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Ernesto Talvi
Alejandro Grisanti

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ABSTRACT

This paper explores the links between institutional arrangements and fiscal performance in Latin America. We consider four measures of fiscal performance, namely, the level of government expenditures, the size of fiscal deficits and debt, and the response of fiscal policy to business fluctuations; and two institutional dimensions, namely, electoral systems and budgetary processes. We find evidence that electoral systems characterized by a large degree of proportionality, i.e., a large district magnitude, tend to have larger governments, larger deficits and a more procyclical response to the business cycle. We also find that more transparent and hierarchical budgetary procedures lead to lower deficits and debt. Contrary to the findings of Hallerberg and von Hagen for European countries, we find no evidence that centralized budgetary arrangements neutralize the potentially adverse impact on fiscal deficits of a larger degree of proportionality of the electoral system.

Ernesto Stein
Inter-American Development Bank
1300 New York Avenue, NW
Washington, DC 20577

Ernesto Talvi
CERES
Circumvalación Durango 383
Esc. 301
Montevideo
URUGUAY

Alejandro Grisanti
Inter-American Development Bank
1300 New York Avenue, NW
Washington, DC 20577

I. Introduction

During the last decade, Latin America has made very substantial progress in the fiscal front. After a prolonged period of growing government and lack of commitment to fiscal discipline, which resulted in high stocks of debt and high inflation during the second half of the 1980's, expenditures and deficits were significantly reduced. Although the improvement in the fiscal accounts was widespread throughout the region, there is still a great deal of variety across countries with regard to fiscal performance. For the 1990's, public sector deficits in countries in the region have ranged from more than 10 percent of GDP in Guyana and Suriname, to a surplus of 2.2 % in Jamaica. The differences also remain very important in terms of expenditure levels and stocks of public debt.

A less well known characteristic, which distinguishes countries in Latin America from the industrialized countries, is the highly procyclical response of fiscal policy: in general, public expenditures increase, and tax rates decline during expansions, and the opposite happens during recessions. Unlike the progress made in other aspects of fiscal performance, the procyclicality of fiscal policy is still a lingering problem in the region, as the recent experience of Argentina and Mexico illustrates. Both countries had to engineer very large fiscal adjustments in the midst of the severe recessions that followed the Mexican devaluation of December 1994. While management of fiscal policy over the business cycle has been procyclical in every country in the region, as in the case of deficits and expenditures, there are also significant differences across countries in this regard.

The great variety of fiscal experiences among fairly homogeneous groups of countries is not unique to Latin America. Within the OECD countries, for example, debt ratios currently range from less than 40 percent to more than 120 percent of GDP. Total deficits vary from close to zero, to more than ten percent of GDP. Purely economic factors seem insufficient to explain this very large

differences in fiscal outcomes across countries. For this reason, several recent studies have explored whether politico-institutional factors may contribute to explain these cross-country differences in fiscal performance.

One strand of this literature has emphasized the importance of political variables such as the type of government (whether single party majority, coalition or minority), the durability of government and the polarization of the political system on fiscal performance. The evidence, drawn mostly from OECD countries, is generally supportive of the idea that differences in political variables can explain differences in fiscal performance, although the specific political variables that are relevant vary across different studies.[1]

A second strand of this literature emphasizes the role of budgetary institutions on fiscal outcomes. As with the political variables, until recently this literature had focused on the OECD countries. Von Hagen (1992) and von Hagen and Harden (1995) find that budget institutions have a significant impact on debt ratios and on deficits in the countries of the European Union. In turn, Eichengreen (1992), Alt and Lowry (1994), and Poterba (1994), among others, have studied the effects of fiscal restraints on fiscal outcomes for the case of the US states, reaching qualitatively similar conclusions. Alesina, Hausmann, Hommes, and Stein (1996) have recently extended this line of research to developing countries. They find evidence that, in Latin America, budgetary institutions have had an important effect on primary deficits. Similar findings are reported by Sanguinetti and Tommassi (1997), in their study of Argentine provinces.

This paper explores the links between institutional arrangements and fiscal performance in Latin America. We consider four measures of performance, namely, the size of the public sector, fiscal deficits, the size of the public debt and the degree of procyclicality of fiscal policy in response

to business fluctuations; and two institutional dimensions, namely, electoral systems and budgetary procedures.

The next section presents a stylized description of fiscal performance in Latin America. **Section III** describes the main characteristics of electoral systems in Latin America and evaluates the impact of electoral institutions on political outcomes. We find that systems that rely on proportional representation, as opposed to plurality systems, tend to generate a greater number of effective political parties and less congressional support for the governing party. **Section IV** describes the main characteristics of budgetary procedures in Latin America and presents an index of budgetary institutions, based on Alesina, Hausmann, Hommes and Stein (1996), which is subsequently used in the empirical analysis. **Section V** evaluates the impact of institutional arrangements on fiscal performance. We find that countries with a large district magnitude and a large number of effective parties, tend to have larger governments, larger deficits, and respond more procyclically to the business cycle. We also find that budget procedures which include constraints on the deficit, introduce hierarchical elements into the budget process, and are more transparent, lead to lower deficits and lower debt. By hierarchical procedures we mean those that tend to concentrate more power in the Finance Minister, vis a vis other ministers, and in the Executive vis a vis Congress. Finally, we explore the interactions between electoral systems and budgetary institutions. In contrast to the findings of Hallerberg and von Hagen (1997) for the European countries, we do not find evidence that strong budgetary institutions can neutralize the potentially adverse fiscal consequences of proportional representation on fiscal deficits and debt. **Section VI** concludes.

II. The Fiscal Performance Variables: Evidence from Latin America

This section briefly describes the stylized facts on fiscal performance in Latin America in four different dimensions: the size of the public sector, the size of fiscal deficits and public debt and the business cycle response of fiscal policy. When appropriate we also report industrial country information on fiscal performance for the purpose of comparison. Rather than relying on readily available central government data, we work in most performance dimensions with data corresponding to the consolidated public sector, which includes the central government, the social security system, public enterprises and local governments. We think this comprehensive definition of government is more appropriate for the present study. Central government data would, for example, underestimate the size of highly decentralized governments such as Argentina, Brazil and Colombia, where nearly half of all expenditures are carried out by state and local governments. Given the lack of coverage of existing sources of public sector data, we constructed a data set for 1990-1995, based on the Recent Economic Development reports of the IMF, for 26 countries in Latin America and the Caribbean, those which are members of the Inter-American Development Bank.[2]

The Size of the Public Sector in Latin America

In contrast to the OECD countries where the size of government has grown dramatically and uninterruptedly in the last 35 years, from an average of 26.6% of GPD in 1960 to 49% of GPD in 1995, its evolution has been uneven in Latin America. Latin American governments grew very rapidly through the seventies and early eighties, collapsed in the late eighties in the aftermath of the debt crisis, and have remained fairly stable since the beginning of the nineties. The average size of

government --as measured by the expenditures of the consolidated public sector-- stands today at 28% of GDP, slightly over half the size of their OECD counterparts.

Except for notable exceptions, such as Japan and the U.S. which have significantly smaller governments than the rest of the OECD countries, and Sweden and Denmark which have significantly larger governments, the dispersion among OECD countries is relatively small. In contrast, in Latin America there are wide differences across countries in government size, ranging from 12% of GDP in Guatemala and Haiti to numbers in excess of 40% of GDP in Belize, Guyana, Nicaragua and Suriname. The average government expenditure of the consolidated public sector for each country in 1990-95 is presented in **Table 1**. The second column in the Table (G') presents a measure of government expenditure which excludes social security and interest payments.

The observed disparity in government size within Latin America and between Latin America and the OECD countries is related in part to the level of income per capita. The size of government in the lowest income quartile in Latin America averages 20% of GDP compared to 30% of GDP in the highest and 48% of GDP in the OECD countries. In other words, richer countries tend to have larger governments.[3]

Fiscal Deficits and Public Debt

With a few exceptions, standard measures of public debt do not suggest Latin American governments are highly indebted when compared to the industrial countries. The median of Public debt as a percentage of GDP is in fact lower in Latin America (55%) than in the OECD (65%).[4] However, the debt to GDP ratio is not necessarily the most adequate metric to measure the extent of a countries' indebtedness. The ratio of public debt to total revenues of the public sector might be

a better indicator. In fact, the ratings of Latin American bonds are highly correlated with the debt to revenues ratio: the Baa-rated countries had at the end of 1996 a debt level equivalent to 1.2 years of revenues while the B-rated countries had a debt level equivalent to 2.1 years of revenues.[5] Measured by this standard Latin America is still highly indebted. Public debt represents 2.25 years of revenues for the typical Latin American country and only one and half years for the OECD countries, where debt levels have grown substantially in recent years.

These regional generalizations hide a wide variety of situations within Latin America. **Table 1** shows the debt to GDP ratio and the debt to revenues ratio for Latin American countries. Debt levels in percent of GDP vary from a low of less than 25% percent of GDP in Bahamas, Paraguay, Guatemala, and Chile, to nearly 5 and 7 times GDP in the cases of Guyana and Nicaragua. Several countries, such as Honduras, Panama and Jamaica, have debt ratios of around 100 % of GDP.

The ordering of debt levels as an indicator of past fiscal behavior should be interpreted with caution. Past accumulation of debt may be an imperfect measure of past fiscal behavior in Latin America, since in high inflation countries it may underestimate the extent to which lack of fiscal discipline was pervasive in the past. Many countries in the region implicitly defaulted on their debt obligations through repeated episodes of surprise devaluations and inflation which significantly reduced the real value of nominal debt commitments. The tendency to resolve the fiscal problems generated by persistent deficits and debt accumulation through traumatic adjustments in the exchange rate and the price level, may distort the ordering of countries when the stock of debt is used to assess the extent of lack of fiscal discipline.

