transfer would be needed in this case in a parliamentary country if the conditions of Proposition 1.II were met.⁷

⁷ Under the veil of ignorance, a risk neutral agent would prefer to be

Although a presidential country exhibits a larger default propensity in general, it is never ruled out that a president may keep debt servicing promises even if the first best policy is default (as arguably the recent case of Argentina).⁸ This occurs when a stakeholder holds power and the aggregate stakes held in debt servicing by stakeholders as a group ($\theta' \Delta^S$) are too small relative to the loss imposed by such policy on peasants. Further, a parliamentary country might service debt when rescheduling would be efficient.

2.3 Discussion and Testable Implications

This section has shown how the vote of confidence procedure entailed in parliamentary regimes can act as an implicit commitment device in international debt contracts. First, the confidence requirement makes it more difficult for the executive in charge to change the status quo as veto players are introduced in the game. By itself, this effect could cut in both directions in terms of the likelihood of default, however, depending on the proportion of pro-service and pro-default politicians (Lemma 2). It is the interaction of the confidence requirement with the magnitude of the stakes involved that leads born in a parliamentary country if and only if $E[\Delta] > 0$ in the absence of compensation mechanisms.

⁸ Note however that even the case of Argentina highlights the importance of politics, since the default only occurred when the executive changed. The suspension of repayments -which for many observers came too late - was announced during the inauguration speech of the short-lived presidency of Rodrigues Saa. The already depressed stock markets fell by 8% on the re-opening day after the announcement.

parliamentary countries to default with lesser frequency than an equivalent presidential country. Further, the check works on a continuous basis in a parliamentary as opposed to a presidential regime, where it is stronger in periods immediately preceding elections.

Arguably the stylized model considered here may give too favorable a view of veto players. An alternative hypothesis is that veto players make it difficult to implement budget cuts in the times when they are most needed (as in the war of attrition model of Alesina and Drazen (1991)). This might come to the disadvantage of international contracts if budget cuts are a precondition for repayments.

Thus, the question of the effect of the political system on foreign debt policy is ultimately an empirical one. What testable implications can we derive from the theory? The proposition relies on necessary conditions for n . Note however that the condition $n \geq 3$ is rather loose, since the prime-minister and his support basis in the legislature count as two players - even if they belong to the same party. Basically, a sufficient condition for the requirement to be met is that there is an alternative party that could possibly contest the incumbent. This means that we want to exclude non-democratic regimes from the sample.

When politicians are policy motivated and stakes are such that side-payments within the coalition are optimally set to zero, the theoretical predictions also contain a necessary condition on θ , i.e., the share of politicians

favoring debt servicing. Note, however, that when stakes of stakeholders exceed those of peasant politicians in a way that induces positive side payments within the governing coalition or in the case that politicians do obtain office rents the restriction on θ is dropped. More specifically, a sufficient (but not necessary) condition for this to be the case is that stakes of stakeholders in debt policy exceed those of peasants by $\frac{2}{3}$. I consider these conditions to be highly plausible.

The theory gives us four hypotheses to take to the data. The first is that parliamentary countries are less prone to reschedule their external obligations or accumulate arrears in repayments, *ceteris paribus*. The second hypothesis is that more constrained executives are less likely to resort to debt rescheduling, as the introduction of veto players reduces the likelihood of default (see Appendix B). Also, default is less likely with coalition governments. Finally, higher political turnover should increase the likelihood of discontinuation of debt servicing as the probability that at some point a peasant politician decides on policy is increased.⁹

⁹ Further predictions can be derived on the effect of presidential term limits. In particular, in presidential countries where stakeholders may make campaign contributions and a substantial share of the electorate is uninformed about the effects of debt policy, there might be a debt servicing incumbent advantage. In my database (that contains 86 democratic presidential elections), the probability of reelection of a president following a term in which there was no onset of arrears on repayment, is 17.9%. Following onset of arrears, the probability is just 5.2% (Ukraine's Leonid Kuchma was the only president to be reelected following a term with arrears on repayments).

3 Data

3.1 Sample Selection

When taking the model to the data, I impose some restrictions on the sample to focus on the countries for which the model is more likely to apply: namely, democratic developing economies not effectively excluded from private international debt markets.

I start by excluding all countries without a sovereign credit rating assigned at any time up to June 2002 by Moody's or Standard & Poor's. Presumably, such countries have not been particularly active in private markets and could primarily be involved in operations with multilateral institutions. The political interactions in official lending relations might be much less clear-cut. Admittedly, there might be a sample selection problem: it is possible that this criterion itself is a function of the default propensity. In particular, if the theory is right, excluded countries should be predominantly presidential or have unchecked executives. However, including countries that have been inactive in private lending would introduce a severe bias, since some countries might not reschedule their debts simply because they were not able to borrow in the first place. The criterion still allows the inclusion of the vast majority of middle-income countries for which data are available.

I also exclude the countries for which the (lagged) credit rating is above A1/A+. A credit rating in the four highest notches is unlikely to be asso-

ciated with a significant risk of default. This restriction basically eliminates developed economies. Since the vast majority of developed economies are parliamentary democracies, this may well bias the results so that reschedulings are too often found in parliamentary countries. As the focus is deliberately on developing economies, this bias might be worthwhile. Any inference should be limited to this set of countries, however. Excluding non-borrowers and high-rated countries, I am left with a potential sample of 72 countries.

Since the model is designed for democracies, non democratic regimes are also excluded. To determine whether a country is classified as a democracy, I take the average of Freedom's House political rights and civil liberties indices that goes from 1 (free) to 7 (non free) for each year. Then, I classify a country as democratic if the simple average of the two indexes is below 5 in a given year. Country-year observations that do not meet this criterion are eliminated. The pattern of the results does not change when this threshold is lowered. The fraction of countries in the sample failing this broad democracy criterion falls from an average of 49% in the second half of the 1970s, to 39% in the 1980s and 24% in the 1990s. According to this criterion, for instance, Indonesia fails the democracy test all the time until 1999. Going in the opposite direction, Malaysia became non democratic in 1998, Pakistan in 1999 and Russia in 2000.¹⁰ 64 countries pass this test for at least some years since 1976. Another five countries are excluded because of missing data.

¹⁰ I also exclude the observations for the three countries that have qualified for the Heavily Indebted Poor Country debt relief initiative after 1995.

All in all, the total number of countries in the sample is 59, with geographical coverage as follows: 23 Latin American, 18 (mostly Eastern) European, 13 Asian and 5 African countries. The countries and years in the sample are listed at the end of the paper.

3.2 Dependent Variables

The baseline dependent variable is a binary indicator, taking a value of one if a debt rescheduling agreement has been reached in a given year. This variable is taken as a proxy for sovereign default. Rescheduling agreements between debtors and official creditors are usually reached within the forum of the Paris Club. Debt towards private creditors is typically renegotiated in the so called London Club. The workings of the Paris Club have been described by Sevigny (1990) and at the home page of the institution. According to the latter source, the general principles are case by case analysis, consensus among creditors, conditionality, solidarity and comparability of treatment for non-official creditors. On conditionality, the text reads: *Paris Club creditors reschedule a country's debt to respond to a situation of imminent default, and in the context of the debtor's taking adequate measures to correct the situation through an IMF program.*¹¹

I considered the debt relief agreements reached with commercial banks and official creditors between 1980 and 2000 listed in the World Bank's Global

¹¹ <http://www.clubdeparis.org/en/presentation/>. Sevigny considers imminent default as one of the basic principles.

