

Inter-American Development Bank
Office of the Chief Economist
Working Paper Series 394

Budget Institutions and Fiscal Performance In Latin America

by

Alberto Alesina, Ricardo Hausmann, Rudolf Hommes, and Ernesto Stein

Abstract

In this paper we collect detailed information on the budget institutions of Latin American countries. We classify these institutions on a “hierarchical”/“collegial” scale, as a function of the existence of constraints on the deficit, and voting rules. We show that “hierarchical” and transparent procedures have been associated with more fiscal discipline in Latin America in the eighties and early nineties.

JEL classification: H61, D70, E60. *Keywords:* Budget institutions, fiscal deficits.

The authors gratefully acknowledge the invaluable research assistance of Cristina García López, Sergio Schmukler and Luis Tineo. They would further like to thank Ricardo Caballero, Sebastian Edwards, Barry Eichengreen, Roberto Rigobón, Antonio Spilimbergo, Vito Tanzi and an anonymous referee for very useful suggestions. The research was conducted while Rudolf Hommes was a Consultant at the Office of the Chief Economist at the IDB.

*Corresponding author: Ernesto Stein, Inter-American Development Bank; 1300 New York Ave. N.W., Washington, D.C. 20577; e-mail ernestos@iadb.org

© 1999

Inter-American Development Bank

1300 New York Avenue, N.W.

Washington, D.C. 20577

The views and interpretations in this document are those of the authors and should not be attributed to the Inter-American Development Bank, or to any individual acting on its behalf.

For a complete list of publications, visit our Web Site at:

<http://www.iadb.org/oce>

1. Introduction

The last two decades have witnessed a sharp increase in public debt accumulation in many countries around the world. While some countries have reacted promptly, others have delayed the necessary fiscal adjustments. The variance of cross-country fiscal experiences is remarkable: even within economically homogeneous groups of countries, fiscal positions are very different. For instance, within the OECD group debt to GDP ratios currently range from more than 120 percent to less than 40 percent.¹ In Latin America, as Figure 1 shows, the variance of fiscal position is also very large. The average central government deficits in the 1989-93 period ranged from 13.6 per cent of GNP in Guyana to a surplus of 3 percent of GNP in Jamaica. Figure 2 shows that this variance was even higher in the early eighties, and has been declining since then, in conjunction with a widespread improvement in the regions' fiscal accounts.

It is hard to explain these very large differences in fiscal positions using only economic variables or the timing of "wars," as implied by the tax smoothing theory of budget deficits. Therefore, a recent lively literature has studied the role of politico - institutional factors in explaining this cross-country variance of fiscal experiences.² This line of research has emphasized political polarization, government structure and electoral systems as some of the main political determinants of budget deficits. The evidence, drawn mostly from OECD economies, is generally favorable to this approach.³

The goal of this paper is to explain cross country differences in fiscal positions by focusing upon the procedures which lead to the formulation, approval and implementation of the budget. On a sample of virtually all the Latin American countries, we find that the nature of budget procedures strongly influences fiscal outcomes. More specifically,

¹ See Alesina and Perotti (1997b) for a discussion of fiscal adjustments in OECD countries.

² See Alesina and Perotti (1995 a) for a recent survey of this literature.

³ See, in particular Roubini and Sachs (1989), Grilli, Masciandaro and Tabellini (1990) and Perotti and Kontopoulos (1997)

procedures which include constraints on the deficit and are more “hierarchical” and transparent lead to lower primary deficits. Hierarchical procedures are those that, for instance, limit the role of the legislature in expanding the size of the budget and its balance, and attribute a strong role to a single individual (typically the Treasury Minister) in the budget negotiations within the government, limiting the prerogatives of the spending ministers. In contrast, collegial procedures provide a greater balance of power between all the agents involved in the budgetary process.

