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# **Political Institutions and Growth Collapses**

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## Abstract\*

This paper tests whether Rodrik's (1999) results that institutions for conflict management are associated with the ability to react to economic shocks are robust to different ways of defining the quality of such institutions. We measure the quality of conflict management institutions with two different indices. The first is an index of political constraints on the ability of the executive to impose its will. These constraints limit the ability of the government to arbitrarily change the rules of the game and therefore may reduce redistributive struggles. The second index measures the degree of political particularism. We define political particularism as the policymakers' ability to further their career by catering to narrow interests rather than broader national platforms. The indices used in this paper solve the endogeneity and subjectivity biases that affect Rodrik's measure of institutional quality. We find strong support for the idea that high levels of political constraints and intermediate levels of political particularism are associated with a quick recovery from economic shocks.

**JEL Codes:** K1; O1; D74.

**Keywords:** Growth; Institutional efficiency; Political particularism; Conflict and conflict resolution.

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## 1. Introduction

In a series of recent papers, Rodrik (1999, 2000a, 2000b) asks the question, “Why did so many countries that grew at a satisfactory rate during the 1960s and early 1970s experience collapses in their growth rates after the economic shocks of the mid 1970s?” In these papers, Rodrik argues that the ability to recover from external shocks depends on the level of latent social conflict and on the quality of a country’s institutions for conflict management. According to Rodrik, countries that have low levels of latent social conflict and good institutions for conflict management can implement policies that minimize the effects of the shock on the economy and quickly resume their growth process. The opposite is true in countries with high latent social conflict and poor institutions where, in the best case, necessary reforms will be delayed and, in the worst case, the shock will generate distributional conflicts that may lead to an economic collapse. Rodrik illustrates this point with the example of how South Korea, Brazil, and Turkey reacted to the oil shock of the mid-1970s. While Korea, thanks to its adjustment policies, was able to quickly resume growth, Brazil and Turkey experienced an economic collapse. Rodrik attributes these diverse experiences to the fact that Korea lacked latent social conflict and had better institutions for conflict management. The importance of these institutions extends to windfalls as well as shocks: the experience of, among others, Nigeria and Venezuela show that distributional conflicts that lead to bad policies can also arise from positive terms of trade shocks (Tornell and Lane, 1999).

Rodrik (1999) tests his hypothesis by regressing changes in growth over a set of standard control variables plus a measure of terms of trade shock, a measure of latent social conflict, and an indicator of the quality of institutions for conflict management (to this purpose he uses both an index of institutional quality and a measure of democracy).

In this paper, we suggest that the indicator of institutional quality used by Rodrik suffers from two sources of bias and we propose a set of alternative measures of institutional quality. Rodrik (1999) uses the International Country Risk Guide (ICRG) index of quality of government institutions to measure institutional quality. There are two possible problems with this measure. First, the ICRG index is partly based on the subjective perceptions of a country’s level of institutional quality.<sup>1</sup> This subjective index may be influenced by a country’s overall economic condition (the subjectivity bias). Also, since the ICRG index of institutional quality is not

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<sup>1</sup> In particular, the political risk assessments are made on the basis of subjective analysis of the available information, the financial risk assessments on a mix of subjective analysis and objective data, and the economic risk solely on the basis of objective data.

available for the 1970s, Rodrik uses the 1980-90 average. Even if the ICRG index were not affected by a subjectivity bias, we would expect some feedback from growth to institutional quality (the endogeneity bias).<sup>2</sup>

In contrast, the indices used in this paper are available for the 1970s and originate from an effort to provide more objective measurements of the political structure. In particular, we proxy for the quality of institutions for conflict management with two specific aspects of political institutions. The first one is the existence of political constraints on the ability of the executive to impose its will. These constraints, which can be thought of as “checks and balances,” limit the ability of the government to arbitrarily change the rules of the game and therefore may reduce redistributive struggles. The second one is the extent to which the political system creates incentives for politicians to respond to particularistic rather than to broad-based interests. An excessive focus on particularistic interests may exacerbate the distributive struggle that may follow an adverse shock (or a large windfall, for that matter).

For the first institutional dimension, we rely on a modified version of an index of political constraints developed by Witold Henisz (2000). The index, which is based on a simple spatial model of political interaction among government branches, measures the number of independent branches with veto power and the distribution of political preferences across these branches. In theory, there are two ways to interpret the index. We can interpret it either as a measure of institutional constraints that preclude arbitrary changes of the extant policies, or as a measure of constraints that produce gridlock and so undermine the ability of the government to change policies when such change is needed. Empirically, the first interpretation seems to dominate: Henisz (2000) found that more constrained political systems are associated with higher growth and Panizza (1999) found that political constraints are associated with low corruption and high bureaucratic efficiency.

According to Rodrik, good conflict management institutions should allow for the representation of all groups in society and consist of agreed-upon, openly and consistently applied rules for adjudicating distributional conflicts. The index of political constraints fits quite well with the spirit of Rodrik’s (1999) model. In his model, two groups have to divide a pie—which they previously shared in equal parts but has suddenly shrunk because of a negative shock. If the groups cooperate, and reduce their demands proportionally to the size of the shock, social conflict

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<sup>2</sup> La Porta *et al.* (1999) and Panizza (1999) find a strong correlation between per capita GDP and the ICRG index.

will be avoided and both groups will be able to maintain their pre-shock shares. Distributive struggle can instead arise if the groups decide to fight in order to keep their pre-shock incomes. In this framework, weak institutions for conflict resolution may give the various social groups the hope that they will be likely to win in a distributive fight, thus providing an incentive against cooperation. So, in Rodrik's model, good institutions for conflict management are those that yield an equilibrium in which the payoff of cooperation is higher than that of fighting. In other words, a well-defined set of rules and constraints and a wide range of interests represented in policymaking reduce the scope for distributive conflict because people realize they can "kick and scream and yell" but their share of the pie will not change. In this ideal world, fighting does not pay and all parties will moderate their demands to avoid the costs of a distributive struggle.