Development Finance 2001.¹² To be on the conservative side, debt buyback and voluntary debt swaps operations were not considered as they are presumably performed on a voluntary basis. Further, I did not consider the few episodes not associated with repayment arrears.¹³ While I note that the simple event of a rescheduling does not necessarily imply negative returns,¹⁴ it does constitute a change in the original terms of the contract. The advantage of the variable considered here is that it includes renegotiations of debt towards both, public and private creditors.

3.3 Institutional Variables

3.3.1 Form of Government

The theoretical model relied on the existence of a credible threat to "unseat" the executive. Persson and Tabellini (2003) take the confidence requirement on the executive as the dividing line between presidential and parliamentary regimes. I use their classification, taking the confidence requirement as a *proxy* for the credibility of the threat of unseating the executive. Ac-

¹² Tables A2.2 and A3.2. Observations also listed in Table A3.1 are excluded. (p.157-182). For the time span previous to 1980, I considered all Paris Club agreements plus defaults and reschedulings listed in Cline (1984, p.224) and Lindert and Morton (1989, p. 92-98).

¹³ It should be mentioned that the GDF is based on year end positions. Nothing precludes the onset of arrears and a rescheduling agreement to occur within the same year.

¹⁴ In fact Lindert and Morton (1989) showed that a buy and hold strategy still gave returns to bonds of developing countries exceeding the returns of US bonds in the 1930s, in spite of frequent defaults.

ording to this criterion, 28 of the 59 countries in the sample are parliamentary. To check for sensitivity, I use an alternative classification taken from the Database of Political Institutions classifying countries to be presidential, semi-presidential or parliamentary. For the first two classes, I let the presidential dummy take the value of 1 and for the last 0. The list of countries and their respective classifications is presented in Table 1. The classification coincides for as many as 52 of the 59 countries. Five of the seven countries where the two classifications clash are situated in Eastern Europe. The executive requires a vote of confidence in all of these. However, DPI classifies Bulgaria, Lithuania, Moldova and Poland as presidential and Estonia as semi-presidential. Pakistan is classified as presidential according to the Persson and Tabellini criterion and parliamentary during most of the time by DPI. South Africa is considered a parliamentary country according to the vote of confidence requirement, while DPI considers it to be semi-presidential. Since most Eastern European countries were not democracies before 1990, my prior is that the results should not be greatly affected by the classification in the long panel.

3.3.2 Veto Players

Presidential (and parliamentary) regimes vary substantially in the degree of discretion given to the executive (see for instance Shugart and Carey (1992) for a comparison of variations of presidential powers in Latin America) and,

in particular in the number of veto players that can directly interfere in policy. Henisz (2000) constructed a quantitative measure of political constraints that embeds diminishing returns to additional veto points, based on a spatial model of political interactions. The basic rationale is that adding more veto players to the political game makes it likely that the marginal veto player has less impact on policy since his preference may well be absorbed by the preferences of previous veto players.¹⁵ Henisz's *Political Constraint Index* (POLCON) is based on the number of branches possessing veto power over policy, adjusting for the level of alignment of each branch with the executive. A zero score depicts an unconstrained executive and a score of one the most constrained. I use the POLCONiii index which considers the political alignment of the legislative chambers with the executive. A high opposition in the legislature may be taken as an additional proxy for the "threat of being dethroned" (the first being the confidence requirement dummy).

3.4 Control Variables

As economic control variables I use a number of variables that have been previously used in the literature on debt rescheduling (for a complete survey see Babbel (1996)), namely, the debt to GNP, reserves to imports and debt service to exports ratios and economic growth. All explanatory variables are lagged. I also construct a variable (polturn) to proxy for political instability.

¹⁵ For a detailed theoretical discussion see Tsebelis (2002).

This variable measures the number of changes of the person in charge of the executive in the last 10 years. Since the DPI dataset starts from 1975, the inclusion of this variable limits the time span of the panel.

A number of alternative explanatory variables were tested, namely, central government budget deficits, level of GDP per capita, current account deficits, the growth rate of exports, a dummy variable taking the value of one for the twelve accession candidates to the European Union in the 1990s¹⁶ and the export of goods and services to the GNP ratio (to proxy for the degree of openness). None of these variables has a p-value below 0.4 with the expected sign when added to the baseline specification.

Economic data are from the World Bank's Development Indicators CD-ROM and Global Development Finance and the IMF's International Financial Statistics.¹⁷

4 Empirical Evidence

I identify a total of 123 debt rescheduling episodes involving democratic countries between 1976 and 1999. 22 episodes took place in parliamentary countries (8 of these involving Jamaica). The year 2000 would add another 3 cases, none of them involving a parliamentary democracy. The table below presents

¹⁶ Starting in 1991, when the EU signed the first agreements with Hungary and Poland.

¹⁷ Data for Cyprus, Greece, Israel, Russia and Slovenia were complemented with information from the US State Department Country Reports and EIU.

a summary. The lower half lists only non Latin American observations since it might be suspected that the difference could be driven by the negative correlation of the parliamentary regime and the Latin American dummies. The unconditional probability of a parliamentary country rescheduling its external obligations in any given year during the period was 4.4%, as compared to 19.6% for presidential countries. Excluding Latin America, the contrast remains: 3.3% vs. 18.8%.

Rescheduling Incidence vs. Form of Government

	obs	reschedulings	countries	resch countries
presidential	516	101	31	23
parliamentary	495	22	28	5
non LatAm pres	160	30	13	7 ¹⁸
non LatAm parl	364	12	23	3

4.1 Incidence of Rescheduling Agreements

I now ask whether this difference persists after controlling for liquidity and solvency variables used in previous empirical studies. For this purpose, I run a pooled probit regression, where the dependent variable is the rescheduling dummy. The baseline specification has data for 59 countries with an average time span of 11 years. I do not treat for attrition in the panel.

To eliminate countries in long term default and possibly not active in the debt markets, I exclude the observations for countries that had accumulated arrears on principal in excess of 20% of the outstanding medium and long

¹⁸ Indonesia would have been the eighth case if the sample had been extended to include 2000.

term debt stock in years $t-2$ and $t-3$ without having reached a rescheduling agreement up to year $t-1$. Failure to eliminate these observations might bias the results, suggesting for instance that a high debt service to export ratio is not conducive to a rescheduling agreement (it turns out however that the coefficients of interest are not affected by this exclusion). I also eliminate observations for countries that rescheduled foreign obligations in the previous year. While this comes at the risk of excluding relevant episodes it avoids the possibility of double counting if a rescheduling is made through more than one agreement AND arrears were not cleared in the first round. Inspection shows that the results are not sensitive to the length of this window.

As the focus of this paper lies on the effect of domestic factors, rather than predictive power, a time dummy for each year is included to control for changing conditions in international markets, such as international interest rates, oil prices, and less measurable variables such as shifts in risk aversion, multilateral institutions' "bail-out propensity" and contagion effects. Note that fixed effects may not be included as the stringent conditions for a full fledged unobserved effects probit or logit analysis are not met.¹⁹ Specifically, while strict exogeneity might be plausible for some of the institutional variables in question, it will never hold for the ratio variables: a reschedul-

¹⁹ I am constrained by the time invariability of the form of government dummy and the fact that the fixed-effect probit lacks a consistent estimator. Bertschek and Lechner (1998) did propose GMM estimators for the probit model based on panel data. However, their estimators rely on strict exogeneity.

ing agreement today will have a direct impact on the ratio variables in the following periods.