Our results are consistent with recent work of others. Von Hagen (1992) and von Hagen and Harden (1994) study countries of the European Community with a perspective very similar to ours. While their motivation and ours are similar, our indices of procedures, our statistical methodology and obviously, our sample are all quite different. Eichengreen (1992), Poterba (1994), Alt and Lowry (1994), Bayoumi and Eichengreen (1995) and Bohn and Inman (1996) among others, study how different balanced budget laws in American States affect their fiscal positions and their reaction to fiscal shocks. The present paper and this previous work, point in the same direction: budget procedures and budget institutions have significant impact on fiscal outcomes. In fact, these different papers nicely complement each other since they reach qualitatively similar results, although using different methodologies and drawing evidence from very different samples, namely European countries, American states and, in our case, Latin American countries.

This paper is organized as follows. Section 2 discusses the motivation and the construction of our indices of budget procedures. Sections 3 and 4 describe our data and our empirical results. Section 5 discusses the implications of our results and concludes.

2. An index of budget institutions.

2.1. Motivation

Budgetary institutions are all the rules and regulations according to which budgets are drafted, approved and implemented. We assume that these institutions are predetermined, and we use them as an explanatory variable for fiscal outcomes. This approach must be grounded on two arguments. First, it must be the case that fiscal

outcomes are not independent of institutions, that is, government and legislatures must not be able to produce whatever fiscal outcome they (collectively) choose, regardless of the budget procedures which are in place. Second, it must be the case that institutions are not themselves endogenous to the fiscal outcomes; that is, institutions cannot be easily changed as a result of current or past fiscal outcomes. To a certain extent, institutions are indeed endogenous, both to past fiscal outcomes and to “third factors”. For instance, in the medium-long run unsatisfactory fiscal performances may lead to reforms of budget institutions. In fact, in our sample we observed a few important institutional reforms, in response to the large fiscal imbalances and hyperinflations of the early eighties. However, budgetary institutions are relatively stable over time so that at least in the medium run (measured in, say, up to a decade or more) they can be considered fixed. Since it is costly and complex to change institutions, the existing ones have to be very unsatisfactory, before it is worth changing them; in other words there is a strong “status quo” bias in institutional reforms. If institutions are relatively costly to change, then they can be considered predetermined explanatory variables. As for the issue of “third factors” explaining both budgetary institutions and fiscal outcomes, one cannot rule out a series of socio-cultural-political variables as candidates for this role. These are issues which, however, we largely ignore in this paper.⁴

The literature of budget institutions has suggested several tentative hypotheses concerning which arrangements should be more conducive to fiscal discipline.⁵ We focus on three main insights:

1. *Laws which establish ex ante constraints on deficits may be conducive to fiscal discipline.* Examples of these “laws” are balanced budget rules, requirements that the budget be consistent with a macroeconomic program approved ex ante, or legislative ceilings on borrowing imposed ex ante.

⁴For more discussion of endogeneity issues with specific reference to Latin America see Stein, Talvi and Grisanti (1998).

⁵For a review of this literature see Alesina and Perotti (1997a)

2. *Top bottom (or hierarchical) procedural rules should be conducive to fiscal discipline.* Top bottom procedures are those that attribute strong prerogatives to the government vis a vis the legislature in the approval stage of the budget. Typically the type of amendment rules allowed in the legislative discussion are critical in this respect. Also, in intra governmental negotiation of the budget top bottom procedures are those which give one minister (normally the Treasury Minister) strong agenda setting powers, or veto power over the spending ministers.
3. *Transparent procedures should lead to more fiscal discipline.* Even the most stringent fiscal laws can be circumvented if non transparent procedures make budget documents unintelligible and unrelated to the real fiscal situation, or if the budget can be subverted by the behavior of others such as state and local governments, or state owned enterprises. Politicians often do not have incentives to produce the most transparent budget. By strategically manipulating information they can appear as fiscally restrained even when they are fiscally undisciplined for opportunistic reasons.⁶

In summary, our discussion suggests that: i) the presence of laws (or binding constraints) limiting the permissible size of deficits; ii) top bottom voting procedures and iii) budget transparency and control, should promote fiscal discipline, defined as low average deficits.