Political constraints, on the other hand, may lead to gridlock and inaction, thus preventing the adoption of necessary adjustment policies. This is an issue of credibility of policy changes versus flexibility and, as theorists say, it is essentially an empirical question. However, it should be pointed out that the fact that reforms are more difficult to implement is a consequence of having more representation.<sup>3</sup> Graham *et al.* (1999) find that reforms that are implemented through formal institutions and accepted after negotiations with many groups by a majority of society are more likely to be successful. To the extent that high political constraints increase the participation process and make it difficult to arbitrarily change distributionally sensitive policies, the index should be a very appropriate proxy for Rodrik's idea of "institutions that adjudicate distributional contests within a framework of rules and accepted procedure—that is, without open conflict and hostilities" (Rodrik, 1999, p. 386).

According to Rodrik, good institutions of conflict resolution should not only provide credible checks on arbitrary bendings of the rules of the game, but also guarantee an open and participatory discussion of public matters (this is why he emphasizes the role of democracy). So, according to Rodrik, credibility and democracy are the main yardsticks against which we should measure the ability of a country's institutions to mediate potential distributional struggles. We think that the index of political constraints incorporates these two elements: the index provides both an adequate measure of democracy and, for

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<sup>3</sup> The index of political constraints can also be thought of as a measure of the number of interests that the executive has to take into account when making a decision and a high value of the index means that a wider variety of interests are formally represented.

countries with the same level of democracy, a compelling measure of the credibility of public policy.

For the second institutional dimension, we use data on electoral rules to create an index of political particularism. Following theoretical work on the subject by Carey and Shugart (1995) and Shugart (1999), we define political particularism as the ability of policymakers to further their careers by catering to narrow interests rather than to broader national platforms. The index can be seen as a measure of one type of particularistic incentives: those that arise from legislators' efforts to build personal bases of support in geographically defined constituencies.<sup>4</sup> A high score of the index indicates that the system is "candidate-centered," with strong incentives for politicians to cater to narrow geographical interests. A low score, however, is more ambiguous, as "party-centered" only indicates low particularism to the extent that parties themselves have broad national interests.

The relationship between particularism and the ability to recover from an economic shock is ambiguous. If we assume that the main distributional struggle following the shock will arise along a regional dimension, then we should find that a high value of our index leads to poor conflict management policies, and to slow recovery. The opposite should be true if the main conflict is between groups that are homogeneously represented across regions (say workers versus capitalists, or public sector employees). In the latter case, party-centered systems with narrow party interests could exacerbate the distributional conflict.

Furthermore, while particularistic systems may be affected by excessive "pork barrel" policies, these systems have a definite advantage in terms of representation and in terms of building incentives for legislators to gather information on the preferences of their constituencies. Particularistic systems can also generate mechanisms of yardstick competition among legislators and improve the efficiency of the political process. On the basis of these ideas, Shugart (1999) characterizes political systems as ranging from personalistic to *camarillian* (a system where the party's oligarchy, or *camarilla*,<sup>5</sup> has complete control over the individual members) and argues persuasively that both extremes are bad:

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<sup>4</sup> Geographically defined particular interests are the most easily recognized, and, so far, the most commonly modeled in the literature. (Weingast *et al.*, 1981; Baqir, 1999). The influence of sectorally-defined particular interests, such as labor unions, is harder to identify without detailed knowledge of the country and its informal policymaking procedures.

<sup>5</sup> The word "*camarilla*" was originally used to refer to the closed group of advisors that surrounded the Spanish kings.

Personalistic systems fail to provide elections that turn primarily on collective policy, because of the incentives individual members have to collect personal votes, which are better captured through small-scale service provision (clientelism). Camarillian systems fail to connect parties with collective policy preferences because individual members have no incentive to find out what voters want. Efficient systems, on the other hand, place members in a position where they must balance the interests of both voters and party leaders. (Shugart, 1999).

Since the index of particularism increases when we move from party-centered to personalistic systems, we may expect that the most efficient systems are those where the index takes intermediate values. If in fact systems where politicians must balance the interests of voters and party leaders are the ones that allow better management of distributional conflict, we should find a non-linear relationship between our index of particularism and the reaction to economic shocks.

The paper is organized as follows. Section 2 describes the indices of political constraints and political particularism. Section 3 looks at the correlation between these indices and the ability to react to economic shocks. Section 4 discusses the use of composite conflict indicators. Section 5 concludes.

## **2. The Data**

This section describes the indices of political constraints and political particularism and discusses the methodology used to compute them, as well as the main ideas behind their construction.

### **The Index of Political Constraints**

The index of political constraints, first developed by Henisz (2000), attempts to capture the ability of political institutions to prevent arbitrary changes of the status quo. The idea underlying the index is simple: the existence of multiple independent branches with veto power over policy initiatives increases the predictability of policies by restricting the range of discretion of policymakers to change the status quo. If government branches can veto each other's initiatives,

politicians will be forced to propose alternative policies that are palatable to each of the independent branches. In addition to the existence of independent branches with veto power, the distribution of political preferences matters in this context. Thus, if the preferences of the legislature were perfectly aligned with those of the executive, the existence of an independent legislature would not restrict the discretion of the executive in any way. The larger the number of independent veto points, and the farther the preferences of these branches from those of the executive, the greater the constraints on the ability of policymakers to modify regulatory policy, tax policy, and other relevant policies.