Dynamic completeness of the specification cannot be rejected at the usual confidence levels, allowing for standard inference procedures.²⁰ It seems particularly plausible for the types of variables used: little would be gained from including additional lags for ratio variables once more recent observations of these are available (i.e., the ratio of reserves to imports or debt to GNP two years ago adds little to the prediction of rescheduling agreements if last year's ratio is available).

The regression results are shown in the tables at the end of the paper. Tables 1a and 1b use the regime classification based on the confidence requirement, following Persson and Tabellini (2003). First, note that all economic variables have the expected sign: external debt reschedulings are more likely in countries with a high debt service to exports ratio, a high debt to GNP ratio, a low reserve to imports ratio and a low growth rate.²¹

²⁰ Specifically, I test for dynamic completeness by estimating

$$P(y_{it} = 1|x_{it}, \hat{u}_{i,t-1}) = \Phi(x_{it}\beta + \gamma_1\hat{u}_{i,t-1})$$

where $\hat{u}_{i,t-1}$ is the estimated lagged residual of the pooled probit of regression 1.a. The p-value for the hypothesis $H_o : \gamma_1 = 0$ is 0.527, implying that the null hypothesis cannot be rejected. For a discussion the reader is referred to Wooldridge (2002).

²¹ The main effect of including a dummy variable indicating whether the country has rescheduled its debts in the last 10 years (as a proxy for country specific effects) is to take away the statistical significance of the Latin America dummy variable when the form of government is not omitted (see Table 1c). This inclusion might introduce a bias in the estimation as the variable

Among the political explanatory variables, the parliamentary regime variable is significant at the 1% confidence level in 11 out of 12 specifications. This suggests the rejection of the hypothesis of no effect on the form of government on the rescheduling propensity. Parliamentary democracies are less prone to reschedule their foreign liabilities. To check the sensitivity of the results to individual groups, a groupwise deletion routine was implemented excluding one country at a time. The significance levels of the results were unaffected (e.g. always significant at the 1% confidence level). The computation of marginal effects suggests that at the mean of the covariates, the probability of rescheduling in a given year is reduced by 8.43 percentage points if the Constitution of a country contains the confidence requirement on the executive. This effect would be equivalent to an increase in reserve holdings sufficient to finance eight months of imports. Regressions 4 to 6 aim at checking whether the result is driven by Latin American countries. The parliamentary dummy continues giving a sizable effect which is significant at the 1% confidence level in most specifications even if Latin American countries are excluded from the sample. Moreover the effect of the confidence requirement is larger than that of the Latin America regional variable - which loses significance in the 1990s.

Further, the POLCON_{iii} variable always has the sign predicted by the theory: more constrained executives are less likely to reschedule. It is is correlated with the form of government dummy.

tistically significant at the 10% confidence level in 10 of the 12 regressions where it was included. Finally, the executive turnover variable has the expected sign and is statistically significant in the regressions run for the 1990s. Countries with a higher political turnover have a higher rescheduling propensity. Table 1c is just a replication of the regressions of Table 1a using the DPI classification instead. By and large the results point in the same direction.

It might be conjectured that a check on the executive as concerns debt servicing might come from the judiciary. To check this hypothesis, I instead run the regressions using the POLCONv index, which also takes the alignment of the judiciary and sub-national governments with the executive into consideration. By and large, the results do not change. When I used an index only considering the *de iure* and *de facto* independence of the Supreme Court however, as computed by Feld and Voigt (2002), I found that the effect was not statistically significant, though I obtained the expected sign (i.e. countries with more independent Supreme Courts tend to reschedule less).

The conclusion is that parliamentary countries have indeed been less prone to reschedule their foreign obligations *ceteris paribus*. This result is not sensitive to the time period covered, the strictness of the democracy criterion or the classification of borderline political regimes. Further, reschedulings are less likely the lower the political turnover²² and the higher the political oppo-

²² Amador (2003) argues that higher political turnover should decrease the likelihood of repudiation as the borrower becomes less capable to accumulate buffer stock savings and operate on a cash in advance basis as in Bulow and Rogoff (1989). I find that political turnover per se increases the likelihood of

sition to the executive in the legislature. These results suggest that there is a limit to Alesina and Drazen's war of attrition interpretation in this context. It should be kept in mind that the case against veto players is based on the premise that the incumbent must change the status quo (and will do this in the right direction).

4.2 Debt Service Arrears

Table 2 shows the results of a censored tobit regression where the dependent variable is the increase in the ratio of arrears on long term debt to the volume of outstanding obligations. Notice that this sample is somewhat different from that in the previous section. First, I am now restricted to the countries reporting to the GDF. Further, in contrast to the previous section, I do not exclude country-year observations after the onset of arrears, so that each year when the country is accumulating arrears is considered.²³ As for (lagged) explanatory variables, the debt service to export ratio is replaced by the export growth value, since the former variable could be misleading: observed low debt service might simply be the result of a choice not to pay.

The signs of the economic variables are comparable to those obtained using the rescheduling dummy as the dependent variable. The parliamentary regime dummy has the expected sign and is significant in most cases. Also in

²³ Hence, I do not need to arbitrarily define which level of accumulation of arrears constitutes a default.

line with previous results, if anything, more constrained governments are less likely to accumulate arrears on repayments, although this effect is significant only in half of the cases.

4.3 Secondary market

Changes in international credit conditions should affect the prospective probability of repayment of a country and thus the return of portfolios that contain its bonds. In particular, it might more heavily affect those countries perceived as vulnerable. The 1990s witnessed two major adverse shocks to emerging market portfolios, as tracked by JP Morgan's EMBI indices. The indices include liquid external-currency-denominated bonds. The first occurred in 1994, when the EMBI index was computed for only six countries - all of them presidential. The second occurred in October 1997, at the climax of the Southeast Asian debacle. By then, the coverage amounted to 20 countries. All but China and Nigeria can be considered democracies using the Gastil criterion. All 18 countries recorded negative returns in October 1997. The mean return on bonds of parliamentary democracies was -5.8% vs. -10.5% for presidential (medians of -3.6% and -10.1% respectively). Equal means of the returns can be rejected at the 10% confidence level. In particular, the two countries experiencing the smallest negative external bond returns in October (Malaysia and Turkey) are the only ones classified as parliamentary by both the vote of confidence criteria and the DPI classifica-

tion.²⁴

Dornbusch (2001) argues that the Malaysian response to the crisis cannot be fully understood without considering the struggle for power between the Prime Minister, his deputy and the finance minister. He also points out that the relatively smooth ride cannot be attributed to the imposition of capital controls. These were not introduced until September 1998. Although in this case the game seems to have been slightly different from that suggested in the theoretical section, an alternative government seems to have been a particularly credible threat in the episode, in spite of the following reversion to a less democratic environment (as measured by the Gastil index).

4.4 Debt Reversals

Reinhart, Rogoff and Savastano (2003) identify 22 episodes of sharp debt reductions between 1970 and 2000, defined as decreases in the external debt to GNP ratio of at least 25% in a three year interval. 16 of the 22 episodes involved countries considered free or partially free by Freedom House at the time.²⁵ In 11 out of these 16 episodes countries reduced their debt stocks resorting to debt restructuring. 10 of the 11 restructuring countries are pres-

²⁴ The small size of the sample however makes it meaningless to run a regression with the usual controls. This is to say that this subsection should only be taken as an additional indication, rather than a conclusive test.