In recent years, Latin America has undergone a very substantial fiscal consolidation. The average fiscal deficit of the region has declined from 9% of GDP in the early 1980's to less than

2.6% of GDP in the 1990's. Furthermore the number of countries which have fiscal deficits under of 3% of GDP is currently 16 compared to only 4 in the early eighties.

Differences across Latin American countries are also substantial with respect to deficits: in the first half of the 1990's the deficit of the consolidated public sector was greater than 5 percent of GDP in Belize, Haiti, Honduras, Nicaragua and Venezuela, and reached double digits in Guyana and Suriname, while Jamaica, Paraguay, Barbados and Chile had surpluses in excess of 1.5 percent of GDP.

The business cycle management of fiscal policy

The business cycle response of fiscal policy in Latin America has been at odds with both the established theory and the experience of industrial countries. According to standard Keynesian prescriptions, the government should either increase spending and/or reduce tax rates during recessions in order to stimulate aggregate demand and partially prevent the economy from under employing resources for prolonged periods of time. During expansions the government must do the opposite in order to "cool off" the economy and contain inflationary pressures.

According to the neo-classical tradition (see for example, Barro, 1979 and Lucas and Stockey, 1983) spending programs and tax rates should be set on the basis of long-run considerations and should not respond to business cycle movements of the economy, i.e., fiscal policy should not be used for demand management purposes. During expansions, when both economic activity and tax revenues are high, the budget surplus should improve and debt should be retired while during recessions, when both economic activity and tax collection are low, the budget surplus should decline and any resulting deficit should be financed by issuing debt. Put differently,

the stock of debt should act as a buffer to prevent inefficient changes in either government spending programs or tax rates.

What does the evidence show? While fiscal policy in industrial countries appears to be broadly consistent with the neo-classical prescriptions, in Latin American countries, government spending and tax rates are highly procyclical, i.e, government spending increases and tax rates fall during expansions and the opposite occurs during recessions. The behavior of fiscal policy in Mexico and Argentina in the aftermath of the December 1994 Mexican crisis is a recent and clear illustration of the procyclical nature of fiscal policy in Latin America: in spite of tumbling into very steep recessions in 1995 both countries implemented equally severe fiscal adjustments that resulted in spending cuts and increases in tax rates.[6]

Table 1 presents evidence on the business cycle properties of government consumption in Latin America, which we use as an measure of procyclicality of fiscal policy. We measure these cyclical properties as the correlation between the cyclical component of government consumption and the cyclical component of output, for the period 1970-1995.[7] In contrast to the G-7 countries where government consumption is not correlated with output over the cycle, it is highly procyclical in Latin America: the average correlation is 0.52 (see Talvi and Vegh, 1996).

For the region as a whole, the behavior of fiscal policy is puzzling, both in terms of the existing body of theory and when compared to the G-7 countries. Naturally, there are important disparities in the degree of procyclicality of the countries in the region. While Argentina, Barbados, Bolivia, the Dominican Republic and Ecuador display a relatively low degree of procyclicality, Costa Rica, Mexico, Peru and Venezuela display a very high degree of procyclicality with correlation coefficients in excess of 0.8. In contrast to the G-7 countries, however, no single country

in Latin America exhibits a negative correlation between government consumption and output.

Talvi and Vegh (1996) have suggested a possible explanation for this puzzle. The procyclical fiscal behavior may be an optimal response of the government, given the difficulty of saving fiscal resources during booms, due to the political pressures to increase public spending which occur in times of plenty. The fact that procyclicality is not observed in OECD countries is a result of the lower volatility of the tax base. In this case, political pressures to spend will be relatively unimportant, as budget surpluses, even during good times, do not deviate much from their average levels.

In summary, there is a wide diversity within Latin America in the four dimensions of fiscal performance we have reviewed. In the next sections we exploit this diversity to assess the role of institutional arrangements, i.e., electoral systems and budgetary processes, in accounting for the observed differences in fiscal performance.

III. The Institutional Variables: Electoral Systems

A large body of economic research has tested the empirical relevance of political variables on fiscal performance. Most of the literature concentrates on the impact of political variables on fiscal deficits and debt accumulation as measures of performance. Roubini and Sachs (1989), working with a sample of industrial countries, find evidence that countries characterized by governments with short average tenures and by the presence of many political parties in the ruling coalition tend to have larger deficits, particularly during periods of macroeconomic stress when fiscal adjustments are necessary. A reexamination of Roubini and Sachs (1989) by Edin and Ohlsson (1991) finds that it is minority governments rather than majority coalition governments that

affect budget deficits. Roubini (1991) using a sample of developing countries finds that an index of political instability, measured by the frequency of government changes, appears to lead to larger deficits. Grilli, Masciandaro and Tabellini (1991) test the impact on debt accumulation of three political characteristics: the type of government, i.e., single-party majority, coalition or minority; the durability of government; and an indicator of polarization as measured by significant changes in government. They find that lack of fiscal discipline is almost exclusively limited to proportional representation systems and that the one feature that appears to be responsible is the shorter duration of governments. Alesina and Perotti (1995a) analyze the anatomy of fiscal adjustments in the OECD and find that permanent improvements are mainly implemented via cuts in expenditures while temporary improvements are carried out almost exclusively via tax increases. They also find that coalition governments often try to make substantial fiscal adjustments but they are much less likely to carry out the expenditure cuts that make an adjustment successful.

Many of the political characteristics explored by the literature are, in a more fundamental sense, shaped by the electoral system, i.e., the set of rules under which members of parliament and the executive are elected in a representative democracy. We therefore start this section by characterizing electoral systems in Latin American countries and then explore the links between those electoral systems and political outcomes.

How do we characterize electoral systems? There is consensus among electoral system experts that the two most important dimensions of an electoral system are the electoral formula and the district magnitude.[8] There are three main types of electoral formulas: first-past-the-post or plurality systems (where only one representative is elected per district and all seats go to the winner), proportional representation systems (where the seats are distributed in proportion to the votes

obtained according to some allocation rule) and mixed systems which combine features of both.

The polar characterization of proportional representation (PR) and plurality systems (PL) is less clear-cut in practice. Some PR systems have few seats to be allocated per district and hence cannot achieve much proportionality in the representation. District magnitude (DM) simply measures the average number of representatives elected per district. Plurality systems can then be redefined as those that have a district magnitude of 1, while systems become more proportional as the DM increases. Hence, district magnitude is a more continuous representation of the electoral systems contained between the two polar cases of pure PL or PR.

Lijphart (1994) presents evidence for the industrial countries which indicates that proportional representation systems with large district magnitude, i.e., where the number of representatives elected per district is large, tend to encourage multi-party political systems and coalition or minority governments. By contrast, first-past-the post systems tend to produce two-party systems, majority governments and a higher degree of disproportionality, i.e., a larger deviation between the parties' shares of the seats in relation to their share of the votes. Furthermore proportional representation systems tend to have governments with shorter tenures than single-party majority governments (see Roubini and Sachs, 1989 and Grilli, Masciandaro and Tabellini, 1991).

The previous evidence implies that other things being equal, PL or low DM systems are likely to have governments with stronger support in Congress and therefore likely to be more decisive. Furthermore, they are likely to have more stable governments, i.e., governments with longer tenures. To the extent that these arrangements generate two-party systems, there is likely to be a competition to capture the political center, and hence it is also likely that parties will be less ideologically polarized. However, these three characteristics come at the cost of a higher degree of

disproportionality of the political system. By contrast, high DM systems are more likely to produce weaker governments, because with a larger number of parties it is harder to ensure control of Congress. Furthermore, coalition governments tend to have a shorter duration because, after all, they are formed by competing parties.[9] Finally, the increased number of parties might make the center a less attractive political strategy and hence may deliver wider ideological distances between the likely winners of an election. In summary, the strength or weakness of the government, the durability of government and the polarization of the political system, are all potential channels through which the electoral system can impact on fiscal performance.

Next we describe the characteristics of electoral systems in Latin America. We then show that electoral systems are instrumental in shaping political outcomes such as the number of parties represented in the legislature and the likelihood that the executive enjoys a majority in Congress or will have to form coalitions or govern with weak support in Congress. In Section V, we present evidence that electoral systems have a meaningful impact on fiscal performance.

Electoral Systems in Latin America

Latin America has a large variety of electoral systems. However, proportional representation (PR) is by far the most common system: fifteen out the twenty six countries that form our sample have proportional representation systems, six (Bahamas, Barbados, Belize, Haiti, Jamaica and Trinidad and Tobago) have first-past-the-post or plurality systems (PL), and five (Chile, Mexico, Panama, Peru and Venezuela) have mixed systems (M), that combine features of both PR and PL in different ways (see **Table 2**). For example, in Mexico and Venezuela some candidates for the lower house are elected under the PL system while others are elected using proportional

representation. In Panama, legislators are elected by PL or PR depending on the electoral circuit they run. In Chile and Peru, candidates are presented in lists but voters can cast a preferential vote for one of the candidates and the candidates with the largest number of preferential votes are selected within the list.

Seventeen countries have two-tier or bi-cameral systems while nine countries have only one-tier or unicameral systems. Uni-cameral systems are predominantly observed in countries with PR systems while all PL systems are bi-cameral. The basic rationale for two-tier systems is to combine the advantages of a close voter-representative contact characteristic of smaller districts, with the advantages of greater proportionality and minority representation offered by larger districts.[10]

District size, the average number of representatives elected per district, varies considerably across countries. PL systems have district sizes which are small in absolute value (less than two) and smaller in every case than any PR or M system. Among PR or M systems district size for the lower house varies from 2 in Chile and 3.2 in Ecuador to more than 10 in Argentina, Bolivia, Mexico and Brazil. The variety in district size is even greater in the upper house, ranging from 2 in Chile to 102 in Colombia, where the whole country constitutes a single district.