We use a simple spatial model in the spirit of Henisz to study how the degree of political constraints varies as the political preferences of the independent branches of government become more alike. We restrict the analysis to the case of two independent branches. The initial setup is simple. There are two distinct political actors—the executive and the legislature in this case—that have the ability to veto each other’s initiatives. Both actors have well-defined preferences over policy outcomes, and both are trying to find a viable alternative to change the status quo.

If both actors have very different preferences over policy outcomes, the points of coincidence will be few, and the status quo will be likely to prevail as the default policy. By contrast, if the executive and the legislature have similar preferences, the points of coincidence will be many, and there is a high probability that viable alternatives to the status quo will be found.

Thus, political constraints will increase as the preferences of the executive and the legislature become less aligned. Little can be said, however, about the exact nature of the relationship between political constraints and the preferences of political actors in the absence of extra assumptions. Here, we follow Henisz (2000) and make some specific assumptions concerning the nature of the political interaction between the executive and the legislature.

In Henisz’s model, the political space is the unit interval, and both the status quo ( $X_o$ ) and the preferences of the executive and legislature ( $X_e$  and  $X_l$ ) are independent draws from a uniform distribution. Figure 1 shows two typical draws of the model. In Figure 1a, the preferences of both actors are to the left of the status quo. The bold line shows the set of policy outcomes preferred by the executive to the status quo, the thin line shows the set of policy outcomes preferred by the legislature to the status quo, and the dotted line shows those policies preferred by one actor but not by the other. In our terminology, the dotted line represents the range of political constraints, which in this case spans approximately one third of the policy space.

In Figure 1b, the preferences of the executive are to the left of the status quo and the

preferences of the legislature to the right. As before, the bold and thin lines show the set of policy outcomes preferred by the executive and the legislature to the status quo. Here, however, there is no overlapping of bold and thin, and the range of political constraints spans the whole policy space.

If we repeat the previous procedure for all possible triplets ( $X_o$ ,  $X_e$  and  $X_i$ ), compute the range of political constraints for each triplet, and average the corresponding values, we will obtain the average range of political constraints when the executive and the legislature have independent preferences. The range of political constraints amounts in this case to more than 40 percent of the policy space. We can do the same to compute the range of political constraints when there exists some degree of association between the preferences of the executive and the legislature. Figure 2 shows the relationship between political constraints and the correlation of preferences. Political constraints go down as the correlation goes up; the relationship is approximately quadratic, and the range of political constraints goes from zero to 0.42.

In this paper, we use information about the composition of the legislature to determine the degree of association between the preferences of the executive and the legislature. More precisely, we use the share of seats of the party of the president in congress to estimate the correlation of preferences between the executive and the legislative. The procedure entails three steps. First, we assume that if the party of the president (or that of the prime minister in parliamentary systems) controls over 2/3 of the legislature, the preferences of both branches will be completely aligned. Second, we assume that if the main opposition party controls over 2/3 of the legislature, the preferences of both branches will be independent. And third, we assume that, for the remaining points, the degree of association between the preferences of both branches of government depends on the fraction of seats controlled by the party of the president.<sup>6</sup>

After estimating the correlation of preferences of the executive and the legislature, we use the function depicted in Figure 2 to compute the index of political constraints. Although in theory the index can be easily generalized to include additional branches (e.g., the judiciary), in practice implementation can be difficult because information about the political composition of the judiciary is very difficult to come by. For this reason, we restrict the analysis to two independent branches. Table 1 presents regional averages of the index for both the 1970-75 and the 1980-89 periods.

**Table 1: The Index of Political Constraints**

	1970-1975			1980-89		
	Mean	St.Dev.	N	Mean	St.Dev.	N
Africa	0.26	1.04	43	0.40	1.22	46
Asia	1.15	2.30	33	1.09	2.43	34
LAC	1.89	2.67	22	2.75	2.45	23
OECD	5.83	3.24	21	0.47	1.04	11
Other Europe	0.50	1.39	10	0.47	1.04	11
All Countries	1.69	2.93	129	1.90	2.84	135

<sup>6</sup> All the results reported here are robust to small variations in this procedure.

## The Index of Political Particularism

Our second institutional dimension is an index of political particularism originally conceptualized by Carey and Shugart (1995) and Shugart (1999) and operationalized by Gaviria *et al.* (1999). Carey and Shugart (1995) define particularism as policymakers' ability to further their career by catering to narrow interests rather than broader national platforms.

In creating the index, we are limited by data availability. Although, we would like to follow Shugart (1999) to describe particularism due to extreme party-centeredness as well as particularism due to candidate-centeredness, our data does not allow us to differentiate between those party-centered systems where politicians must cater to a broad party platform from those where they have incentives to cater to a narrow party leadership clique, or *camarilla*. For this reason, we base our index on Carey and Shugart (1995), where all party-centered systems are placed in the same category. Even with this caveat our results agree with Shugart's (1999) finding that the middle range of the index is the most efficient for policymaking.

The index has three components: (i) ballot; (ii) pool; and (iii) vote. Each component is described in greater detail in the Appendix.

*Ballot* describes the ease with which someone could get her name on the ballot in a position that makes winning a seat likely. Closed-list systems where parties determine the candidates as well as their order on the ballot make this access difficult and are therefore scored as 0. Systems where party nominations are required for a viable candidacy, but where voters can determine the order of candidates on the party's list, are scored as 1. Electoral systems where party nomination is not required for a successful campaign make access the easiest, and are scored as 2.