2.2 An index of budgetary procedures

For lack of a better word we call “hierarchical” the procedures which imply ex ante constraints on the size of deficits, adopt top bottom voting procedures and are transparent. We identify as “collegial” the procedures which have the opposite characteristics. We have constructed an index of budgetary procedures along a

⁶For more discussion of transparency see Alesina and Perotti (1997a)

hierarchical-collegial dimension for Latin American countries.

The data for the construction of the index was collected through two questionnaires that were answered by the budget directors of 20 Latin American and Caribbean countries.⁷ We constructed our index based upon 10 characteristics of the budget procedures. In each question, for each year of the sample, countries were assigned a score between 0 and 10 according to their answers, 10 for the case of the answer that we considered was the most “hierarchical”, and 0 for the one most “collegial”. For middle range answers we assigned scores according to the number of possible answers. For example, if a question admitted three answers the possible scores were 0, 5 and 10. If there were 4 possible answers, the scores were 0, 3.33, 6.66 and 10.

In choosing the ten components of the index we followed two criteria. First, we wanted to capture as many as possible of the features discussed above. Second, we restricted ourselves to questions which received usable answers from all the countries. In some cases, we also checked the answers by comparing them to the available original written legislation.⁸

We now briefly illustrate each question. The first three relate to constraints on the budget deficit. Question 1 asks about the existence of constitutional constraints on the fiscal deficit, such as balanced budget rules or requirements for “proper financing”. Question 2 inquires about the importance of a previously approved macroeconomic program as a constraint on the executive branch during the drafting of the budget. Question 3 asks about the degree of borrowing autonomy by the government, and the extent to which it is subject to borrowing constraints.⁹ We assigned the highest scores to

⁷A much more detailed discussion of our procedures, the questionnaire itself and various country specific issues is included in Appendix B.

⁸The advantage of using questionnaires rather than only the written legislation is twofold. First, answers to questionnaires allow for an evaluation of “practices” above and beyond the letter of the law. Second, the amount of information collected through the questionnaires is much larger than it would have been possible to obtain independently.

⁹Von Hagen and Harden (1994), and Eichengreen, Hausmann and Von Hagen (1996) have suggested the creation of independent agencies in charge of setting borrowing ceilings on the

countries where Congress sets a ceiling on what the government may borrow. The lowest scores were given to countries in which the government can borrow without constraints, whenever revenues fall short of expenditures.

Question 4 relates to the degree to which institutions are hierarchical or collegial during the budget preparation stage. It addresses the issue of the relative standing of the budget authority, typically the Treasury Minister, vis-a-vis the spending ministers in budgetary issues.¹⁰ Questions 5 and 6 reflect the relative power of the government and the legislature during the discussions of the budget. In question 5, we ask about constraints on the legislature regarding amendments to the government's proposed budget. More stringent constraints on the legislature (for example, if they cannot modify the size of the budget or its deficit) resulted in higher values for the index. Question 6 asks what happens if the budget is rejected or not passed by the legislature within the constitutionally established time frame. The weaker the relative position of the government in this issue, the greater the incentives to propose a larger budget, in order to ensure approval.

If the budget can be easily revised during the execution stage, the entire budgetary process becomes less meaningful. In question 7 we inquire whether the budget can be modified after approval by the legislature, and on whose initiative. We assigned the highest score in the case where it is not possible to modify it. Consistent with the case of questions 5 and 6, we rate those systems where the initiative to modify the budget falls on the government as more hierarchical than those where it may be modified at Congress' initiative. However, provided the government has the initiative, we assigned a larger score when legislature's approval is required.

Question 8 asks whether the government can cut spending after the budget is

central government.