Past colonial links appear to be important determinants of electoral systems in Latin America. English or French speaking countries -- with the exception of Guyana--have PL systems, low district magnitude, low effective number of parties and, in general, majority governments. The rest of the countries have --whether they speak in Spanish, Portuguese or Dutch-- PR or M systems.

Another important dimension of the electoral systems has to do with the way in which the executive is chosen. In presidential democracies the president is voted directly and has a significant independent authority. By contrast, in parliamentary democracies the prime minister is accountable

to the legislature. The manner in which the chief executive is chosen may have important consequences. On the one hand since only large parties have a realistic chance of winning the presidency and this advantage is likely to carry over to legislative elections, we expect, other things being equal, that presidential systems will have a smaller effective number of parties than non presidential systems of government. On the other hand, an independently elected chief executive might undermine party discipline: when the control of the presidency does not depend on parliamentary majorities, parties can afford greater internal dissent.[11]

In Europe, most countries have parliamentary democracies. The opposite is true in Latin America: twenty out to twenty six countries are presidential democracies and only six are parliamentary. All PL systems are parliamentary democracies (except Haiti) and all PR and M systems are presidential democracies (except Suriname).

The other dimension concerning the election of the executive in presidential democracies, is whether there is only one round or two rounds of voting to elect the president. When there are two rounds of voting, unless a candidate wins the absolute majority in the first round, a second round is held. Of the twenty presidential democracies in Latin America, half have one round of voting to elect the president, the other half has two.

Electoral Systems and Political Outcomes

Proportional representation systems with large constituencies, i.e., where the number of representatives elected per district is large allow a more exact mapping between the votes obtained by a party and the representation that party obtains in the legislature. A simple example may serve to illustrate the latter point . Consider an election in which the three main parties get 45 percent, 40

and 10 percent, respectively. A first-past-the-post system, i.e., a system that elects one representative per district with the winner taking all the seats, may create a very large majority. In fact, if the vote is homogeneously distributed throughout the country, the first party would win all congressional races and seats. A system of proportional representation that elects few representatives per district, for example two, would only allow the first two parties to obtain representation in the legislature, precluding the minority party with 10% of the vote from obtaining representation. By contrast, in a system of proportional representation where the number of representatives elected per district is large, for example 100, the smaller party will obtain 10 seats in the legislature. In fact, the two smaller parties may even be able to form a coalition and control the parliament.

Proportional representation systems therefore allow a broader representation of the electorate. However, the inclusiveness of the PR system comes at a cost: the same electoral rules that allow a higher degree of proportionality, are those that create the incentives for the system to produce a large number of parties. **Figure 1** illustrates the relationship between the district magnitude, which measures the average number of representatives elected per district for twenty six Latin American countries, and the number of effective parties that are represented in the legislature.[12] The difference between the absolute number of parties in the legislature and the effective number is that the latter weights each party by its share of the vote in the legislature. For example, if there are two parties represented in the legislature, one with 90% of the seats and the other with 10%, the effective number of parties will be 1.2 rather than two. Only when the parties have an equal share of the seats in the legislature, will the absolute and effective number of parties be the same.[13]

Electoral systems, by discouraging or encouraging the existence of a limited number or a large number of parties, affect the likelihood of having a single-party majority, a coalition or a

minority government. **Figure 1** shows that in Latin America the percentage of the seats that the government enjoys in the legislature is very closely connected to the number of effective parties represented in parliament: the larger the number, the more likely it is that the government will have weak support in Congress. The correlation coefficient between these two variables is 0.79.

There is another important dimension, concerning the election of the executive in presidential democracies, that may be relevant in determining the number of effective parties: whether there is only one or two rounds of voting to elect the president. The two-round process, known as *ballotage,* is likely to encourage several parties to run in the first round and form electoral coalitions for the second round. As a result, the number of effective parliamentary parties is expected to be larger, other things being equal, with two rounds of voting than with one. There is some evidence of this effect in Latin America. The absolute number of parties is on average 10.5 in countries with two rounds of voting and 7 in countries with one. The corresponding figures for the effective number of parties are 3.7 and 3, respectively.

After discussing the role of budget institutions in the next section, in **Section V** we will assess the importance of our two institutional dimensions on fiscal performance

IV. The Institutional Variables: Budgetary Institutions

As we mentioned in the introduction, there is a growing body of literature that links differences across economic units in fiscal performance to the nature of their budget institutions. Until recently, this literature had concentrated mainly on the experience of industrial countries. For example, von Hagen (1992) and von Hagen and Harden (1995) developed a comprehensive index of budget institutions for the countries in the European Union, and found that these institutions have

a significant impact on debt ratios and on deficits. Several authors, in turn, have studied the effects of fiscal restraints on fiscal outcomes for the case of the US States, exploiting the differences across states regarding the stringency of their balanced budget rules. Eichengreen (1992) finds that fiscal restraints have a significant and negative effect on deficits, as well as on state bond yields. Alt and Lowry (1994) find that states with stringent balanced budget rules react more strongly to previous year deficits. Qualitatively similar results are found by Poterba (1994), who also studied within year adjustments to fiscal shocks.[14]

More recently, Alesina, Hausmann, Hommes, and Stein (1996) have extended this line of research to the developing world: using data obtained through a survey of budgetary institutions in 20 Latin American countries, they find evidence that these institutions have an important effect on primary deficits.[15] In the present paper, we will use the budget institutions database created by these authors, but expand the focus to include not only effects on primary deficits, but on all the variables of fiscal performance described in **Section II**.

Following Alesina and Perotti (1995b), we define budgetary institutions as the set of rules, procedures and practices according to which budgets are drafted, approved and implemented.

The government budget is the result of a collective decision process which involves a variety of agents from the executive and legislative branches of government: the Finance Minister, spending ministers, and members of Congress. A very important characteristic of government programs is that they tend to generate benefits which are concentrated either geographically, or sectorally. These programs, however, are typically financed from a common pool of resources. As a result of this asymmetry, those who benefit from a government program will fail to internalize the full cost of the program, since an important portion of the cost is borne by others. This externality inherent to the

budget leads to a problem of overutilization of the common pool of resources, which the literature refers to as the commons problem. The fact that most of the agents involved in the budget negotiations represent either sectoral or geographical interests introduces spending and deficit biases into the process, which can compromise the achievement of fiscal discipline.

Legislators, for example, will push for programs which benefit their geographical constituencies, but are financed by the national taxpayer. Weingast, Sheple and Johnsen (1981) have studied this commons problem at the level of the legislature, showing how it can lead to excessive spending, as legislators fail to internalize the full cost of these programs. Velasco (1994) and von Hagen and Harden (1995) studied the commons problem within the cabinet. Spending ministers, which are subject to the pressures of sectoral interest groups, favor increases in programs for their departments, financed out of national resources. In a dynamic setting, this leads to excessive deficits and debt accumulation. This behavior of spending ministers is reinforced by the fact that their power within the government is usually perceived to be associated with the size of the budget they manage. In contrast to the rest of the participants in the budgetary process, finance ministers usually face the entire budget constraint. Moreover, since they have the ultimate responsibility for macroeconomic policy, they have stronger incentives to promote fiscal discipline.

Budget institutions matter because they can affect the "rules of the game" under which these agents interact, either by placing constraints on the whole budgetary process, or by distributing power and responsibilities among the different players, in ways that can affect outcomes in one direction or the other. If adequately designed, budgetary institutions can play a critical role in counterbalancing the spending and deficit bias that may otherwise prevail due to the incentives of some of the agents involved in the budgetary process.[16]

Budgetary institutions can be usefully divided into three different categories. The first, are rules which impose numerical constraints on the deficit. Balanced budget rules, such as the one recently considered and defeated in the US Congress, are the best known example of numerical constraints. As discussed above, evidence from the 50 US states suggests that balanced budget rules have significant effects on the size of the budget, on deficits, and on the reaction to fiscal shocks. However, these rules are, in general, very inflexible and do not allow for tax-smoothing policies. In addition, balanced budget rules, as well as other numerical rules such as the Maastricht criteria for the European Union, may generate incentives for creative accounting in order to circumvent them, and can result in a less transparent process.[17]

Constraints on the deficit can take other forms. In most countries, governments prepare macroeconomic programs that include fiscal, monetary, and balance of payments targets consistent with expectations regarding key variables in the economy, such as the rate of growth and inflation. An alternative way to impose a constraint on the deficit is to require that the budget sent by the Executive for discussion in Congress be consistent with targets set in a previously approved macroeconomic program. Such a requirement may provide discipline to the budgetary process if the macroeconomic program clearly identifies limits on the size of the budget and its balance compatible with the achievement of other economic goals. Other possible constraints on the size of the deficit are ceilings on government borrowing, usually set by Congress before budget discussions. Some authors have proposed that borrowing ceilings be imposed by an independent agency, created specifically for this purpose.[18]

The second type of rules are procedural rules that govern the drafting of the budget by the Executive, its discussion in Congress, and its execution. While numerical rules impose constraints

on all the agents involved in the budgetary process, procedural rules determine the way in which these agents interact, shifting the balance of power among the different agents in favor of ones or the others. According to the procedural rules that organize the budgetary process, we can distinguish between more "hierarchical" and more "collegial" institutional arrangements. At the drafting stage, hierarchical rules are those which give considerable power to the Finance Minister in budget negotiations within the Executive, limiting the prerogatives of the spending ministers. At the approval stage, hierarchical rules are those which set restrictions on the power of Congress to modify the budget proposed by the Executive, in particular with respect to the size of the budget and the deficit. At the execution stage, hierarchical rules are those that limit the initiative of Congress to propose increases in the size of the budget once it has been approved. In contrast, collegial institutions provide a greater balance of power between the spending ministers and the Finance Minister during the drafting stage, and between the Executive and Congress during the approval and execution stages.