*Pool* measures the extent to which a candidate can benefit from the votes of other candidates from her own party. The assumption here is that candidates who do not expect to receive "spillover" votes from co-partisans will try harder to build personal reputations. Proportional representation systems where votes are pooled across candidates are scored as 0, systems where parties present multiple lists are scored as 1, and systems where votes accrue only to individual candidates are scored as 2.

*Vote* measures whether voters cast votes primarily for candidates or parties. Systems where voters can only choose among parties are scored as 0. Systems where voters can express preferences for multiple candidates either within party lists, across parties, or through a two-stage

election (i.e., primaries or run-offs) are scored as 1. Finally, systems where voters cast only one vote, either for a candidate or a party faction, are scored as 2.

We follow Shugart (1999) in averaging the scores of these three variables to create a summary index of particularism for each set of legislators who are elected via a certain electoral system.<sup>7</sup> In unicameral systems this summary index corresponds to the whole legislature, in bicameral systems to each house, and in mixed systems to each subset of legislators. Each house is given a weight of 0.5, regardless of the relative numbers of seats. Within each house, each group of legislators chosen under similar rules is given a weight according to its proportion of total legislators in that house.

We were able to build a panel of measure of particularism covering 144 countries for a period of up to twenty years.<sup>8</sup> Table 2 presents regional averages for the 1978-1987 and 1978-1997 periods.

**Table 2: The Index of Political Particularism**

	1978-1987			1978-1997		
	Mean	St.Dev.	N	Mean	St.Dev.	N
Africa	4.34	2.44	35	4.10	2.54	44
Asia and Pacific	5.66	2.75	25	5.21	2.55	36
LAC	2.87	2.51	27	2.72	2.57	30
OECD	3.48	2.00	17	3.42	2.00	17
Other Europe	4.99	1.97	11	3.73	2.19	17
Whole Sample	4.22	2.68	115	3.97	2.57	144

The original 0-2 index was re-scaled into a 0-10 range.

Carey and Shugart (1995) and Shugart (1999) assert that *district magnitude* can also affect the incentives to cater to narrow interests. While Milesi-Ferretti *et al.* (1999) assume that smaller districts increase geographical particularism, Carey and Shugart (1995) claim that there is not a univocal relationship between district magnitude and particularism. If ballots are closed and list order fixed, party-centeredness should rise with district magnitude. If ballots are open, on the other hand, we expect the importance of personal reputation to rise with district magnitude. Ideally, we would like to include district magnitude in our index of political particularism, but because of the non-univocal relationship between district magnitude and particularism, we build the index using only the first three components and enter district magnitude in our regressions separately from the index of particularism (we also interact district magnitude with ballot).

<sup>7</sup> An alternative would be to build an index using principal component analysis.

### **3. Empirical Analysis**

In this section, we test the impact of political constraints and political particularism on a country's ability to recover from economic shocks. Following Rodrik (1999), we use the change in per capita GDP growth between the 1960-1975 and 1975-1989 periods as our dependent variable. These periods are chosen because the large terms of trade shocks of the mid-1970s had very different effects on different countries. While in Latin America and Africa the terms of trade shocks were followed by growth collapses, East Asia was able to quickly recover from the shocks and sustain high rates of growth. Following Rodrik, we explain these differences in growth on the basis of two main factors: latent social conflict and poor institutions for conflict management.

As Rodrik, we measure latent social conflict with an index of ethno-linguistic fractionalization.<sup>9</sup> Unlike Rodrik, who measures the quality of conflict management institutions using either the ICRG index or an index of democracy, we use the indices of political constraints and political particularism described above. We also use the same set of control variables used by Rodrik (1999): three regional dummies (Latin America, East Asia, and Africa); growth in the 1960-1975 period (to capture convergence effects); log of per capita GDP in 1975 (to control for a country's level of development); a measure of external shock (computed as openness times the standard deviation of the first log-difference of the terms of trade).

Our measures of conflict management institutions have clear advantages over the ICRG index. First, they are less subjective because they are based on political institutions and electoral laws rather than on perceptions. Second, as they are available for the 1970s, they are not affected by the endogeneity bias discussed in the introduction.

#### **Political Constraints and Growth Collapses**

In this section, we compute an average of the index of political constraints for the 1970-1975 period and use this average as a predictor for the change in growth between the 1960-1975 and 1975-1989 periods. As mentioned before, this should minimize the endogeneity bias that affects

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<sup>8</sup> Most of the data comes from the Parline online data set.

<sup>9</sup> Rodrik also uses, as an alternative to ethno-linguistic fractionalization, income inequality. We prefer ethno-linguistic fractionalization because it is available for a larger set of countries and it is not affected by endogeneity problems.

the ICRG index.

The results of the regressions are reported in Table 3. We find that average political constraints in 1970-1975 are positively and significantly associated with changes in growth. As in Rodrik (1999), we also find that ethnic fragmentation and terms of trade shocks are negatively associated with changes in growth (although the latter variable is not statistically significant)

**Table 3: Changes in Growth and Political Constraints**

	<b>Dependent variable: per capita growth 1975-1989 minus per capita growth 1960-1975</b>			
	<b>Political Constraints</b>		<b>ICRG</b>	
	<b>1970-1975</b>	<b>1980-1989</b>	<b>1980-1989</b>	
LAC	-2.16 *** (0.49)	-2.34 *** (0.48)	-1.39 ** (0.53)	
E-ASIA	3.56 *** (0.54)	3.64 *** (0.56)	2.77 *** (0.44)	
AFRICA	-1.84 *** (0.66)	-1.86 ** (0.69)	-2.42 *** (0.56)	
GR60-75	-87.64 *** (9.67)	-95.02 *** (9.68)	-93.24 *** (7.45)	
GDP75	-0.77 *** (0.26)	-0.62 ** (0.24)	-1.69 *** (0.35)	
SHOCK	-0.05 (0.04)	-0.05 (0.04)	-0.02 (0.03)	
POLITICAL CONSTRAINTS	0.19 ** (0.07)	0.15 ** (0.07)		
ICRG			0.74 *** (0.17)	
ELF	-1.41 * (0.73)	-1.49 ** (0.75)	-1.03 (0.61)	*
CONSTANT	8.06 *** (1.81)	7.19 *** (1.67)	10.83 *** (0.71)	***
R <sup>2</sup>	0.71	0.70	0.76	
N	87	87	87	

White's standard errors in parenthesis. \* statistically significant at 10%, \*\* statistically significant at 5%, \*\*\* statistically significant at 1%.