²⁵ The incidents involving countries that were not considered free were: Gabon 1978-81, Chile and Swaziland 1985-88, Paraguay 1987-90, Lebanon 1990-93 and Iran 1993-96.

idential democracies. Jamaica is the only parliamentary case. The only five countries that managed to reduce external debt without resorting to a debt rescheduling were Botswana in 1976-79, South Korea in 1985-88, Malaysia in 1986-89, Papua New Guinea in 1992-95 and Thailand in 1998-01. All but South Korea are parliamentary democracies. By and large, when looking at debt reversals, the same pattern that was present in the default table emerges:

Reductions in External Debt, 1970-2000

	obs	with rescheduling agreement	no default
presidential	11	10	1
parliamentary	5	1	4
non LatAm pres	8	7	1
non LatAm parl	4	none	4

4.5 Parliamentary Defaults

The theory also predicts that default is less likely under coalition governments, as the number of veto players increases. To test this hypothesis, I use the information contained in the World Bank DPI, which identifies coalition governments in the group of parliamentary democracies.²⁶ Only one of the 17 external debt reschedulings (i.e. 5.9%) involving a parliamentary democracy occurred when, according to the database, a coalition government was in place, namely Turkey at the end of the 1970s. When taking the whole

²⁶ I consider a coalition government to be in power when the variable IP-COH takes on values 2 or 3. Note that to be consistent with the database, I consider the DPI based regime classification.

sample, I find that 28.9% of the parliamentary democracies were ruled by coalition governments.

A closer look into the cases of debt rescheduling by parliamentary countries is revealing. If the theory applies, these are likely to be the cases where the institutional mechanisms alluded to in the paper are the weakest among parliamentary regimes.

In the last 25 years only three countries with undisputable parliamentary regimes rescheduled their foreign obligations: Jamaica, Trinidad and Tobago and Turkey. According to the rankings in Kaufmann et al. (2003), these countries are in positions 26, 19 and 25, respectively, among the 28 parliamentary countries of the panel, in terms of control of corruption.²⁷ As already mentioned, the theory states that the form of government is immaterial to the rescheduling propensity if the office rents of junior coalition members are the overwhelming reason for office. Moreover, in Jamaica, the party of the executive - whichever it was - has never controlled less than 70% of the parliament. Trinidad and Tobago underwent a rescheduling in 1988 at a time when the party of the prime minister controlled 33 of the 36 seats in the legislative house.²⁸

The largest parliamentary democracy rescheduling its debts is Turkey,

²⁷ The point estimates refer to year 2002 (www.worldbank.org/wbi/governance).

²⁸ Although sacked cabinet members were forming a new party ... *to oppose what they regard as a dangerously authoritarian style of government*. (EIU Country Report No.3, 1988).

which defaulted on its external obligations in 1977 amidst a period of great political instability. The country had been governed by rapidly alternating coalitions in the previous years. General elections were anticipated from October to June. The default occurred in July amidst a political vacuum after the elections turned out to be indecisive. Celasun and Rodrik (1989) provide a detailed description of the Turkish default. Like Dornbusch (2001), the authors argue that the episode cannot be fully understood without a comprehension of the political scenario, even though their focus is on economic issues.

5 Conclusion

Parliamentary democracies have a lower propensity to reschedule their debts and accumulate arrears on repayments. This is confirmed by the data even when developed economies - of which almost all are parliamentary democracies - are not considered. Furthermore, an increase in the number of veto players appears to reduce the likelihood of credit incidents. This suggests that North and Weingast's checks and balances interpretation extends to present day international debt contracts.

It is important to note that the theory does not say that a presidential democracy will necessarily default at lower repayment burdens than a parliamentary democracy. In principle, nothing precludes a president from holding on to a debt servicing strategy when this is already socially inefficient. In the

long run or in a large cross-section of countries, however, there will be more changes in course in the political systems in which more power is vested in the executive and, in particular, debt service is at greater risk in the countries that lack a credible way of linking policy choices to the survival of the executive.

Credibility is a key issue in the debate on international credit flows. While this paper does not rule out that other mechanisms may have influenced the striking difference in debt service outcomes between regimes, it shows that the vote of confidence requirement does significantly enhance the repayment commitment. Further, it rationalizes the fact that there are fewer debt reschedulings in parliamentary democracies in spite of the higher political turnover. Finally, the indications of within regime variation seem to be encouraging for further research on the institutional particularities of debtor countries.

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PROOF OF PROPOSITION 1

The proof of the proposition relies on the two lemmas below:

Lemma 1: Assume $n \geq 3, 0 < \theta < 1$ and $(1 - n)\theta \leq 3$ (and $\theta \neq \frac{1}{4}$ or $n \neq 4$). If at least two candidates favor default and the stakes ratio $|\Delta^S|/|\Delta^P| > \frac{n-1}{n(1-\theta)}$, a parliamentary game leads to a weakly (strictly) lower positive probability of default than a presidential one.

Proof. Assume $|\Delta^S|/|\Delta^P| > \frac{n-1}{n(1-\theta)}$. Note that this implies $|\Delta^S|/|\Delta^P| > 1$. For a stakeholder politician acting as a senior coalition member, making a transfer b that is accepted by a peasant politician gives him the value $|\Delta^S| - b$ (relative to the default outcome). Optimality of the offer requires b to be such that the utility of making the side payment and servicing debt dominates the expected utility of not offering a side payment. The latter is determined by the sum of the probability of the junior coalition member being a stakeholder and the probability of debt servicing conditioned on a government dissolution in the first stage, i.e. $|\Delta^S| - b > \frac{\theta n - 1}{n - 1} |\Delta^S| + \frac{n(1-\theta)}{n-1} (1 - \pi') |\Delta^S|$, where π' stands for the probability of default conditional on one government dissolution. Further, an acceptable offer for a peasant must satisfy

the condition $b - |\Delta^P| \geq -(1 - \pi') |\Delta^P|$. From this expressions it is clear that making the minimum acceptable offer $b = \pi' |\Delta^P|$ is optimal if and only if $|\Delta^S|/|\Delta^P| > \frac{n-1}{n(1-\theta)}$ (assuming that no offer is made in case of indifference). The offer b will be accepted with probability 1. Similarly, for a senior peasant, $b' = (1 - \pi') |\Delta^S|$ if and only if $|\Delta^S|/|\Delta^P| < \frac{\theta n}{n-1} \leq 1$. But this contradicts the initial assumption. Hence, only a senior stakeholder will make offers. Provided there are at least two peasant politicians, the likelihood of default in a parliamentary game will be given by the probability of an all-peasant-coalition, i.e.,

$$\pi = \frac{(1 - \theta) ((1 - \theta) n - 1)}{n - 1} + \frac{(1 - \theta) \theta n}{n - 1} \pi'$$

where

$$\pi' = \frac{((1 - \theta) n - 1) ((1 - \theta) n - 2)}{n - 2} + \frac{((1 - \theta) n - 1) (\theta n - 1)}{(n - 2) (n - 3)} \pi''$$

²⁹ In a presidential game, the probability of default is $(1 - \theta)$ irrespective of n and the presence of a single politician favoring default is sufficient to cause a political risk to securities issued abroad. It remains to show that $\pi \leq (1 - \theta) \forall \theta, n \geq 3$.