The third type of procedures and practices are those associated with the transparency of the budgetary process, i.e., the extent to which the budget document provides an accurate representation of projected expenditures, revenues and deficits. One issue regarding transparency is that the players involved do not always have an incentive to be truthful. If the government wants to hide a deficit, it might have incentives to overestimate the growth rate of the economy. On the other hand, a fiscally conservative Finance Minister might want to hide resources from the spending ministers and the legislature. Spending ministers, in turn, might want to misrepresent the composition of their budgets, knowing that the chances of obtaining more resources after the budget is approved are better for some items (such as their wage bill) than for others. Other issues of transparency include the

existence of extra-budgetary items, hidden liabilities, and contingent liabilities, such as those derived from implicit or explicit guarantees by the central government to state and local governments, public enterprises, and the banking sector.

Alesina, Hausmann, Hommes, and Stein (1996) used information collected through a survey to build an index of budgetary institutions for Latin America. The survey, which was responded by budget directors from 20 countries in the region, provided information on the extent to which budget institutions in the different countries impose numerical constraints on the deficit, have hierarchical rules in the different stages of the budgetary process, and transparent budgetary practices.

In this paper, we use an index of budget institutions based on the same survey, which is similar to the original one except for one factor: since our fiscal performance database covers the period 1990-1995, we have adapted the index so that it represents, for each country, the nature of budgetary institutions for the same time period. This introduces some changes, as a number of countries have reformed some aspects of their budgetary institutions in recent years. The value of the index of budgetary institutions for each country is represented in **Figure 2**.[19]

This index will be used in **Section V** to assess the impact of budget institutions on aggregate fiscal performance.

The question of endogeneity

An important consideration regarding the effects of budget institutions on fiscal performance variables is related to potential endogeneity of the budget institutions variables. Alesina and Perotti (1995b) discuss two possible sources of endogeneity. First, budget institutions could be endogenous to past fiscal performance, that is, could be reformed as a result of poor past performance. Second,

both the choice of budget institutions and the fiscal performance could in fact be explained by a third variable, which is omitted from the analysis.

Although Alesina and Perotti recognize that budget institutions are to a certain extent endogenous to past fiscal performance, these authors argue that, at least in the short run, it is reasonable to consider them as exogenous. The argument relies on the fact that institutional reform is costly, and therefore fiscal outcomes have to be very unsatisfactory before these reforms take place, which results in a strong statu quo bias of these institutions.

A few countries in our sample have had reforms of their budget institutions, as measured by changes in our index, since 1980. Although our data set does not allow us to study the important issue of endogeneity in a systematic way, these changes can shed some light on the determinants of institutional reform. Out of the 20 countries in the sample there are only 2 which have implemented what we consider to be major budget reform, defined as changes of 0.15 or more in the value of our index, during this 15 year period. These two countries are Argentina and Peru.

In Argentina, changes in the budget process began in 1991, but were formalized by the Law of Financial Administration in 1992. Among the most important changes, the budget was made more inclusive, substantially reducing the importance of off-budget items; the macroeconomic program became a more important reference for the elaboration of the budget by the executive, and changes were made to the process of elaboration, through which the different ministries were given quantitative spending limits at the beginning of the process, rather than just qualitative orientations, as was the case until then; during the approval stage, Congress was restricted from proposing amendments which would increase the deficit; and the autonomy of state-owned enterprises to borrow was curtailed. Perhaps more importantly, for the first time since 1953, the budget of the year

1992 was presented and approved within the constitutionally set time frame, before the beginning of the year, a practice that has continued every year since then.[20]

In Peru, reform occurred in 1990, in the early stages of President Fujimori's term. In this case, changes included elevating the status of the Finance Ministers over that of the spending ministers on budgetary matters, requiring consistency between the budget presented to the Legislature and the macroeconomic program, and limiting the prerogatives of Congress in proposing amendments to the budget which increase either the deficit or spending. In both countries, budget reform was not an isolated event, but rather part of wide ranging reform packages implemented, particularly in the case of Argentina, by strong finance ministers.

Although these countries had important fiscal deficits during the late 1980's, this was a characteristic which was common to most countries in Latin America. What sets Argentina and Peru apart during this period is the fact that they both suffered severe hyperinflations, which reached three digit (monthly) levels.[21] The experience of Argentina and Peru provide support for the argument of Alesina and Perotti: institutions are costly to change, and tend to change in significant ways only when performance is very unsatisfactory. The fact that in Argentina the budget was not presented and approved in time for almost 40 straight years suggests that these institutions do have a strong statu quo bias, even when they are not written into law.

An interesting case is that of Costa Rica, where reform of the budget institutions is currently under consideration. The proposed reform includes the strengthening of the authority of the Finance Minister, increasing the role for the macroeconomic program, and the coverage of the budget. The cornerstone of the proposed reform, however, is a constitutional amendment that would require that public sector deficits not exceed 1 percent of GDP.[22] The main goal of the reform (and particularly

of this constitutional amendment) is to put an end to the electoral budget cycle, a problem that is quite common in Latin America, but has become particularly serious in Costa Rica. In 1994, the last electoral year, the fiscal deficit reached 7 percent of GDP. Congress began discussion of the reform in 1995, but the process of approval has not been completed yet, and approval is not expected before the 1998 elections. In the meantime, Costa Rica is experiencing the increase in public wages typical of the period leading to elections. Costa Rica, then, represents another example of the difficulty of reforming the budgetary institutions, at least in the short run.

The long term evolution of the budget institutions in Colombia, studied by Hommes (1996), also offers examples of the permanence of budgetary rules. For example, the Constitution of 1886, which laid out the basis for the budget process, established that the government could increase expenditures during periods when Congress was not is session, provided these increases were judged to be "unavoidable". As a result, the government would typically wait for the end of the sessions to increase expenditures, reducing the transparency of the budget. Similarly, a 1916 law established the priority of earmarked expenditures, reducing the flexibility of the budget. It was only with the Constitution of 1991 that these two rules were eliminated.

Throughout his paper, Hommes discusses the determinants of institutional reform in Colombia. While in a few cases reform followed a severe crisis (for example, in 1892), in most cases budget reform was simply implemented by a reformist official motivated by good management principles, and in some cases, imposed from outside the country.[23]

Regarding the second potential source of endogeneity, the question is whether it is the institutions which are having an effect, or whether these institutions simply reflect society's aversion to fiscal indiscipline, and it is these preferences of society and not the institutions themselves which

are responsible for the differences across countries in fiscal performance. The argument that institutions are endogenous to the preference of voters is, of course, a plausible one. However, it is not clear that this has been the case in Argentina and Peru. In fact, Menem won his presidency by running a populist campaign, and only after being elected did he shift toward the implementation of market oriented reforms, surprising both those who had voted for him, and those who had not. In the case of Peru, Fujimori did not have an economic program during his campaign, and ended up implementing the program of his electoral opponent, Vargas Llosa.

Other possible determinants of institutions are the preferences of particular interest groups, and the difficulty or ease with which these groups can exert pressure on the policymakers. Posen (1995) has pointed out the importance of interest groups in the context of the literature on Central Bank Independence, arguing that it is the preferences of the financial sector and the influence that this sector has on policymakers that matters for inflation, rather than the statutory independence of the Central Bank per se. Posen admits, however, that the time span under consideration is important in establishing whether institutions matter. While preferences and political forces determine outcomes in the long run, over short periods of time institutions may in fact matter.[24]

Even though we recognize the existence of potential sources of endogeneity, in this paper we treat budgetary institutions as exogenous. Given the time period under consideration, 1990-95, we do not think that the assumption of exogeneity is a serious shortcoming of this study.

V. Electoral Systems, Budget Institutions and Fiscal Performance

In the previous sections we described fiscal performance in Latin America and the two institutional dimensions this paper is concerned with, namely, electoral systems and budgetary

processes. We now proceed with the empirical analysis in order to evaluate whether these institutional dimensions are significant in explaining cross sectional differences in fiscal performance in Latin America. In doing so, we face the problem of working with a small sample, which is sometimes reflected in lower levels of significance. We first analyze the impact of electoral systems and budgetary processes on fiscal performance individually, and then explore the interactions between the two sets of institutions.

Electoral Systems and Fiscal Performance

In the empirical analysis we consider three attributes of the political system: the district magnitude, which is our main characterization of the electoral system, and two outcomes of the system, namely, the number of effective parties and the support of the governing party in Congress. District magnitude enters the regressions in logs, as we believe its effects should be non-linear.

Table 3 presents the regression results for government size. In the first three columns, the dependent variable is public sector expenditures (G). In columns 4 through 6, it is a measure of public expenditures which excludes social security and interest payments (G'). The reason for using this last measure is that it is often argued, at least for the OECD countries, that a large part of the explanation for cross-country differences in the size of government is given by the size of the social security sector.

As control variables, we used the level of debt at the beginning of the period, the degree of openness of the economy, measured as imports plus exports over GDP, and the proportion of the population above 65 years of age. Initial public debt is expected to have positive effects on total public expenditures through its effect on interest payments. It is not expected to have effects on G',

so it was not included in regressions 4 through 6. Openness is expected to have positive effects on the size of government, following recent findings by Rodrik (1996).[25] And the age variable is expected to have positive effects as well, only in the government size measure that includes social security expenditures (G). All controls had the expected sign, and were significant in most regressions.