¹⁰Since there is hardly any variation across countries in the answer to this question, we also tried to interact this answer with the average tenure of the Treasury Minister (results using this interaction are available in the NBER Working Paper version of the article, NBER WP No. 5586). Here, we do not take into account average tenure, on the grounds that this variable may be endogenous to the fiscal stance. Our results are qualitatively unchanged.

passed. Here there are conflicting arguments in favor of more government discretion in cutting the budget. Intuitively, it would seem that the possibility of cutting the budget will result in smaller deficits. However, it is also possible that the government will not have incentives to submit a small budget if they can cut it later at their discretion. And later on, it may be difficult to cut it even if this was intended from the beginning. In addition, the executed budget might not reflect the spending priorities implicit in the budget passed by the legislature. In this case, the budgetary process becomes less transparent, and less meaningful as a way to allocate scarce resources among competing spending programs. For these reasons, we assigned the highest score to those countries where the government can only cut the budget when revenues are lower than projected, rather than those who can cut without restrictions. A score of 0 was assigned to those countries in which the government cannot cut spending unilaterally under any circumstance.

The next two questions attempt to capture other important aspects related to transparency. In particular, they focus upon whether the control of the central government over its budget can be undermined by the behavior of other public agencies., through their borrowing procedures. Question 9 asks about the conditions for the central government to assume debt originally contracted by other agencies, and the frequency of this occurrence. Question 10 inquires about the borrowing autonomy of the state and local governments, and the public enterprises. The motivation for these questions is that, if various agencies can borrow without control, and the central government then assumes their liabilities, the budget document of the central government will not be a proper indicator of the state of the public finances and, in this sense, it will be less transparent.

The simplest way of constructing an index based upon the ten questions described above is to simply add all the scores. This is in fact what we do. The average value of the index for each country between 1980 and 1992 is reported in Figure 3. The average is necessary because some countries experienced changes in their budget procedures during the sample period.¹¹

¹¹ See the working paper version of this article for more details on the countries with changes in budget procedures within the sample. For a discussion of recent reforms of fiscal

Before proceeding, however, it is useful to check the robustness of our index to our procedure of simply adding components. This approach implies two assumptions: first, we give equal weight to all the answers. Second, we impose that all the different components of the index are perfect substitutes. In other words, this implies that having very hierarchical procedures in some aspects of the budgetary process, and very collegial procedures in others is the same, in terms of the overall index, as having “intermediate” procedures in all aspects of the budgetary process. In order to check robustness, we perform three experiments.

First, we construct different indices with different assumption about substitutability between components, by using the following formula:

$$I_j = \sum_{i=1}^{10} c_i^j$$

where the c_i are the values of the different components of the index. When $j=1$, we have our main index, where all the components are simply added to each other. For $0 < j < 1$, countries that show intermediate values in all categories will rank higher than those whose institutions are very hierarchical in some respects, and very collegial in others. The opposite will be true for the case of $j > 1$.¹² For our robustness checks, we chose .4 and 2 as alternative values of j .¹³ Table 1 reports the ranking of countries corresponding to the

institutions in Latin America see Stein, Talvi and Grisanti (1998).

¹² A simple example of two countries and two components will illustrate this point: Consider that for country A, $c_{1A}=10$ and $c_{2A}=0$; and for country B, $c_{1B}=5$ and $c_{2B}=5$. Then, for $j=1$, $I_A=I_B=10$. But if $j=0.5$, then $I_A=3.16$ while $I_B=4.47$. For $j=2$, $I_A=100$ while $I_B=50$.

¹³ The reason to choose these values of j is that we feel comfortable enough that the true model of how the different components interact falls within this range. At $j=3$, for example, a country that had a value of 5 in each of the components would have an index equal to a country that has 10 in one component, 5 in two others, and zero in the other seven. This value of j seems to give an unreasonable premium to high scores in a reduced number of components. In contrast, for $j=2$, a country with 5 in all components would be the same as one that has 10 in one, 5 in six others, and zeros in the other three components. This seems more reasonable. Similar considerations were used to define .4 as the other “reasonable limit” for j .

three different values of j . Note that countries are ranked according to their average indices between 1980 and 1992, rather than the current state of their budgetary institutions, which in some cases have been subject to reform in recent years.