To evaluate the role of endogeneity bias, we use average political constraints for the 1980-89 period (this is the period for which the ICRG data used by Rodrik are available). Once again, we find that higher political constraints are positively associated with changes in growth, which suggests that Rodrik's results survive even after we resolve the endogeneity problem.

To make sure that our results do not depend on a particular sample, the third column of Table 3 reproduces Rodrik's findings about the effect of the ICRG index on changes in growth.<sup>10</sup> The effects of the ICRG index and the index of political constraints are qualitatively similar, but

<sup>10</sup> Our results are very close (both qualitatively and quantitatively) to the results of Table 4, column 5 in Rodrik's paper.

when we compare the first and third column of Table 3 we find a significant difference in the magnitude of the effect. While a one-standard deviation change in the ICRG index is associated with a change in growth of 1.5 percentage points, the corresponding change in growth associated with a one-standard deviation change in political constraints is just above one half of a percentage point. If we augment the regressions of Table 3 with the democracy index, we find that both democracy and political constraints are positively associated with growth, but neither variable is statistically significant. Curiously, both variables have similar coefficients (0.12 for political constraints and 0.1 for democracy) and almost identical t statistics (1.55 for political constraints and 1.52 for democracy). We decided not to include this regression in the paper because of the serious multicollinearity problem due to the high correlation between democracy and political constraints.<sup>11</sup>

### Political Particularism and Growth Collapses

We now study the relationship between changes in growth and political particularism. As before, we use the same set of explanatory variables used by Rodrik and substitute the ICRG index with our index of political particularism. The results are reported in Table 4. The first column of the table shows that there is a positive but not statistically significant relationship between particularism and changes in growth. This result should not come as a big surprise given the ambiguous relationship between political particularism and political efficiency mentioned above. The second column shows that there is a quadratic relationship between particularism and changes in growth. This result lends support to Shugart's (1999) idea that too little or too much particularism can adversely affect the functioning of a political system. We find that the value of particularism that maximizes the dependent variable is 4.39, just above the mean value of 4.22 (the average value for the 70 countries included in the regression is 3.68).

**Table 4: Changes in Growth and Political Particularism**

	Dependent variable: per capita growth 1975-1989 minus per capita growth 1960-1975						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LAC	-2.853 *** (0.582)	-2.659 *** (0.539)	-2.667 *** (0.518)	-2.524 *** (0.554)	-2.748 *** (0.546)	-2.866 *** (0.613)	-2.786 *** (0.652)
E-ASIA	3.167 *** (0.634)	3.267 *** (0.676)	3.407 *** (0.637)	3.223 *** (0.612)	3.281 *** (0.673)	3.195 *** (0.685)	2.914 *** (0.689)
AFRICA	-1.929 ** (0.798)	-1.806 ** (0.788)	-1.811 ** (0.780)	-2.026 ** (0.775)	-1.825 ** (0.804)	-1.956 ** (0.847)	-2.628 *** (0.767)

<sup>11</sup> Full regression results are available upon request. Democracy was measured using the Institutionalized Democracy variable of the Polity III data set.

GR60-75	-100.214 *** (11.734)	-96.286 *** (9.648)	-99.233 *** (9.732)	-92.552 *** (10.649)	-95.218 *** (9.504)	-96.585 *** (10.160)	-93.265 *** (11.560)
GDP75	-0.305 (0.219)	-0.387 * (0.215)	-0.447 * (0.227)	-0.369 (0.222)	-0.449 * (0.242)	-0.341 (0.242)	-0.257 (0.232)
SHOCK	-0.038 (0.037)	-0.043 (0.036)	-0.042 (0.036)	-0.046 (0.039)	-0.038 (0.037)	-0.042 (0.037)	-0.036 (0.035)
PART	0.064 (0.090)	0.413 ** (0.200)	0.625 *** (0.192)		0.491 ** (0.242)	0.518 ** (0.231)	
PART2		-0.047 * (0.026)	-0.072 *** (0.024)		-0.052 * (0.028)	-0.060 * (0.030)	
DIS. MAG.			0.247 (0.179)				
PROPORT				-0.048 (0.382)	0.451 (0.503)		
PRESID						0.548 (0.551)	0.300 (0.504)
ELF	-1.703 ** (0.875)	-1.719 ** (0.912)	-1.660 * (0.944)	-1.858 ** (0.821)	-1.671 * (0.917)	-1.693 * (0.967)	-1.012 (0.808)
CONST	5.330 *** (1.810)	5.505 *** (1.825)	5.370 *** (1.848)	5.800 *** (1.744)	5.528 *** (1.803)	4.848 ** (2.092)	4.675 ** (1.928)
R <sup>2</sup>	0.647	0.664	0.678	0.607	0.669	0.675	0.605
N	70	70	70	87	70	69	82

White's standard errors in parenthesis. \* statistically significant at 10%, \*\* statistically significant at 5%, \*\*\* statistically significant at 1%.