Assume first that $(1 - \theta) n = 2$. Then $\pi' = 0$, since only one peasant politician would be left after a government dissolution and she would never be able to form an all-peasant coalition. Hence $\pi = \frac{(1-\theta)((1-\theta)n-1)}{n-1}$ which is strictly less than $(1 - \theta) \forall n \geq 3$. We still need to check what occurs when

²⁹ Note that we have to assume that politicians whose government was dissolved are not re-eligible. A government dissolution reveals the types of politicians that formed the government. Hence, the senior coalition member would attract all votes of peasants whilst the junior coalition member would attract the votes of stakeholders (since it is clear that he is a stakeholder). This would lead to the possibility of re-election followed by government dissolution ad infinitum. If less than two politicians are eligible, the pool of politicians is renewed with the same proportions (new general election).

$1 \leq \theta n \leq 3$. Let $\theta n = 1$. Then $\pi = \frac{2}{3}\frac{1}{2} + \frac{2}{3}\frac{1}{2}\pi$, which gives $\pi = \frac{1}{2} < (1 - \theta) = \frac{2}{3}$. Now let $\theta n = 2$. Then $\pi = \frac{2}{4}\frac{1}{3} + \frac{2}{4}\frac{2}{3}\pi$, which gives $\pi = \frac{1}{4} < (1 - \theta) = \frac{1}{2}$. Finally, with $\theta n = 3$, $\pi = \frac{2}{5}\frac{1}{2} = \frac{1}{5} < (1 - \theta)$. Thus, if $(1 - \theta)n = 2$ then $\pi < (1 - \theta) \forall \theta, n \geq 3$.

Now assume that $(1 - \theta)n = 3$. Then $\pi'' = 0$ and $\pi = \frac{(1-\theta)((1-\theta)n-1)}{n-1} + \frac{(1-\theta)\theta n}{n-1} \frac{((1-\theta)n-1)}{n-2} \frac{((1-\theta)n-2)}{n-3}$. $\pi < (1 - \theta)$ reduces to $(n - 2)(n - 3) > 2$ which holds $\forall n > 4$. We need to check what occurs when $1 \leq \theta n \leq 4$. Let $\theta n = 1$. Then $\pi = \frac{3}{4}\frac{2}{3} + \frac{3}{4}\frac{1}{3}1 = \frac{3}{4} = 1 - \theta$. Now let $\theta n = 2$. Then $\pi = \frac{3}{5}\frac{2}{4} + \frac{3}{5}\frac{2}{4}\frac{1}{2} = \frac{2}{5} < (1 - \theta)$. With $\theta n = 3$, $\pi = \frac{3}{6}\frac{2}{5} + \frac{3}{6}\frac{3}{5}\frac{1}{4} = \frac{11}{40} < (1 - \theta)$. Finally, with $\theta n = 4$, $\pi = \frac{3}{7}\frac{2}{6} + \frac{3}{7}\frac{4}{6}\frac{1}{5} = \frac{1}{5} < (1 - \theta)$. Thus, if $(1 - \theta)n = 3$ then $\pi \leq (1 - \theta) \forall \theta, n \geq 3$, holding with equality for $n = 4$ only. ■

Lemma 2: Assume $n \geq 3, 0 < \theta < 1$ and $(1 - n)\theta \leq 3$. If at least two candidates favor default and $1 < |\Delta^S|/|\Delta^P| \leq \frac{\theta n}{n-1}$, a parliamentary game leads to a strictly lower positive probability of default than a presidential one if and only if $\frac{1}{2} < \theta < 1$.

Proof. Assume $1 < |\Delta^S|/|\Delta^P| \leq \frac{\theta n}{n-1}$. Note that $\forall |\Delta^S|/|\Delta^P| \leq \frac{n-1}{n(1-\theta)}$, b is optimally set to zero. A positive b' would require $|\Delta^S|/|\Delta^P| < \frac{\theta n}{n-1} \leq 1$, hence $|\Delta^S|/|\Delta^P| < 1$ which contradicts the assumption. Hence, in the inexistence of side payments, politicians are purely policy-motivated and a decision can only be reached by consensus in a parliamentary game. Any differing policy preferences within the government would lead to government dissolution, followed by new government formation. The probability of default at any given time will be given by the probability that both members within a lasting government favor a default. Hence, as long as pro debt service politicians are the majority, the probability of default will be given by

$$\pi = \frac{(1 - \theta)((1 - \theta)n - 1)}{n - 1} + \left(1 - \frac{(1 - \theta)((1 - \theta)n - 1)}{n - 1} - \frac{\theta(\theta n - 1)}{n - 1}\right) \pi'$$

where

$$\begin{aligned}\pi' &= \frac{((1-\theta)n-1)((1-\theta)n-2)}{(n-2)(n-3)} + \\ &+ \left(1 - \frac{((1-\theta)n-1)((1-\theta)n-2)}{(n-2)(n-3)} - \frac{(\theta n-1)(\theta n-2)}{(n-2)(n-3)}\right) \pi''\end{aligned}$$

Assume first that $(1-\theta)n = 2$. Then $\pi' = 0$ and $\pi = \frac{(1-\theta)((1-\theta)n-1)}{n-1} < (1-\theta) \forall n \geq 3$. We still need to check what occurs when $\theta n = 3$. Then $\pi = \frac{2}{5} \frac{1}{4} = \frac{1}{10} < (1-\theta) = \frac{2}{5}$. Now assume that $(1-\theta)n = 3$. Then $\pi'' = 0$ and $\pi = \frac{(1-\theta)((1-\theta)n-1)}{n-1} + \left(1 - \frac{(1-\theta)((1-\theta)n-1)}{n-1} - \frac{\theta(\theta n-1)}{n-1}\right) \frac{((1-\theta)n-1)((1-\theta)n-2)}{(n-2)(n-3)}$. One can show that $\pi < (1-\theta)$ if and only if $(n-2)(n-3) > 4$. But if pro debt service politicians are the majority $n \geq 6$, so that the condition is always satisfied. We still need to check what occurs when $\theta n = 4$: in this case we have $\pi = \frac{3}{7} \frac{2}{6} + \frac{3}{7} \frac{4}{6} \frac{1}{10} = \frac{6}{35} < (1-\theta) = \frac{3}{7}$. ■

Proof. Assume first that $(1-\theta)n = 2$. Then if $3 \leq n \leq 4$, Lemma 1 applies if $|\Delta^S|/|\Delta^P| > \max_{3 \leq n \leq 4} \frac{n-1}{n(1-\theta)} = \frac{3}{2}$. Moreover, we have $\frac{1}{2} < \theta \leq 1$ so that Lemma 1 or 2 implies a strictly lower probability of default in a parliamentary game $\forall n \geq 5$ irrespective of the stakes ratio. Now assume that $(1-\theta)n = 3$. Then if $4 \leq n \leq 6$, Lemma 1 surely applies if $|\Delta^S|/|\Delta^P| > \max_{4 \leq n \leq 6} \frac{n-1}{n(1-\theta)} = \frac{5}{3}$. Further, we have $\frac{1}{2} < \theta \leq 1$ so that Lemma 1 or 2 renders a strictly lower probability of default in a parliamentary game $\forall n \geq 7$ for all $|\Delta^S|/|\Delta^P|$.