Following our discussion of **Section III**, we expect district magnitude and the number of effective parties to have positive effects on government size, and the proportion of legislative seats held by the government to have a negative effect on size. **Table 3** shows that, in every case, political variables enter with the correct sign, although the levels of significance are not always high, a consequence in part of the small sample size. For total government expenditure G, only the number of effective parties is significant. The estimated coefficient indicates that the impact of electoral institutions on government size is potentially large in economic terms: a country with a number of effective parties equal to 4 is expected to have a public sector 4 percentage points of GDP larger than one where the effective number of parties is 2. For the case of G', the number of effective parties is significant at the 10 percent level, while the proportion of seats held by the government is significant at the 15 percent level.[26, 27]

Table 4 shows, the effects of two of our political variables on public sector surplus and on primary surplus.[28] In the case of primary surplus, we controlled for the initial level of debt. In columns 2 and 4, we restricted the sample to the 20 countries for which we have data on budget institutions, in order to be able to discuss later the effects of including both institutional dimensions together. The coefficients of all the political variables have the expected sign. District magnitude is marginally significant for surplus, while the number of legislative seats is significant for the primary

surplus. Note that when the sample is restricted, district magnitude becomes an a significant determinant of primary surplus, and the number of legislative seats becomes significant for the surplus as well.[29]

The coefficient for DM suggest that, here again, economic effects are important: a country with a PL system is expected to have budget surpluses 1.1 percent of GDP larger than countries with a PR system and a district magnitude of 3. The same difference in surplus should be expected between two countries with PR systems with DM of 3 and 9.[30] We also performed regressions for both of our debt measures, but we failed to find any significant relationship between any of the political variables and debt levels. We will discuss later how the effects of our political variables change once we account for the effects of budget institutions.

Table 5 presents the results for procyclicality, where volatility, defined as the standard deviation of real GDP growth for the period 1970-95, is used as a control variable. Following the arguments of Talvi and Vegh (1996), volatiliy is expected to have a positive effect on procyclicality.

The only political variable that was significant (at the 15 percent level) was district magnitude, which enters with a positive sign. The coefficient suggests that our measure of procyclicality is expected to be 0.08 higher in a country with a DM of 3 compared to a country with DM of 1.[31]

How can we interpret this result? One possible interpretation would be related to the arguments in Talvi and Vegh (1996). As discussed above, these authors link the procyclical fiscal behavior of Latin American governments to a political distortion: the difficulty to save during booms, given the spending pressures that would occur if governments were running large surpluses. As these authors suggest, and our results confirm, the impact of the political distortion is larger the

larger the degree of volatility faced by the country. But the political distortion itself may depend on the electoral system in place. An electoral system that tends to produce stronger governments (such as the PL system, or a PR system with low district magnitude) can place these governments in a better position to resist the spending pressures. Although we do not want to push this argument too far, our district magnitude result does suggest that this might in fact be the case.[32]

In summary, although the results are not always strong in every performance dimension, the evidence suggests that electoral institutions are a significant determinant of fiscal performance in Latin America. Countries with a large district magnitude, a large number of effective parties represented in the legislature, and weak support for the governing party in Congress, tend to be associated with higher levels of government expenditures, larger fiscal deficits and a more procyclical response to the business cycle.

Budget Institutions and Fiscal Performance

As discussed in **Section IV**, more transparent and hierarchical budgetary institutions, i.e. institutions that promote a more comprehensive view of the costs and benefits of government activities, should result in a higher degree of fiscal discipline. Therefore we expect countries that have a high index of budgetary institutions (IBI) to display relatively smaller levels of spending, fiscal deficits and public debt. However, the direction of the impact of budgetary institutions on procyclicality is unclear: while more hierarchical procedures may improve the ability of the government to resist spending pressures during booms, constraints that enhance credibility in the commitment to fiscal discipline may hamper the ability of the authorities to react in an efficient

manner to shocks.[33]

We find that countries with a high index of budgetary institutions tend to have lower deficits and lower debt levels than countries with a low IBI. The deficit result is presented in **Table 4**, column 5. The coefficient for budget institutions is significant at the 5 percent level for the case of overall surplus, and at the 1 percent level for the case of primary surplus. The debt regressions appear in **Table 6**. The IBI is a significant determinant of debt levels when these are measured in proportion to their revenues, which, as discussed in **Section II**, is our preferred measure of debt. **Figure 3** illustrates the association between the IBI and overall surplus, and between IBI and debt.

From a quantitative point of view the statistical relationship suggests that the impact of budget institutions is large in economic terms. A country with an IBI of 0.45 is expected to have an average overall budget surplus 2.5 percentage points of GDP smaller, and a primary surplus 4 percentage points of GDP smaller than that of a country with an index of 0.65.[34] A country with an IBI of 0.45 is also expected to have a debt to revenue ratio 1.2 years lower than a country with and IBI of 0.65 We did not find any significant impact of the IBI on government size and the degree of procyclicality.[35]

Electoral Institutions, Budget Institutions, and Fiscal Performance

The previous results offer very interesting possibilities to explore the interactions between electoral systems and budgetary arrangements. We do this for the surplus and the primary surplus, the only dimensions of performance where both electoral institutions and budget institutions appear to be significant. Is it the case that countries with a high IBI governing the fiscal decision making process can generate sound fiscal behavior whatever the electoral arrangements governing the

political process? In Latin America, the answer appears to be negative.

In **Table 4,** columns 6 and 7 present the results of the regressions where the effect of both institutional dimensions is considered together. The relevant comparisons are with the restricted sample regressions, in columns 2 and 4, respectively. When the overall budget surplus is used as a measure of fiscal performance, and IBI is included in the regressions, district magnitude gains some significance, while the number of legislative seats loses significance. When the primary surplus is used as the fiscal performance variable, the coefficient for DM remains unchanged, but the level of significance increases. In turn, the coefficient for the number of legislative seats drops slightly, but it remains significant at the 5 percent level. In sum, both political variables are significant determinants of primary surpluses when IBI is included in the regression. These results appear to contrast with those obtained by Hallerberg and von Hagen (1997) for European countries, where they find that the existence of some form of centralization in the budget process, whether provided by a strong finance minister or by negotiated budget targets within the cabinet, rather than the electoral system, is the crucial determinant of fiscal performance.

VI. Concluding Remarks

This paper has analyzed, for a sample of Latin American countries, the impact of two institutional arrangements, namely, electoral systems and budgetary procedures, on four measures of fiscal performance, namely, the size of government, the size of budget deficits and public debt, and the degree of procyclicality in the response of fiscal policy to business cycle fluctuations. We find evidence that electoral systems characterized by a large degree of proportionality, i.e., a large district magnitude, and by large degree of political fragmentation, tend to have larger governments,

larger deficits and a more procyclical response to the business cycle. We also find that more transparent and hierarchical budgetary procedures lead to lower deficits and debt. The effects of our institutional variables tend to be large in economic terms. Contrary to the findings of Hallerberg and von Hagen for European countries, we find no evidence that centralized budgetary arrangements neutralize the potentially adverse impact on fiscal deficits of a larger degree of proportionality of the electoral system.

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Notes

1.See, for example, Roubini and Sachs (1989), Grilli, Masciandaro and Tabellini (1991), Roubini (1991) and Alesina and Perotti (1995a).

2.The countries included in our data set are those that appear in Table 1.

3.As we shall see later, in addition to income per capita, the degree of openness of an economy to international trade, the degree of indebtedness and the age distribution of the population are other important determinants of the size of government.

4.We report here the median rather than the average due to the existence of outliers in Latin America, such as, such as Nicaragua and Guyana, two small countries which are very highly indebted. For the OECD countries, the median and the mean are virtually the same. The average for Latin American countries is reported in Table 1.

5.The same association can be found in the case of sub-national governments in the U.S. and Canada.

6.For recent evidence on the procyclicality of fiscal policy in Latin America see Gavin, Hausmann, Perotti and Talvi (1996), Talvi and Vegh (1996) and Gavin and Perotti (1997).

7.This measure of procyclicality is the same one used in Talvi and Vegh (1996).

8.See Lijphart (1994).

9.For evidence on electoral systems and the durability of governments see for example, Roubini and Sachs (1989) and Grilli, Masciandaro and Tabellini (1991).

10.See Lijphart (1994).

11.See Rogowski (1987). Persson, Roland and Tabellini (1997) argue that the lack of legislative cohesion of presidential systems may result in underprovision of public goods.

12.In two-tier systems the district magnitude for each country is the maximum between the lower and the upper house.

13.For details on the index that measures the number of effective parties see Lipjhart (1994).

14.See also von Hagen (1991), Bohn and Inman (1995) and Eichengreen and Bayoumi (1994). For an excellent survey of this literature, see Poterba (1996).

15.Similar findings are reported by Sanguinetti and Tommassi (1997), in a recent study of Argentine provinces.

16.For an in-depth discussion of the theoretical issues underlying the importance of budget institutions see von Hagen (1992), and Alesina and Perotti (1995b).

17.This point has been made by Alesina and Perotti (1995b)

18.Von Hagen and Harden (1995) suggested the creation of such an agency, which they called the National Debt Board, for the European Union. Eichengreen, Hausmann and von Hagen (1996) have made a proposal along similar lines,which they called the National Fiscal Council, specially tailored to the particular characteristics of Latin America.

19.For a detailed description of the construction of the index, as well as information on the budget institutions of each country, see Alesina, Hausmann, Hommes and Stein (1996), and Hausmann and Stein (1996).

20.See Makon (1995)

21.The other two countries which experienced very high inflation in the late 1980s and early 1990s were Brazil and Nicaragua. Brazil did not reform its budget institutions. We have no data budget institutions in Nicaragua. However, the new government implemented a stabilization program, trade liberalization, and tax reform in 1991, which makes it likely that the budgetary

process was reformed as well.

22.For an account of the political cycle in Costa Rica, and details on the proposed reform, see Rodriguez (1995). Currently, there are no countries in Latin America which have this type of numerical constraints.

23.This author reports that in 1923 Colombia was seeking foreign loans to finance public investment, and that "...the foreign bankers pressed for reforms such as the creation of a central bank, adherence to the gold standard, and adoption of 'modern' budget procedures" (Hommes ,1996, p.9).

24.See discussion following Posen (1995).

25.Rodrik (1996) argues that the explanation for this empirical regularity is that open economies are exposed to significant external risk, and that a large government sector reduces the exposure to this risk.