The Spearman rank correlations between the first two indices is 0.964. That between the second and third column is 0.961, while the rank correlation between the “extremes” is 0.872. If instead of the ranks we use the values for the different indices, the correlations become slightly higher, reaching 0.884 between the “extreme” indices. Thus, the index is quite robust to these changes in its specification.¹⁴ For the rest of the paper, therefore, we utilize the index corresponding to $j = 1$.

A second approach to the problem of robustness is to divide the countries in three groups, according to their ranking. In the group with the highest rankings we included Jamaica, Mexico, Chile, Colombia, Panama, and Uruguay. As can be seen in Table 1, these countries have budgetary institutions that can be considered “hierarchical” regardless of the specification of the index. In the middle group are Paraguay, Costa Rica, Venezuela, Ecuador, Brazil, The Bahamas and Guatemala. Finally, Honduras, Trinidad and Tobago, Argentina, El Salvador, Dominican Republic, Bolivia and Peru form the group of countries which, on average, had “collegial” budgetary institutions. The groups were divided according to our main index ranking, while at the same time making sure that no country in the top group ranked badly under different specifications of the index, and no country in the bottom group ranked well under different specifications. Most of the countries whose ranking changed substantially under alternative indices fell in the middle group, partly due to their being very close together in terms of their main index value. As a result, the composition of these groupings is quite robust, and would only change marginally had we used one of the alternative indices as a criteria for the division. In addition to the regressions using our index, we will perform others using dummy variables

¹⁴Exceptions to this are Guatemala and Brazil. The ranking in these countries does change significantly depending on the specification of the index. In the cases of Brazil, because it has an unusually high number of components with “intermediate” scores. The exact opposite (many high scoring and many low scoring components) is true for the case of Guatemala.

based on these groupings. This approach has a couple of advantages over the index: it is less restrictive in terms of the implicit assumptions regarding weights and substitutability between components, and it makes it less likely that the empirical results will be driven by outliers.

Third, in section 5 below, we partially address the issue of equal weights, by grouping the components of the index into subindices, to check which of them seem to have a larger effect on the budget balance.

3. Do budget institutions matter for fiscal performance?

3.i Data and simple correlations

We analyze yearly data between 1980 and 1992 for a sample of 20 countries in Latin America and the Caribbean. The countries, which are listed in Figure 3, are those that answered our questionnaire. As the dependent variable, we use the ratio of the primary deficits of the central government over GDP.¹⁵ As a measure of fiscal performance, the primary deficit is superior to the total deficit. One reason for this is that some of the countries in the region have experienced episodes of very severe inflation over the period of our study, and this has greatly affected the size of their interest payments. Beyond the effects of inflation, the difference between primary and overall deficits is to a large extent predetermined by accumulated debt, and does not necessarily reflect the government's current fiscal stance.

The index described in the previous section varies substantially across countries, but has little time variation. For half of the countries in the region, the index is constant over time. In most of the other countries, it changes only once during our sample period and, with few exceptions (namely, Argentina and Peru) the changes are not substantial. For this reason in our estimations we treat the index as a cross-country variable. Our budget institutions variable (INDEX), therefore, is the mean of the country's index during

¹⁵ The reason to focus on the central government is that the availability of data on public sector deficits was limited for several countries. The sources and details of all the data used in this study are reported in the appendix.

the sample period. Alternatively, we use dummy variables for the group of countries with highest rankings (HIGH), and for those in the middle group (MID). The rest of the control variables used in our empirical analysis are listed in Table 2; a more detailed description is provided in the appendix.

Table 2

CATAS	Dummy variable for natural catastrophes and wars
GDPGR	Real GDP growth rate
HIGH	Dummy for countries which have a high average value of the index
INTL	Debt interest payments from the Central Government as a share of GDP
MID	Dummy for countries with an average value of the index in the middle range
OV65	Share of the population over 65 years old.
PED79	Stock of Public Sector External Debt as a share of GDP
PRCONG	Real Private Consumption growth rate
TRADE	Rate of change of Terms of Trade times the degree of openness
UND15	Share of the population under 15 years old.