Now note that $\frac{n-1}{n(1-\theta)}$ is strictly increasing in n . This implies that with two pro-default politicians $|\Delta^S|/|\Delta^P| > \frac{3}{2}$ is a sufficient condition for a strictly lower probability of default in a parliamentary game while with three pro-default politicians $|\Delta^S|/|\Delta^P| > \frac{5}{3}$ (and $\theta \neq \frac{1}{4}$ or $n \neq 4$) would suffice for a weakly (strictly) lower probability. Moreover, if $|\Delta^S|/|\Delta^P| > \frac{n-1}{n(1-\theta)}$ Lemma 1 applies. Summarizing, $|\Delta^S|/|\Delta^P| \geq \min[\frac{n-1}{n(1-\theta)}; \frac{5}{3}]$ (and $\theta \neq \frac{1}{4}$ or $n \neq 4$) is a sufficient condition for a weakly (strictly) lower probability of default in a parliamentary game. This proves the first statement.

Finally, if there is only one pro-default candidate, he either leads to a government dissolution or, if he acts as a junior coalition member, acquiesces to debt servicing. ■

Appendix A - Debt Overhang

Assume instead that $\Delta^S < 0$ and $\Delta^P > 0$ and that there are office rents R and r that accrue to the senior and the junior coalition member if the government stays in power. In the uninteresting case that $r \geq (2 - \pi) |\Delta^S|$ all senior proposals are always accepted rendering the check posed by the junior coalition member irrelevant. If however $r < (2 - \pi) |\Delta^S|$, it will be optimal for a stakeholder to reject debt servicing. Moreover, a senior stakeholder always proposes default, while a senior peasant will propose default if and only if $R \geq \frac{(1-\theta)n-1}{n-1} (|\Delta^P| + R) + \frac{\theta n}{n-1} ((1 - \pi') |\Delta^P|)$. Hence, if the condition $R > \left(1 + \frac{(1-\theta)n-1}{\theta n}\right) |\Delta^P|$ is satisfied, default is always proposed. Therefore rational investors would never lend if repayment were to fall in the region were $\Delta^S < 0$ and $\Delta^P > 0$.

Appendix B - Multiple Veto Players

The observation generalizes to the case of multiple veto players checking the executive. Suppose that instead of one, there are two junior coalition members who may withdraw their support for the executive. In this case, we obtain the following result:

Proposition 2 *Assume $6 \leq n \leq 11$, $0 < \theta < 1$ and $(1 - n)\theta \leq 4$. Then: I) If at least three candidates favor default and $|\Delta^S|/|\Delta^P| > \frac{5}{2}$, a parliamentary game leads to a strictly lower positive probability of default than a presidential one. II) If there are less than three candidates that favor default, the probability of default in a parliamentary game is nil.*

Proof. Assume $|\Delta^S|/|\Delta^P| > \frac{5}{2}$. Examine first the case $(1 - \theta)n = 3$. A junior coalition member would always accept an arbitrarily small offer ε . To see that a senior peasant does not make a side payment note that $-2b' > -\left(1 - \frac{2}{(n-1)(n-2)}\right)|\Delta^P|$ and $b' \geq |\Delta^S|$ which together imply that $|\Delta^S|/|\Delta^P| < \frac{n(n-3)}{2(n-1)(n-2)} \leq \frac{1}{2}$, contradicting the original assumption. Now with $(1 - \theta)n = 4$, $|\Delta^S| - 2b >$

$$\left[(n-5)(n-6) + 12 + 8(n-5) \left(1 - \frac{6}{(n-3)(n-4)(n-5)}\right) \right] \frac{|\Delta^S|}{(n-1)(n-2)} \text{ and } b - |\Delta^P| \geq - \left[\frac{3}{(n-2)} + \frac{n-5}{(n-2)} \left(1 - \frac{6}{(n-3)(n-4)(n-5)}\right) \right] |\Delta^P| \text{ we get } b = \frac{6}{(n-2)^2(n-3)(n-4)} |\Delta^P|$$

and $|\Delta^S|/|\Delta^P| > \frac{\frac{12(n-1)}{(n-3)(n-4)}}{(n-1)(n-2) - (n-5)(n-6) - 8(n-5) \left(1 - \frac{6}{(n-3)(n-4)(n-5)}\right) - 12}$. This ratio is strictly increasing and reaches $\frac{5}{2}$ with $n = 11$. With a senior peasant, by its turn, $-2b' > -\left[\frac{6(n-4)}{(n-1)(n-2)} + \frac{(n-4)(n-5)}{(n-1)(n-2)} \left(1 - \frac{6}{(n-3)(n-4)(n-5)}\right)\right] |\Delta^P|$ and $b' \geq -\left[\frac{3}{(n-2)} + \frac{n-5}{(n-2)} \left(1 - \frac{6}{(n-3)(n-4)(n-5)}\right)\right] |\Delta^S|$ which together imply $|\Delta^S|/|\Delta^P| < \frac{2(n-1)(3+(n-5)\left(1 - \frac{6}{(n-3)(n-4)(n-5)}\right))}{(n-4)(6+(n-5)\left(1 - \frac{6}{(n-3)(n-4)(n-5)}\right))} \leq \frac{5}{2}$. If these conditions are satisfied only a senior stakeholder will make offers. Provided there are at least three peasant politicians, the likelihood of default in a parliamentary game will be given by the probability of an all-peasant-coalition, i.e.,

$$\begin{aligned} \pi &= \frac{(1 - \theta) ((1 - \theta)n - 1) ((1 - \theta)n - 2)}{(n - 1)(n - 2)} \\ &\quad + (1 - \theta) \left[\frac{\theta n (\theta n - 1)}{(n - 1)(n - 2)} \pi' + \frac{\theta n ((1 - \theta)n - 1)}{(n - 1)(n - 2)} \pi'' \right] \end{aligned}$$

where

$$\pi' = \frac{((1 - \theta)n - 1) ((1 - \theta)n - 2) ((1 - \theta)n - 3)}{n - 3} + \dots \pi''' + \dots \pi''''$$

Assume first that $(1 - \theta)n = 3$. Then $\pi' = \pi'' = \pi''' = \pi'''' = 0$, since less than three peasant politicians would be left after a government dissolution. Hence $\frac{(1-\theta)((1-\theta)n-1)((1-\theta)n-2)}{(n-1)(n-2)} < (1 - \theta) \forall n \geq 4$. Now assume that $(1 - \theta)n = 4$. Then $\pi'' = \pi''' = \pi'''' = 0$ and $\pi = \frac{(1-\theta)((1-\theta)n-1)((1-\theta)n-2)}{(n-1)(n-2)} +$

$(1 - \theta) \left[\frac{\theta n(\theta n - 1)}{(n-1)(n-2)} \frac{((1-\theta)n-1)}{n-3} \frac{((1-\theta)n-2)}{n-4} \frac{((1-\theta)n-3)}{n-5} \right]$. $\pi < (1 - \theta)$ if and only if $1 + \frac{\theta n(\theta n - 1)}{(n-3)(n-4)(n-5)} < \frac{(n-1)(n-2)}{6}$, which holds $\forall n \geq 6$. This proves the first statement.