26.When European countries are included in the empirical analysis in order to increase the sample size, the qualitative results do not change, but the precision of our estimates increases significantly. District magnitude, for example, becomes significant at the 10 percent level for total expenditures, and at the 5 percent level for G`.

27. Similar results were obtained when GDP per capita was used as a control instead of the age variable. These two variables are highly correlated, and GDP per capita lost significance when included in the regressions together with the age variable. In contrast, this last variable remained significant.

28.We excluded the effective number of parties to save space. This variable had the expected sign in all cases, but was never a significant determinant of the surplus.

29.The countries that are excluded from the sample in columns 2 and 4 are Barbados, Belize,

Guyana, Haiti, Nicaragua and Suriname. Together, these 6 countries represent less than 1 percent of Latin America's GDP.

30.Since [log(3)-log(1)]*0.0103 = [log(9)-log(3)]*0.0103 = 1.099*0.0103 = 0.0113.

31.More precisely, the difference between these countries will be [log(3)-log(1)]*0.071 = 0.077.

32.We did not find a significant effect of the proportion of legislative seats held by the government on procyclicality, which may appear to be a better indicator of the strength of government. However, we must note that this variable corresponds to the current composition of the legislature, and may not reflect adequately the strength of government during the 25 year period for which we have measured procyclicality. In contrast, district magnitudes, which are characteristics of the electoral institutions, rather than the outcome of elections, tend to be much more stable over time, and may be a better representation for the strength of governments throughout the period. This problem is less important in the case of the other performance variables, since the time period considered is 1990-95.

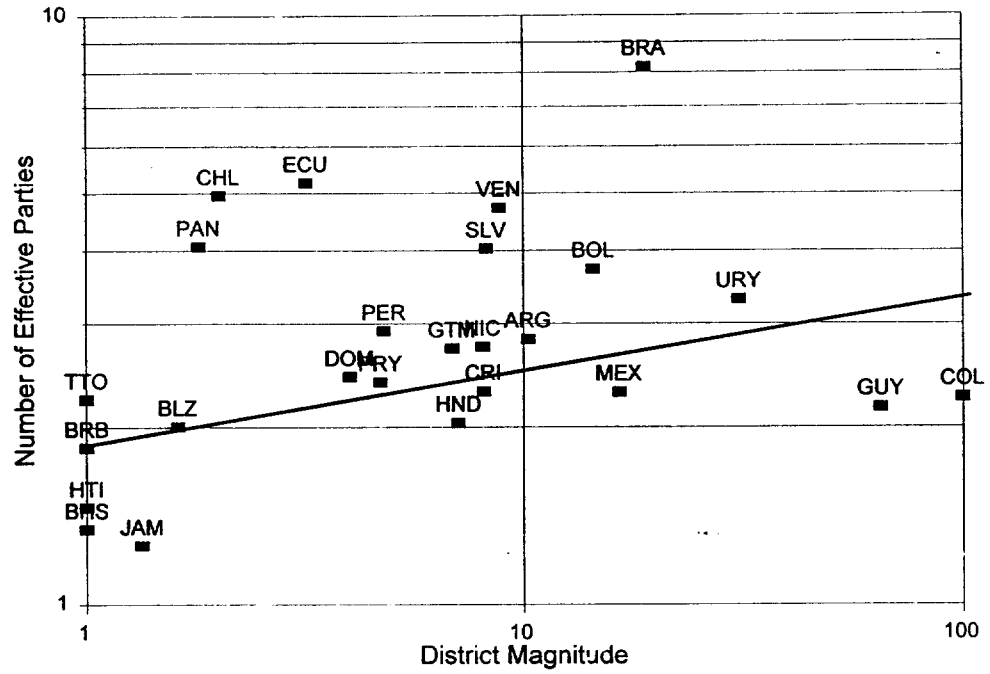
33.For example, a period by period balanced budget rule would preclude the authorities to run a budget deficit during recessions, and will therefore make it unnecessary to run surpluses during expansions, resulting in a procyclical fiscal response.

34.The quantitative impact is even stronger if the primary budget surplus rather than the overall budget surplus is used to perform these calculations.

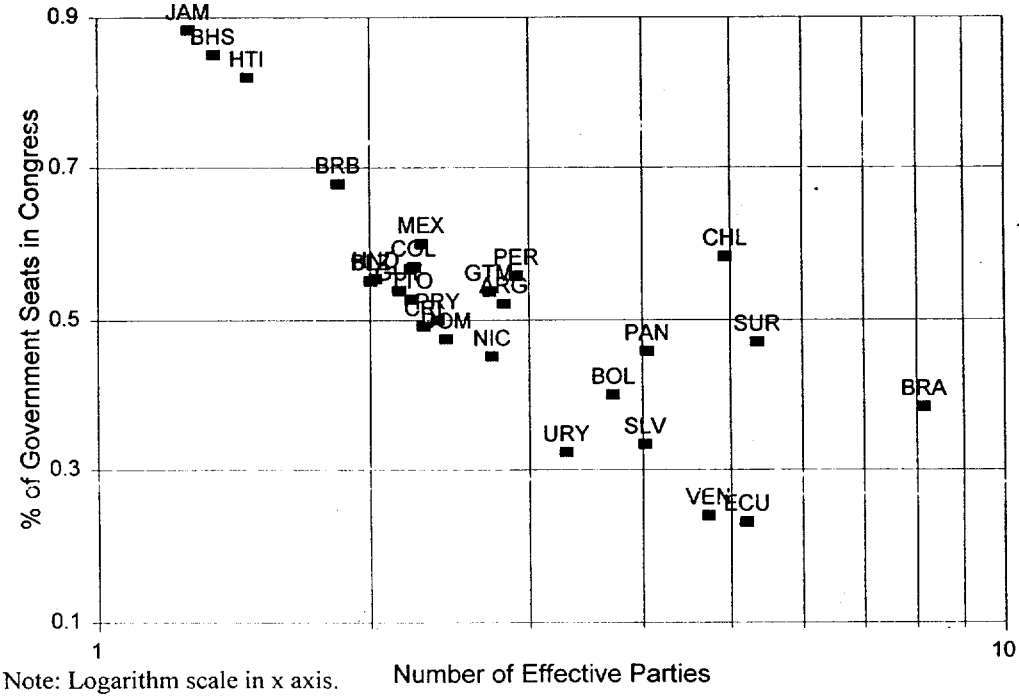
35.The empirical literature on budget institutions and fiscal performance, has consistently found an impact of budget institutions on fiscal deficits and debt, but almost as consistently has failed to find an association with government size. This paper is not an exception.

Figure 1

Electoral Institutions and Political Outcomes in Latin America



Note: District magnitude in two-tier systems is the maximum of both tiers.
Logarithm scale in both axis.



Note: Logarithm scale in x axis.