Column 3 shows that district magnitude does not have an effect on the changes in growth rates between the periods under analysis, but its inclusion increases both the magnitude and precision of the coefficient attached to political particularism.<sup>12</sup> Columns 4 to 7 show that the non-linear relationship between particularism and change in growth is robust to the inclusion of other political variables. In particular, we augment the regressions with dummies for proportional and majoritarian electoral systems and for parliamentary and presidential electoral systems (Persson and Tabellini, 1999, find that these variables are associated with the size and composition of public expenditure). The inclusion of these dummies does not alter the relationship between particularism and growth in any substantial way.

While the index of particularism is built using information on a country's political constitution and electoral laws and, therefore, we are confident in the fact that the index does not suffer from any subjectivity bias, we cannot claim that the index is completely exogenous. Since we do not have observations prior to 1978 (and between 1978 and 1980 the index covers fewer than 80 countries), we use an average of the index for the 1978-87 period.<sup>13</sup> This can be a problem

<sup>12</sup> In order to test Carey and Shugart's (1995) idea that the effect of district magnitude depends on whether or not ballots are closed, we interact these two variables. We do not find any significant results and we still find a significant quadratic relationship between particularism and changes in growth.

<sup>13</sup> We obtain similar results, but with smaller samples, by considering any shorter period including at least 1981.

because economic crises often trigger constitutional reforms (or at least major political overhauls). If that were the case, our index would be endogenous.

However, we believe that endogeneity bias is less serious in this case than it is in the case of the ICRG index. While it is clear that a crisis will lower the ICRG index (and hence cause an overestimation of its effect on growth), it is not so clear that a crisis will cause electoral laws to move toward a more efficient arrangement. Moreover, changes in electoral rules are fairly rare. In the 20 years covered by our panel, only 33 (out of 144) countries had significant changes in any aspects of the electoral law that we consider here. Furthermore, electoral laws are subject to fads and fashions. If movements in the electoral laws tend to be of similar nature across countries of the same region, controlling for regional dummies could capture part of these movements in the index of particularism.

Even though electoral laws may not change much over time, their relevance may change as countries move from dictatorships to more democratic regimes or vice versa. Because during periods of dictatorship or military rule electoral laws are seldom respected, we expect electoral laws to have a much greater effect on economic outcomes in democratic regimes. To test this hypothesis, we take into account the level of democracy in the early 1970s and interact this variable with our index of particularism. We do this in two different ways. First, we add the 1970-1975 average of the Polity III index of democracy as well as its interaction with our index of particularism to our basic specification (column 3 of Table 5). Second, we add a democracy dummy that takes a value of 1 for countries that averaged 4 or more in the Polity III index for the 1970-1975 period. As before, we interact this dummy with particularism in the regression (column 6 of Table 5).

**Table 5: Changes in Growth, Political Particularism, and Democracy**

Dependent variable: per capita growth 1975-1989 minus per capita growth 1960-1975							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LAC	-2.387 *** (0.525)	-2.741 *** (0.534)	-2.652 *** (0.505)	-2.318 *** (0.507)	-2.779 *** (0.540)	-2.759 *** (0.508)	-1.514 *** (0.576)
E-ASIA	3.004 *** (0.652)	3.077 *** (0.692)	3.392 *** (0.785)	3.237 *** (0.696)	3.161 *** (0.675)	3.073 *** (0.681)	2.514 *** (0.560)
AFRICA	-2.147 *** (0.687)	-2.376 *** (0.666)	-2.302 *** (0.645)	-2.156 *** (0.698)	-2.441 *** (0.668)	-2.536 *** (0.642)	-2.560 *** (0.749)
GR60-75	-87.710 *** (9.533)	-99.288 *** (8.302)	-96.240 *** (8.646)	-88.977 *** (9.806)	-102.573 *** (8.869)	-100.250 *** (8.976)	-87.737 *** (8.889)
GDP75	-0.879 *** (0.283)	-0.558 ** (0.252)	-0.604 ** (0.247)	-0.775 *** (0.269)	-0.403 (0.272)	-0.603 ** (0.266)	-1.732 *** (0.480)
SHOCK	-0.041 (0.035)	-0.033 (0.034)	-0.038 (0.033)	-0.043 (0.034)	-0.033 (0.033)	-0.034 (0.030)	-0.020 (0.034)
PART		0.282 (0.219)	-0.074 (0.307)		0.352 (0.220)	0.122 (0.274)	
PART2		-0.029 (0.029)	0.031 (0.040)		-0.037 (0.029)	-0.011 (0.035)	
DEMO	0.148 ** (0.062)	0.058 (0.052)	-0.004 (0.086)				
D*PART			0.158 ** (0.071)				
D*PART2			-0.029 ** (0.013)				
DEMO1				1.070 ** (0.494)	0.352 (0.531)	-0.849 (1.019)	
D1*PART						1.425 ** (0.670)	
D1*PART2						-0.232 ** (0.104)	
ICRG							0.719 *** (0.213)
ELF	-1.649 ** (0.704)	-1.183 * (0.688)	-1.385 * (0.714)	-1.591 ** (0.725)	-1.156 (0.708)	-1.313 * (0.722)	-1.272 * (0.703)
CONST	8.890 *** (1.945)	6.675 *** (1.963)	7.133 *** (1.957)	8.334 *** (1.929)	5.731 *** (2.060)	7.480 *** (2.101)	11.365 *** (2.562)
R <sup>2</sup>	0.687	0.724	0.744	0.684	0.721	0.746	0.673
N	90	72	72	90	72	72	70

White's standard errors in parenthesis. \* statistically significant at 10%, \*\* statistically significant at 5%, \*\*\* statistically significant at 1%.