Finally, if there are less than three candidates that favor default they will never be able to form an all-peasant coalition. ■

List of Countries

	PARL	PARL DPI*	rescheduled ?	from	to		PARL	PARL DPI	rescheduled ?	from	to
Argentina	0	0	y	1983	1999	Lebanon	0	0		1992	1992
Bahamas	1	2		1991	1997	Lithuania	1	0		1994	1999
Barbados	1	2		1976	1999	Malaysia	1	2		1976	1997
Belize	1	2		1985	1999	Malta	1	2		1976	1999
Bolivia	0	0	y	1978	1995	Mauritius	1	2		1977	1999
Botswana	1	2		1977	1999	Mexico	0	0	y	1980	1999
Brasil	0	0	y	1976	1999	Moldova	1	0		1995	1999
Bulgaria	1	0	y	1992	1999	Morocco	0	0	y	1977	1999
Chile	0	0	y	1988	1999	Nicaragua	0	0	y	1988	1988
Colombia	0	0	y	1976	1999	Pakistan	0	2		1976	1998
Costa Rica	0	0	y	1978	1999	Panama	0	0	y	1980	1999
Croatia **	0	0	y	1994	1999	Papua NG	1	2		1977	1999
Cyprus	0	0		1981	1999	Paraguay	0	0		1989	1999
Czech Rep.	1	2		1994	1999	Peru	0	0	y	1978	1999
Dominican	0	0	y	1976	1999	Philippines	0	0	y	1982	1999
Ecuador	0	0	y	1978	1999	Poland	1	0	y	1994	1999
Egypt	0	1	y	1976	1990	Romania	1	2		1992	1999
El Salvador	0	0	y	1977	1999	Russia	0	0	y	1993	1999
Estonia	1	1		1993	1999	Slovakia	1	2		1994	1999
Fiji	1	2		1980	1999	Slovenia	1	2		1995	1999
Greece	1	2		1991	1999	South Africa	1	1		1995	1999
Guatemala	0	0	y	1978	1999	South Korea	0	0		1979	1999
Honduras	0	0	y	1976	1999	Thailand	1	2		1979	1999
Hungary	1	2		1987	1999	Trinidad&T.	1	2	y	1979	1999
India	1	2		1976	1999	Tunisia	0	0		1989	1990
Indonesia	0	1		1999	1999	Turkey	1	2	y	1976	1999
Israel	1	2		1987	1999	Ukraine	0	0	y	1995	1999
Jamaica	1	2	y	1977	1999	Uruguay	0	0		1982	1999
Jordan	0	0	y	1991	1999	Venezuela	0	0	y	1976	1999
Latvia	1	2		1994	1999						

* 0 presidential - 1 semi-presidential - 2 parliamentary. Regime in which country is classified during most of the sampled time is reported.

** Croatia switched to a parliamentary regime in 2000.

Countries were excluded in years for which Gastil index < 5. Only in sample reschedulings with arrears reported.

Summary statistics
Data used in Probit

	# obs	average	std dev	min	max
RESC	726	0.094	0.292	0	1
RES/M	726	0.411	0.369	0.029	2.776
DEBTSER/X	726	0.216	0.156	0.003	0.874
DEBT/GNP	726	0.480	0.357	0.014	3.326
GDPGR	726	3.647	5.281	-30.900	38.200
LA	726	0.466	0.499	0	1
PARL	726	0.515	0.500	0	1
POLCONiii	724	0.351	0.165	0.000	0.655
POLTURN	477	0.196	0.123	0.000	0.600

Correlation matrix

	RESC	RES/M	DEBTSER/X	DEBT/GNP	GDPGR	LA	PARL	POLCONiii
RESC	1							
RES/M	-0.0868	1						
DEBTSER/X	0.2455	-0.0734	1					
DEBT/GNP	0.2832	-0.1637	0.3613	1				
GDPGR	-0.1051	0.1338	-0.0682	-0.0886	1			
LA	0.1732	-0.0112	0.225	0.0502	-0.0900	1		
PARL	-0.2363	0.0336	-0.3748	-0.2038	-0.0082	-0.5022	1	
POLCONiii	-0.1215	-0.0211	-0.0653	-0.1348	-0.0603	-0.1087	0.2106	1

724 obs

Data used in Tobit

	# obs	average	std dev	min	max
INC_ARREAR	809	0.006	0.021	0.000	0.359
RES/M	809	0.406	0.360	0.023	2.776
XGR	809	0.096	0.174	-0.405	2.379
DEBT/GNP	809	0.553	0.514	0.040	5.083
GDPGR	809	3.596	4.840	-14.869	38.201
LA	809	0.489	0.500	0	1
PARL	809	0.476	0.500	0	1
POLCONiii	807	0.346	0.165	0.000	0.655
POLTURN	540	0.197	0.124	0.000	0.600

Correlation matrix

	INC_ARREAR	RES/M	XGR	DEBT/GNP	GDPGR	LA	PARL	POLCONiii
INC_ARREAR	1							
RES/M	-0.0625	1						
XGR	-0.1444	-0.0107	1					
DEBT/GNP	0.1558	-0.1535	-0.0851	1				
GDPGR	-0.1856	0.1319	0.2642	-0.1008	1			
LA	0.1474	-0.0019	-0.0628	-0.0040	-0.1228	1		
PARL	-0.1630	0.0270	0.0337	-0.0886	0.0355	-0.4862	1	
POLCONiii	-0.0835	0.0038	-0.0141	-0.0808	-0.0131	-0.0701	0.2166	1

807 obs

Table 1a - Probit (Persson and Tabellini's classification)

Dependent variable: rescheduling dummy

	all	all	all	ex LA	ex LA	ex LA	Gstl<4	90s
reserves/imports	-1.193 3.03***	-0.915 2.40**	-1.129 2.82***	-3.509 3.54***	-6.024 4.89***	-5.488 4.08***	-1.396 2.86***	-0.811 1.540
debt service/exports	1.939 3.62***	2.387 4.69***	2.038 3.77***	1.721 1.540	2.804 2.34**	2.365 1.72*	2.418 3.66***	-0.540 0.540
debt/GNP	0.773 4.04***	0.727 3.87***	0.721 3.76***	0.842 3.20***	0.843 2.97***	0.822 2.49**	0.864 3.74***	0.927 2.94***
GDP growth	-0.043 2.82***	-0.036 2.34**	-0.042 2.77***	-0.031 1.500	-0.028 1.240	-0.025 1.040	-0.076 3.99***	-0.029 1.560
LA	0.465 2.46**	0.703 4.02***	0.507 2.68***				0.628 2.64***	0.110 0.420
parliamentary	-0.836 3.97***		-0.741 3.45***	-1.067 3.72***		-0.605 1.610	-1.008 4.27***	-1.248 4.21***
polcon		-1.334 2.62***	-0.931 1.73*		-4.886 4.82***	-4.392 3.63***	-1.281 1.85*	-2.023 2.32**
executive turnover								2.275 1.94*
Observations	650	648	648	288	286	286	478	364
Reschedulings	68	68	68	18	18	18	55	24
Pseudo R2	0.319	0.298	0.327	0.356	0.448	0.463	0.399	0.347
Log likelihood	-148.35	-152.82	-146.48	-43.33	-37.13	-36.06	-102.62	-57.73

* significant at 10%; ** significant at 5%; *** significant at 1%. Robust z-statistics are presented. Constant and year dummies included in all regressions.

Alternative explanatory variables tested: budget surplus (z=0.19), GDP p.c. 1975 (-0.55), current account surplus (0.78), EU candidate dummy (-1.05), export growth (0.85), export of goods and services/GNP (-0.47), debtser**2 (0.22).