Figure 2

Index of Budgetary Institutions

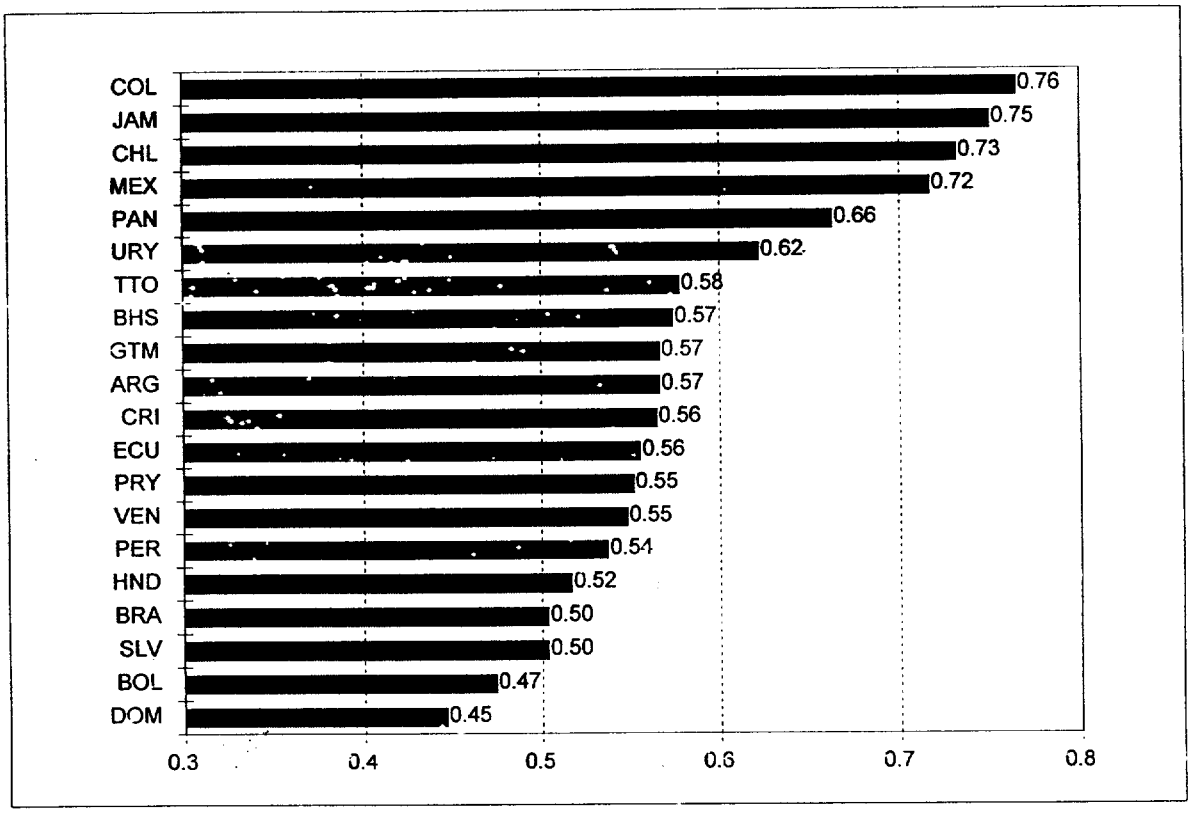
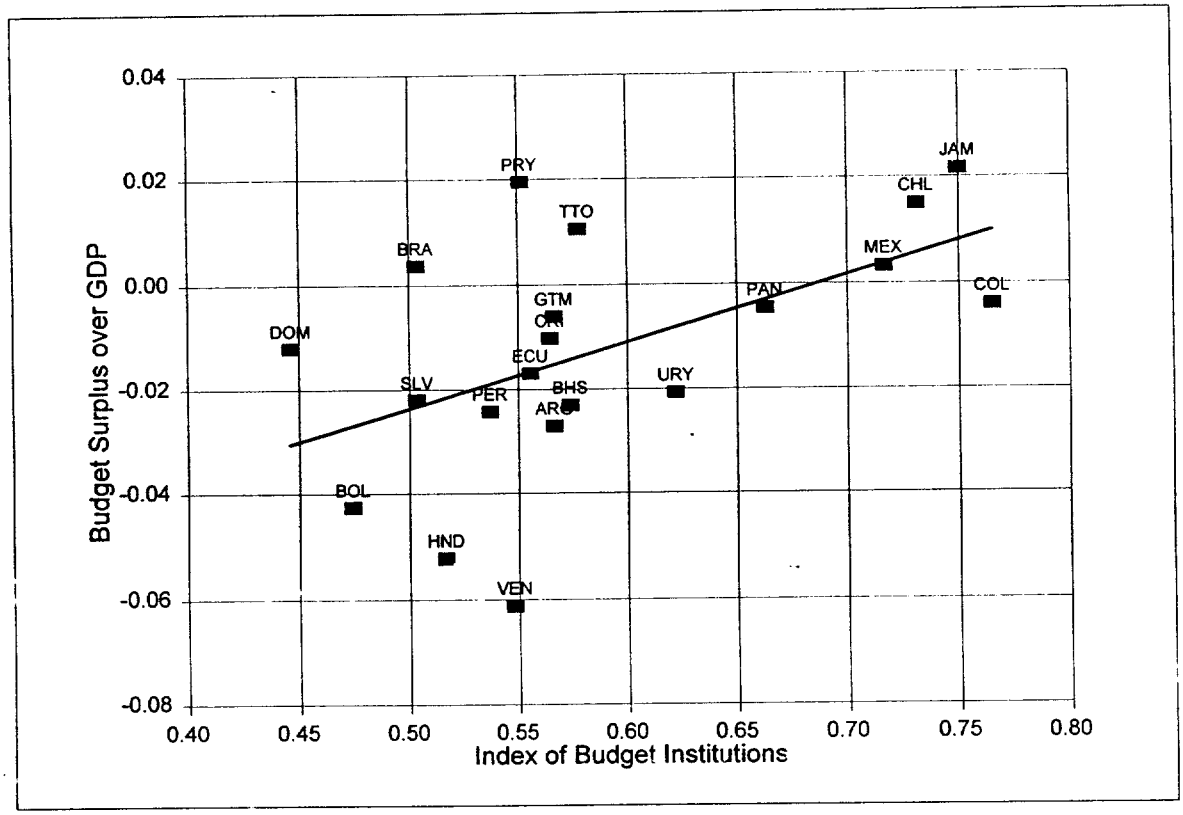


Figure 3

Budget Institutions and Fiscal Performance 1990-95



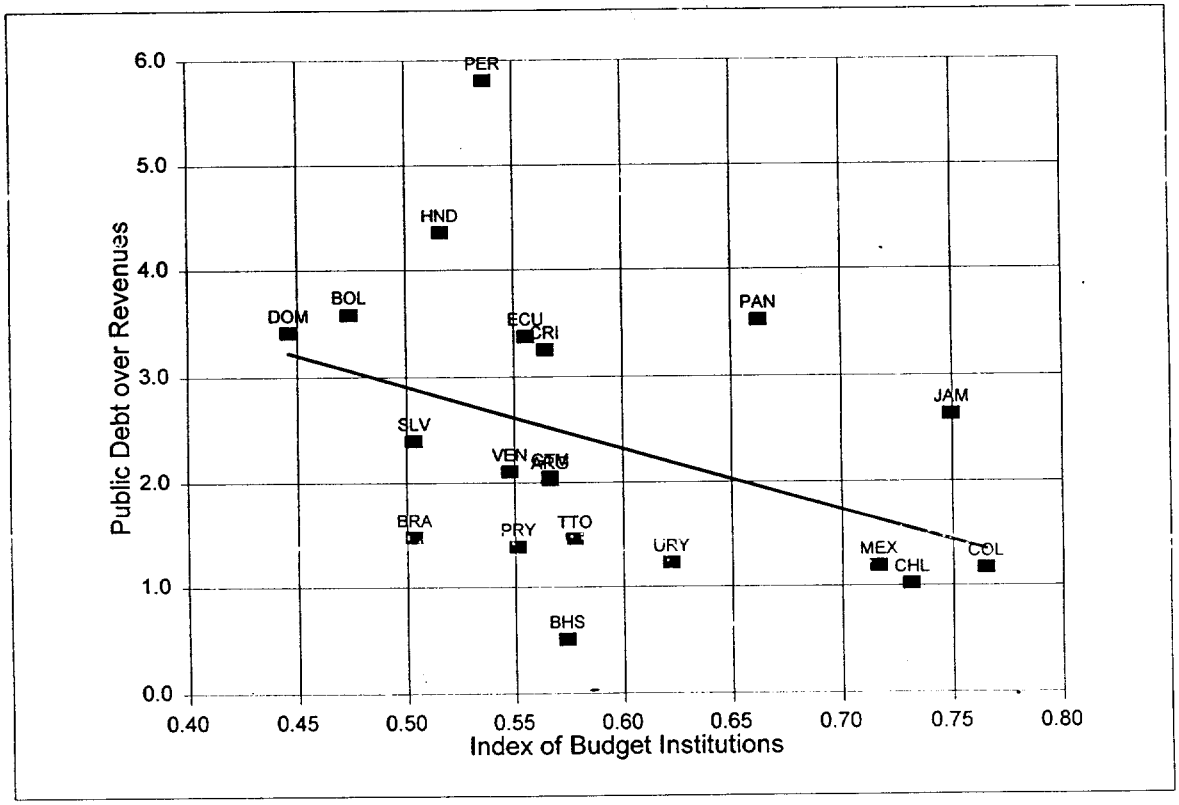


Table 1: Fiscal Performance in Latin America

Average 1990-1995

Country	Performance Variables						
	G	G'	Surplus	Primary Surplus	Debt/GDP	Debt/Rev	Procyclicality
Argentina	0.32	0.22	-0.03	-0.00	0.59	2.03	0.29
Bahamas	0.24	0.19	-0.02	0.01	0.11	0.51	NA
Belize	0.45	0.41	-0.06	-0.04	0.35	0.96	NA
Bolivia	0.30	0.25	-0.04	-0.01	0.84	3.59	0.28
Brazil	0.31	0.24	0.00	0.03	0.47	1.48	0.56
Barbados	0.35	0.23	0.02	0.06	NA	NA	0.28
Chile	0.23	0.15	0.02	0.03	0.26	1.02	0.60
Colombia	0.26	0.20	-0.00	0.03	0.31	1.17	0.31
Costa Rica	0.24	0.20	-0.01	0.03	0.76	3.26	0.80
Dominican Republic	0.18	0.16	-0.01	0.00	0.53	3.42	0.16
Ecuador	0.26	0.22	-0.02	0.03	0.87	3.38	0.21
Guatemala	0.12	0.11	-0.01	0.01	0.24	2.05	0.53
Guyana	0.47	0.34	-0.16	-0.03	4.82	12.59	NA
Honduras	0.31	0.24	-0.05	0.01	1.11	4.36	0.37
Haiti	0.12	0.12	-0.05	-0.05	NA	NA	NA
Jamaica	0.31	0.21	0.02	0.12	0.93	2.63	0.49
Mexico	0.26	0.20	0.00	0.05	0.31	1.19	0.81
Nicaragua	0.40	0.38	-0.06	-0.03	6.96	26.03	NA
Panama	0.28	0.17	-0.00	0.05	0.97	3.53	0.67
Peru	0.16	0.11	-0.02	0.01	0.78	5.81	0.82
Paraguay	0.15	0.12	0.02	0.03	0.24	1.39	0.67
El Salvador	0.18	0.15	-0.02	-0.00	0.34	2.40	0.60
Suriname	0.41	0.35	-0.12	-0.08	0.88	3.93	NA
Trinidad and Tobago	0.30	0.24	0.01	0.06	0.45	1.46	0.59
Uruguay	0.30	0.15	-0.02	-0.01	0.37	1.23	0.53
Venezuela	0.31	0.26	-0.06	-0.01	0.57	2.11	0.86
Mean	0.28	0.22	-0.03	0.01	1.00	3.81	0.52
Median	0.29	0.21	-0.02	0.01	0.55	2.25	0.55

Notes: G is the total expenditures of the consolidated public sector in proportion of GDP. G' excludes social security expenditures and interest payments. Government surplus is measured by the surplus of the consolidated public sector in proportion of GDP. Primary surplus is total surplus minus interest payments. Government debt is measured by the total debt of the consolidated public sector in proportion of GDP and in proportion of government revenues. Procyclicality is the correlation coefficient between the cyclical component of government consumption and the cyclical component of output over the period 1970-1995.

Sources: 1) G, G',surplus, primary surplus and debt: own calculations based on the recent economic developments, IMF. 2) Procyclicality: Talvi and Vegh (1996).