Figure 4 shows a scatter diagram where our index of budgetary institutions appears on the horizontal axis, and the primary deficits on the vertical axis. For each country, both the index and the primary deficit are averages for the period 1980-1992. The picture shows a negative correlation between the index and the value of the primary

deficits. The regression coefficient for the index shown in the graph is statistically significant, and suggests that a country with an index value of 65 (fairly high) is expected to have average primary deficits which are nearly 3 percentage points of GDP lower than a country with an index of 45 (fairly low).

Similar results are found when we divide the countries into groups, according to their ranking. The average index for each of the groups, together with their average primary deficit are reported in table 3 below. Note that the difference in primary deficits between the HIGH and the MID groups is smaller than that between MID and LOW.

<u>Table 3</u>		
<u>Group</u>	<u>AVG Index</u>	<u>AVG Prim Def</u>
HIGH	70.00	-1.71%
MID	56.21	-0.64%
LOW	46.18	2.16%

We have also checked whether our results change when we restrict the sample to periods of democratic rule. Results are robust.¹⁶

4.ii Cross-country regressions:

Table 4 presents the results of the cross-country regressions.¹⁷ The dependent variable is the average primary deficit over the period 1980-92. In the odd numbered

¹⁶Results are available upon request and were included in the NBER working paper version of this paper.

¹⁷We used weighted least squares in order to correct for heteroskedasticity.

columns, the effects of the budget institutions are represented by the index. In the other ones, by the dummy variables MID and HIGH. In the first two columns, we included the following control variables: TRADE is the growth in the terms of trade interacted with the degree of openness of the economy. Since in some countries tax revenues are heavily linked to export activities and import tariffs, we expect growth in the terms of trade to be associated with smaller deficits, and these effects to be more important for the case of economies that are more open to international trade. OV65 and UND15 are the proportion of the population over 65 and under 15 years of age, respectively. These variables are expected to result in larger deficits due to higher social security and education expenditures, and to a lower proportion of tax payers. The remaining control variable is the initial external public debt (PED79). This variable accounts for the fact that highly indebted countries need to run primary surpluses in order to service their debts. Total public debt would have been preferable, but the data was not available for a number of countries.

All the coefficients in the first regression have the predicted sign but, among the control variables, only TRADE is significant at the 10 percent level. Both indicators of budgetary institutions (the index and the dummies) appear to have a significant effect on primary deficits, as expected. The value of the coefficient for HIGH may be interpreted as follows: on average, a country with budgetary institutions which contain important constraints on the deficit, are more hierarchical and more transparent can be expected to have primary deficits 2.9 percentage points lower than a country with few constraints, and collegial and less transparent budget procedures. In contrast, the difference between the top and middle countries seems to be rather small, and statistically insignificant. In the following columns we exclude the initial debt level (columns 3 and 4) and both the debt level and the age composition variables (columns 5 and 6). The significance of the budgetary institutions variables increases when these variables are excluded, and so does that of TRADE. The coefficients for the index and the group dummies are very robust to changes in the specification of the regression, and somewhat smaller compared to what

was reported in the scatter diagram in Figure 4.¹⁸

In the last two columns, we restrict the sample to include only years of democratic government. In this case the coefficient for the index is slightly smaller, although still significant. In contrast, the coefficients for the dummies HIGH and MID remain at the same levels as in the case where the sample is not restricted.

4.iv Two step regressions

A problem associated with the cross country regressions discussed above is that they do not exploit the variation along the time dimension and, therefore, do not use all available information for the estimation. An additional problem, given the small number of countries for which we have budget institutions data, is one of scarcity of degrees of freedom. Ideally, one would want to estimate the effects of budget institutions using panel data, exploiting the time variation as well as the cross-country variation, and at the same time allowing a significant gain in degrees of freedom. Unfortunately, our index of budget institutions has very little time variation, and for this reason, as mentioned above, is treated as a cross-country variable. This introduces problems since, under fixed effects estimation, it is not possible to disentangle the effect of our institutional variable from the individual country fixed effects.¹⁹ In order to deal with this problem, it is necessary to divide the estimation in two steps.