Rodrik (2000a, 2000b, 2000c) claims that conflicts are better solved under democratic regimes. Like Rodrik, we find that democracy is positively associated with changes in growth (columns 1 and 4), but the effect of democracy disappears when we control for particularism. Even more interestingly, we find that, after controlling for democracy, particularism alone loses its explanatory power, but it becomes highly significant when interacted with democracy. The two

regressions of Column 3 and 6 give the same answer: political particularism does not matter in dictatorships, but it is very important in democracies.<sup>14</sup>

Figure 3 plots the partial correlation between political particularism and changes in growth for the whole sample of countries used in this paper, the sample of democracies, and the sample of dictatorships. This figure shows that there are striking differences among the three groups of countries. When we consider the whole sample, we find a quadratic, but rather flat, relationship between particularism and changes in growth. When we only consider dictatorships, the curvature almost completely disappears, but when we consider only democracies, the quadratic relationship becomes very strong. So, we conclude that particularism is relevant only in democratic regimes.

#### 4. Conflict Variables

The key idea in Rodrik's paper is that the social conflict that presumably caused the collapse in growth of the mid-1970s originated from a combination of the severity of the external shock, the presence of latent social conflict, and the quality of conflict management institutions. To test this idea, Rodrik builds several composite indicators of social conflict. He then finds that these indicators have a strong negative correlation with economic performance, which, in his opinion, confirms his hypothesis.

We follow Rodrik and use our indices of political constraints and political particularism to build indicators of the type:

$$CONFPCON = Shock * ELF * (10 - PCONST) \quad (1)$$

$$CONFPART = Shock * ELF * (|PART| - 10) \quad (2)$$

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<sup>14</sup> The null hypothesis that  $PART + DI * PART > 0$  is not rejected with a *p value* of 0.011 and the null that  $PART2 + DI * PART2 < 0$  is not rejected with a *p value* of 0.015. We find that the variability of political constraints is lower in democracy than in dictatorships, but the difference between the two groups is not as dramatic as in the case of the index of political constraints. The coefficient of variation of the index of political particularism is 0.7 for the whole sample, 0.9 for dictatorships, and 0.5 for democracies. In the case of political particularism, the ratio between the coefficient of variation of dictatorships and coefficient of variation of democracies ratio is 1.28. For the index of political constraints, this ratio is 4.8.

Like Rodrik, we find a strong negative correlation between the composite indicators and changes in growth.<sup>15</sup> However, the results of a Monte Carlo simulation cast some doubts on the validity of this experiment. We build a series of conflict indicators using the following formula:

$$CONFRAND = X1 * X2 * RAND \quad (3)$$

where  $X1$  and  $X2$  are any two of the following: (i) *Shock*; (ii) *ELF*; and (iii) *P-CONST* or *PART* and *RANDOM* is a uniformly distributed random variable that ranges from 0 to 10. Then we use *CONFRAND* to run 10,000 replications of a regression similar to the ones reported in Table 5 of Rodrik (1999) and find that the coefficient attached to *CONFRAND* is highly significant in six out of seven simulations.<sup>16</sup> This suggests that in most cases (and in all cases when one of the elements is ethnic fractionalization) two of the three elements are sufficient to get a significant impact of the composite variable. The simulation also indicates that, as we already found in Tables 3, 4, and 5, terms of trade shocks are weakly associated with change in growth.

It should be pointed out that this experiment does not affect the validity of our main results (or Rodrik's for that matter). By separately entering the three variables in the regression, we do find that they each have a strong impact on the dependent variable. However, we believe that the regressions of Tables 3, 4, and 5 provide stronger support for Rodrik's model than the regression with the composite indicator.

## 5. Conclusions

In this paper, we examine whether Rodrik's (1999) results that the ability of a country to recover from economic shocks depends on the quality of institutions for conflict management survive when we use measures of institutional quality that are not affected by subjectivity and endogeneity biases. We use a modified version of the index of political constraints developed by Henisz (2000) and an index of political particularism originally conceptualized by Carey and Shugart (1995) and Shugart (1999) and coded by Gaviria *et al.* (1999). We claim that these indices are appropriate measures of institutions for conflict management as described by Rodrik. With respect to the ICRG and democracy indices used by Rodrik, our two indices have the advantage of being built on

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<sup>15</sup> Results available upon request.

objective criteria and, for the index of political constraints, being available for the early 1970s. We find that Rodrik's results are robust to the use of these new indices. In particular, we find that countries with higher levels of political constraints and intermediate levels of particularism were the most successful in reacting to the external shocks of the mid 1970s.

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<sup>16</sup> The coefficient is not significant when the two non-random variables are terms of trade shocks and the index of political particularism.

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## Appendix

This appendix describes the details of the construction of the various components of the index of political particularism.

*Ballot* describes the ease with which someone could get his or her name on the ballot in a position that makes winning a seat likely. Closed-list systems where parties determine the candidates as well as their order in the ballot make this access difficult, and are therefore scored as 0. Systems where party nominations are required for a viable candidacy, but voters can determine the order of candidates on the party's list are scored as 1. Electoral systems where party nomination is not required for a successful campaign make access the easiest, and are scored as 2. In addition to the party nomination procedures, in coding this component we considered the feasibility of winning a seat by running as an independent candidate. In particular, we use this criterion to differentiate between scores of 1 and 2. Independent campaigns were considered "feasible" (leading to a score of 2) in countries where more than 10% of the legislature were independents, and "unfeasible" (leading to a score of 1) in other countries. Countries where legislative seats were divided among a multitude of small parties that changed from election to election were also coded as 2.