Table 2: Electoral Institutions and Political Outcomes

Country	Electoral Institutions							Electoral Outcomes		
	Legislative					Executive		Legislative		Executive
	Legislative electoral formulas	Number of legislative chambers	Lower/single house district magnitude	Higher house district magnitude	Average district magnitude	Presidential vs. Parliamentary Systems.	Number of Rounds	Absolute number of parties in lower house	Effective number of parties in lower house	% of legislative seats held by the head of government's party in the lower/single house
Argentina	PR	2	10.3	3.0	8.7	P	2	16	2.82	0.52
Bahamas	PL	2	1.0	n/a	1.0	Pa	n/a	2	1.34	0.85
Barbados	PL	2	1.0	n/a	1.0	Pa	n/a	3	1.84	0.68
Belize	PL	2	1.6	n/a	1.6	Pa	n/a	3	2.00	0.55
Bolivia	PR	2	14.4	3.0	12.5	P	2	8	3.71	0.40
Brazil	PR	2	19.0	3.0	16.8	P	2	18	8.16	0.38
Chile	Mix	2	2.0	2.0	2.0	P	2	8	4.95	0.58
Colombia	PR	2	5.0	102.0	42.1	P	2	2	2.24	0.57
Costa Rica	PR	1	8.1	n/a	8.1	P	2	5	2.30	0.49
Dom Rep	PR	2	4.0	1.0	3.4	P	2	3	2.43	0.48
Ecuador	PR	1	3.2	n/a	3.2	P	2	13	5.21	0.23
El Salvador	PR	1	8.2	n/a	8.2	P	1	8	4.03	0.33
Guatemala	PR	1	6.9	n/a	6.9	P	2	7	2.72	0.54
Guyana	PR	1	43.4	n/a	43.4	P	1	4	2.14	0.54
Haiti	PL	2	1.0	1.0	1.0	P	2	8	1.46	0.82
Honduras	PR	1	7.1	n/a	7.1	P	1	3	2.03	0.55
Jamaica	PL	2	1.3	n/a	1.3	Pa	n/a	2	1.26	0.88
Mexico	Mix	2	16.6	4.0	14.0	P	1	4	2.29	0.60
Nicaragua	PR	1	8.1	n/a	8.1	P	1	10	2.74	0.45
Panama	Mix	1	1.8	n/a	1.8	P	1	12	4.06	0.46
Paraguay	PR	2	4.7	45.0	19.2	P	1	3	2.38	0.50
Peru*	Mix	2	4.8	2	4.0	P	2	13	2.91	0.56
Suriname	PR	1	5.1	n/a	5.1	Pa	n/a	8	5.36	0.47
Trinidad	PL	2	1.0	n/a	1.0	Pa	n/a	3	2.23	0.53
Uruguay	PR	2	5.2	31.0	11.4	P	1	4	3.30	0.32
Venezuela	Mix	2	8.8	2.0	7.6	P	1	5	4.73	0.24

Notes: District magnitude is the average number of representatives elected per district. Average district magnitude is the weighted average (weighted by the number of representatives in each house) of the district magnitude of the lower and upper house. The number of effective parties, Ns is defined as $Ns = 1/\Sigma s_i^2$ where s_i is the proportion of representatives party i has in the lower house. In Peru after the Constitutional reform of 1993, there is only one electoral district and the Congress has one single house. Only one election has been held under the new rules.

Sources: Constitutional an legal texts, Own calculations based on data by Wilfred Derksen.

Table 3: Electoral Institutions and Government Size

(Cross Section Regressions, Average 1990-95)

Institutional Arrangements	Government Size					
	G			G'		
	(1)	(2)	(3)	(4)	(5)	(6)
District Magnitude (Std. Error)	0.0109 (0.0143)			0.0135 (0.0121)		
Number of Effective Parties (Std. Error)		0.0204 (0.0107)			0.0177 (0.0101)	
Number of Legislative Seats (Std. Error)			-0.0967 (0.1271)			-0.1521 (0.1005)
Controls						
Constant (Std. Error)	0.1189 (0.0582)	0.0412 (0.0705)	0.1776 (0.0709)	0.1199 (0.0392)	0.0736 (0.0517)	0.2160 (0.0523)
Debt at 1989 (Std. Error)	0.0147 (0.0080)	0.0160 (0.0071)	0.0154 (0.0078)			
Openness (Std. Error)	0.1163 (0.0488)	0.1494 (0.0492)	0.1217 (0.0510)	0.1172 (0.0413)	0.1406 (0.0432)	0.1257 (0.0412)
Population > 65 Years (Std. Error)	1.1655 (0.8204)	1.3718 (0.7586)	1.2786 (0.8159)			
R2	0.34	0.44	0.34	0.21	0.27	0.25
DF	18	18	18	22	22	22
N	23	23	23	25	25	25

Notes: G is the total expenditures of the consolidated public sector in proportion of GDP. G' excludes social security expenditures and Interest Payments. District magnitude is the logarithm of the average number of representatives elected per district. Number of effective parties is the number of political parties weighed by its share of the vote in the legislature. Number of legislative seats is the proportion of the seats that the executive enjoys in the legislature. DF= degrees of freedom, N = sample size.

Sources: 1) G, G' and debt: own calculations based on the recent economic developments, IMF. 2) Effective number of parties and number of legislative seats: Own calculations based on data by Wilfred Derksen. 3) District magnitude: Constitutional and legal texts. 4) Openness and population > 65 years: World bank indicators, 1995.

Table 4: Institutional Arrangements and Government Surpluses

(Cross Section Regressions, Average 1990-95)

Institutional Arrangements	Total Surplus						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Restricted Sample		Restricted Sample			
Constant	-0.0085	-0.0036	-0.0466	-0.0405	-0.0869	-0.0786	-0.0873
(Std. Error)	(0.0134)	(0.0093)	(0.0282)	(0.0291)	(0.0292)	(0.0290)	(0.0292)
District Magnitude	-0.0103	-0.0050				-0.0053	
(Std. Error)	(0.0063)	(0.0043)				(0.0037)	
Number of Legislative Seats			0.0391	0.0557			0.0294
(Std. Error)			(0.0519)	(0.0291)			(0.0309)
Budget Institutions					0.1266	0.1288	0.1022
(Std. Error)					(0.0492)	(0.0479)	(0.0556)
R2	0.07	0.02	-0.02	0.12	0.23	0.27	0.23
DF	24	18	24	18	18	17	17
N	26	20	26	20	20	20	20

Institutional Arrangements	Primary Surplus						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Restricted Sample		Restricted Sample			
District Magnitude	-0.0075	-0.0099				-0.0101	
(Std. Error)	(0.0066)	(0.0057)				(0.0040)	
Number of Legislative Seats			0.0942	0.1139			0.0735
(Std. Error)			(0.0495)	(0.0350)			(0.0338)
Budget Institutions					0.2165	0.2179	0.1578
(Std. Error)					(0.0588)	(0.0516)	(0.0597)
Controls							
Constant	0.0316	0.0308	-0.0292	-0.0580	-0.1239	-0.1014	-0.1307
(Std. Error)	(0.0145)	(0.0206)	(0.0265)	(0.0243)	(0.0380)	(0.0345)	(0.0346)
Debt at 1989	-0.0045	0.0166	-0.0048	0.0382	0.0318	0.0240	0.0387
(Std. Error)	(0.0036)	(0.0230)	(0.0034)	(0.0197)	(0.0183)	(0.0164)	(0.0159)
R2	0.06	0.10	0.15	0.35	0.41	0.55	0.52
DF	21	17	21	17	17	16	16
N	24	20	24	20	20	20	20

Notes: Government surplus is measured by the surplus of the consolidated public sector in proportion of GDP. Primary Surplus is total surplus minus interest payments. District magnitude is the logarithm of the average number of representatives elected per district. Number of effective parties is the number of political parties weighed by its share of the vote in the legislature. Number of ;legislative seats is the proportion of the seats that the executive enjoys in the legislature. Restricted sample excludes countries that have not data on budget institutions: Belize, Barbados, Guyana, Haiti, Nicaragua, Suriname. DF= degrees of freedom, N = sample size.

Sources: 1) Surplus, primary surplus, and debt: own calculations based on the recent economic developments, IMF. 2) Effective number of parties and number of legislative seats: Own calculations based on data by Wilfred Derksen. 3) District Magnitude: Constitutional and legal texts 4) Openness and population > 65 years: World bank indicators, 1995. 5) Index of budgetary institutions: Alesina et. al. (1996).

Table 5: Institutional Arrangements and Procyclicality

(Cross Section Regressions)

Institutional Arrangements	Procyclicality
District Magnitude	0.0705
(Std. Error)	(0.0449)
Controls	
Constant	-0.1067
(Std. Error)	(0.2397)
Volatility	10.9069
(Std. Error)	(3.9145)
R2	0.23
DF	17
N	20

Notes: Procyclicality is measured by the correlation coefficient between the cyclical component of government consumption and the cyclical component of output over the period 1970-95. District magnitude is the logarithm of the average number of representatives elected per district. DF= degrees of freedom, N = sample size.

Sources: 1) Procyclicality and volatility: own calculations based on the international financial statistics, IMF. 2) District magnitude: Constitutional and legal texts.

Table 6: Institutional Arrangements and Government Debt

(Cross Section Regressions, Average 1990-95)

Institutional Arrangements	Debt/GDP	Debt/Revenues
	(1)	(2)
Constant	0.8302	5.8564
(Std. Error)	(0.4334)	(1.8469)
Budget Institutions	-0.4750	-5.8919
(Std. Error)	(0.7302)	(3.1118)
R2	-0.03	0.12
DF	18	18
N	20	20

Notes: Government debt is measured by the total debt of the consolidated public sector in proportion of GDP and in proportion of government revenues. DF= degrees of freedom, N = sample size.

Sources: 1) Government debt: own calculations based on the recent economic developments, IMF. 2) Index of budgetary institutions: Alesina et. al. (1996).