Table 1b - Probit

	all	all	all	ex LA	ex LA	ex LA	Gstl<4	90s
resch previous 10yrs	1.022 4.49***	0.991 4.69***	0.998 4.45***	2.236 4.54***	1.764 3.85***	2.161 4.11***	1.147 4.63***	1.298 4.05***
reserves/imports	-1.187 2.72***	-0.936 2.22**	-1.147 2.61***	-4.520 3.29***	-6.650 4.38***	-6.246 3.62***	-1.386 2.52**	-0.921 1.76*
debt service/exports	1.478 2.67***	1.831 3.49***	1.539 2.76***	2.230 1.260	3.024 1.90*	2.489 1.280	1.752 2.63***	-1.194 1.110
debt/GNP	0.530 2.66***	0.500 2.63***	0.482 2.39**	0.867 3.04***	0.738 2.44**	0.497 1.160	0.591 2.42**	0.719 1.98**
GDP growth	-0.048 3.32***	-0.039 2.67***	-0.048 3.25***	-0.027 1.000	-0.024 0.920	-0.020 0.630	-0.086 4.49***	-0.032 1.570
LA	0.130 0.610	0.400 2.16**	0.178 0.840				0.251 0.950	-0.608 1.93*
parliamentary	-0.822 3.85***		-0.744 3.39***	-1.487 4.00***		-1.193 2.78***	-0.924 3.52***	-1.320 3.75***
polcon		-1.122 2.21**	-0.712 1.320		-4.485 4.89***	-3.798 3.53***	-0.831 1.180	-1.743 1.85*
executive turnover								3.294 2.25**
Observations	650	648	648	288	286	286	478	364
Reschedulings	68	68	68	18	18	18	55	24
Pseudo R2	0.374	0.353	0.378	0.555	0.569	0.607	0.452	0.416
Log likelihood	-136.398	-140.847	-135.409	-29.963	-28.993	-26.442	-93.427	-51.682

* significant at 10%; ** significant at 5%; *** significant at 1%. Robust z-statistics are presented. Constant and year dummies included in all regressions.

Table 1c - Probit (DPI classification)

Dependent variable: rescheduling dummy

	all	all	all	ex LA	ex LA	ex LA	Gstl<4	90s
reserves/imports	-1.420 3.32***	-0.915 2.40**	-1.368 3.14***	-4.034 2.90***	-6.024 4.89***	-5.907 3.67***	-1.654 3.11***	-1.243 2.10**
debt service/exports	1.984 3.57***	2.387 4.69***	2.056 3.71***	4.747 3.26***	2.804 2.34**	4.804 2.84***	2.549 3.75***	0.546 0.570
debt/GNP	0.811 4.17***	0.727 3.87***	0.761 3.92***	0.712 2.35**	0.843 2.97***	0.540 1.280	0.889 3.74***	0.864 2.58***
GDP growth	-0.034 2.33**	-0.036 2.34**	-0.036 2.42**	-0.012 0.570	-0.028 1.240	-0.011 0.420	-0.069 3.77***	-0.016 0.930
LA	0.570 2.99***	0.703 4.02***	0.580 3.01***				0.744 3.13***	0.071 0.240
parliamentary	-1.010 5.18***		-0.957 4.89***	-2.349 4.74***		-1.949 3.74***	-1.163 5.02***	-1.784 4.59***
polcon		-1.334 2.62***	-0.768 1.460		-4.886 4.82***	-3.900 2.96***	-1.269 1.84*	-2.054 2.43**
executive turnover								2.501 2.00**
Observations	650	648	648	288	286	286	478	364
Reschedulings	68	68	68	18	18	18	55	24
Pseudo R2	0.337	0.298	0.345	0.452	0.448	0.524	0.415	0.390
Log likelihood	-144.47	-152.82	-142.44	-36.88	-37.13	-32.02	-99.77	-53.92

* significant at 10%; ** significant at 5%; *** significant at 1%. Robust z-statistics are presented. Constant and year dummies included in all regressions.

Table 2 - Censored Tobit

Dependent variable: increase in arrears/LT debt

	P & T classification							
	all	all	all	ex LA	ex LA	ex LA	Gstl<4	90s
reserves/imports	-0.002 1.42	-0.002 1.55	-0.002 1.47	-0.001 0.85	-0.003 2.26**	-0.003 1.71*	-0.002 1.53	-0.002 1.55
export growth	-0.012 1.69*	-0.013 1.71*	-0.013 1.72*	-0.020 0.96	-0.020 0.99	-0.020 0.97	-0.016 1.50	-0.015 0.89
debt/GNP	0.003 2.21**	0.003 2.30**	0.003 2.20**	0.002 1.55	0.002 1.72*	0.002 1.62	0.002 1.73*	0.008 1.65*
GDP growth	-0.001 2.60***	-0.001 2.51**	-0.001 2.60***	-0.001 2.38**	-0.001 2.40**	-0.001 2.43**	-0.001 2.95***	-0.001 2.36**
LA	0.003 1.70*	0.005 2.71***	0.003 1.76*				0.002 1.16	-0.001 0.71
parliamentary	-0.004 3.51***		-0.004 3.27***	-0.003 1.01		0.001 0.20	-0.005 3.36***	0.000 0.21
polcon		-0.007 1.80*	-0.005 1.27		-0.016 3.15***	-0.017 3.54***	-0.009 1.83*	-0.007 0.96
executive turnover								0.002 0.36
Observations	798	796	796	407	405	405	662	396
Uncensored	254	254	254	69	69	69	211	97
Wald	103.2	99.44	104.78	28.31	28.26	29.77	95.8	26.16
Log likelihood	-3007.36	-2996.79	-2993.99	-2086.74	-2071.17	-2071.15	-2524.46	-1756.81

	DPI classification							
	all	all	all	ex LA	ex LA	ex LA	Gstl<4	90s
reserves/imports	-0.002 1.43	-0.002 1.55	-0.002 1.48	0 0.17	-0.003 2.26**	-0.001 0.55	-0.002 1.53	-0.002 1.38
export growth	-0.013 1.71*	-0.013 1.71*	-0.013 1.75*	-0.022 1.09	-0.020 0.99	-0.021 1.05	-0.018 1.60	-0.018 0.98
debt/GNP	0.003 2.36**	0.003 2.30**	0.003 2.33**	0.002 1.73*	0.002 1.72*	0.002 1.72*	0.002 1.81*	0.007 1.67*
GDP growth	-0.001 2.50**	-0.001 2.51**	-0.001 2.52**	-0.001 2.27**	-0.001 2.40**	-0.001 2.42**	-0.001 2.92***	-0.001 2.39**
LA	0.002 1.05	0.005 2.71***	0.002 0.98				0.001 0.47	-0.003 1.28
parliamentary	-0.007 4.18***		-0.007 3.94***	-0.008 3.14***		-0.007 2.01**	-0.008 3.73***	-0.006 2.14**
polcon		-0.007 1.80*	-0.004 0.90		-0.016 3.15***	-0.008 1.03	-0.009 1.88*	-0.006 0.82
executive turnover								0.007 1.17
Observations	798	796	796	407	405	405	662	396
Uncensored	254	254	254	69	69	69	211	97
Wald	98.91	99.44	102.25	27.03	28.26	30	96.03	27.57
Log likelihood	-3001.24	-2996.79	-2987.66	-2080.89	-2071.17	-2067.43	-2517.29	-1752.59