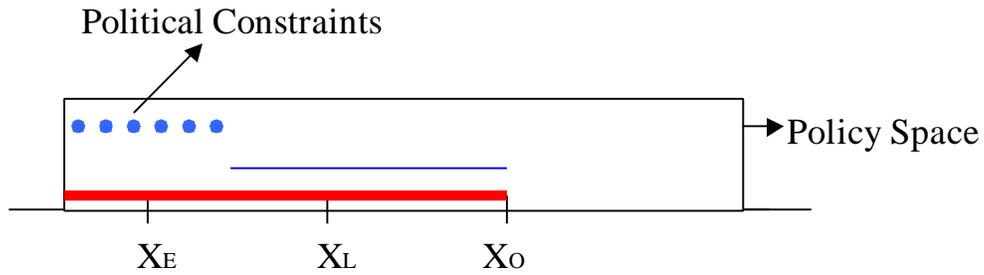
*Pool* measures the extent to which candidates from the same party "share" the votes that they attract. The assumption is that candidates who do not need to share votes and do not expect to receive spillover votes from party colleagues will compete harder to create personal support bases. A score of 0 means vote pooling across the whole party, as in proportional representation systems; 1 means vote-sharing among subsets of the party, as in systems where parties present multiple lists, or voters designate a certain number of alternates if their first-choice candidate already has enough votes; and 2 means that the candidate cannot expect to benefit from votes cast for other members of the party. We follow Carey and Shugart (1995) in coding candidates in single member districts as pool=0 because each candidate is presented as a "list" of 1. While this assumption is consistent with the previous literature's view of single member districts (Taagepera and Shugart, 1989), we are not entirely comfortable with this coding. The description of a candidate in a single member district as a list of one whose "fortunes depend on the ability of her entire party to attract votes" rather than an individual is a assumption that may not apply to countries where parties are less cohesive and local races are more isolated from national debates. Cain *et al.* (1987) have argued that, all else equal, the personal vote is likely to be more important in single-member districts than

in other cases. Although we follow the Carey and Shugart (1995) coding scheme to generate pool, we offset this potential bias toward party-centered scores in our coding of vote, below.

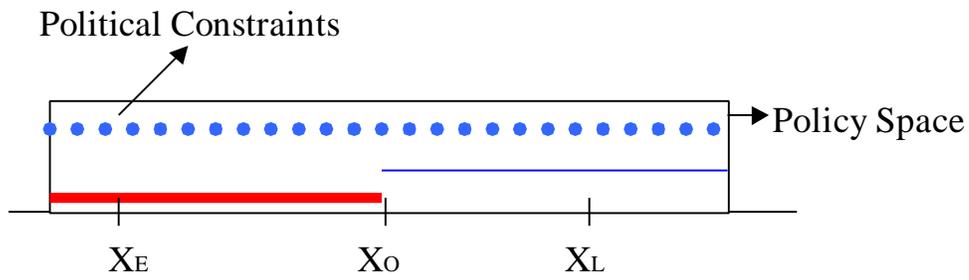
*Vote* measures the extent to which citizens have to limit their votes to one individual. The values range is of 0 for the least candidate-centered single vote for a party, 1 for multiple votes across candidates who may or may not have to be from the same party, and 2 for a single vote for a single candidate. Unlike Carey and Shugart (1995), single-member districts are coded as 2, as people are voting for a single candidate. To say that they are voting for the party of which the candidate is a representative is an alternative interpretation, but one that favors party-centrism. Since the equally ambiguous choice about pool favors party-centrism, this interpretation of vote acts as an offset in the calculation of the overall index.

*District Magnitude.* We compute district magnitude as the average district magnitude the each member of the legislature faces. This method is used in Cox (1997) and leads to slightly different answers than the more usual method of dividing the size of the legislature by the number of district, but we feel that it is more in line with our focus on individual legislators' incentives.

**Figure 1a. Political Constraints and Preferences**

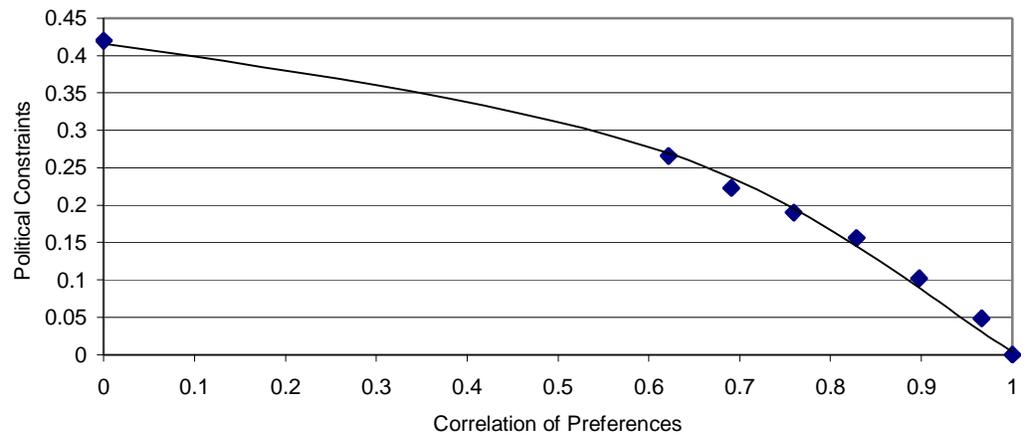


**Figure 1b. Political Constraints and Preferences**



E=Executive, L=Legislative, O=Status Quo,

**Figure 2. Political Constraints and Preference Alignment**



**Figure 3: Political Particularism and Changes in Growth**