We proceed as follows: In the first step, we exclude the budget institutions variables (which are the only ones without time variation), and estimate the coefficients for the rest of the explanatory variables, which do vary over time, using a fixed effects regression for the primary deficit. In the second step, the estimated fixed effects from the first step are regressed on the budget institutions variable and an error term. As in the case

¹⁸ We performed regressions (5) and (6) excluding one country at a time as a check for robustness. In all cases, the coefficients for the index and the dummies remained significant.

¹⁹ A Hausman test rejected the null hypothesis of no correlation between the errors and the regressors, indicating that a random effects model would be inappropriate, as it would yield inconsistent estimators.

of the cross-section estimation, weighted least squares were used in the second step, to correct for heteroskedasticity. Compared to the cross-section estimation, this two step procedure has two advantages: it uses all available information in the estimation of explanatory variables with time variation, and it gains a few degrees of freedom, since the coefficients for the budget institutions variables are the only ones estimated in the second step.

In the first step we included several variables which control for economic determinants of primary deficits. As Table 5 shows, we include: a) a measure of wars and natural calamities (CATAS); b) a control for cyclical conditions, either the rate of growth of GDP (GDPGR) or the rate of growth of private consumption (PRCONG); c) two measures of the age structure of the population; UND15, the ratio of the population under the age of 15 over the total and OV65, the ratio of the population above 65 over the total; d) our measure of terms of trade interacted with openness (TRADE); e) a lagged measure of interest payments (INTL) and f) the lagged dependent variable. In addition we always included year dummies, which are not explicitly reported in the Table.

The first two variables, CATAS and GDPGR or PRCONG, are directly called for by the tax smoothing theory. The age structure is important because it captures the ratio of active, tax paying population relative to those who are not. Lagged interest payments are meant to capture the fact that countries which have accumulated a large interest burden are forced to run primary surpluses (or smaller primary deficits) to meet interest obligations. The lagged dependent variable captures persistence and the role of TRADE has been discussed above. The first step regressions look reasonable. All the coefficients have the expected sign, and many of them are significant. Also note that the coefficients on the time dummies (not reported) highlight the average reduction of average deficits in the sample period.

In the second step we use our two measures of budgetary institutions: the index itself, and the two dummies for the middle and high groups. The results are generally consistent with those of the cross-country regressions. The coefficients on INDEX always have the correct sign, although they are not always significant at conventional levels.

However the coefficient on the HIGH group is always significant at the 5 per cent level in all the specifications. On the other hand the coefficients on MED are always insignificant, indicating that the differences in budget outcomes are observable mostly by comparing the top and the bottom groups of countries.

These results on the INDEX are generally robust to a variety of sensitivity tests. For example, we dropped, in turn, CATAS and TRADE from the first step, and the results on the index or group dummies do not change very much. When the age structure variables are not included, the significance of the index improves notably, although the size of the coefficient is reduced. The results on the index are also virtually unchanged when we instrument GDPGR (or PRCONG). Finally, we also explored whether the results change when we restrict the sample to democracy years. Generally the results do not improve. As a matter of fact, the results on the index when restricted to democracy years become more sensitive to the specification. In particular, the result on the index seems to be affected by the cyclical variables included or excluded in the first step.

4. A disaggregation of the index.

Our aggregate index summarizes a fairly large amount of different institutional features. One may wonder which of them is more directly correlated with fiscal performance. In order to shed some light on this issue we considered various sub indices. It is not a priori obvious how to disaggregate the index. In what follows we create three sub-indices.²⁰ The first sub-index, (SUB1) is given by the answer to questions 1,2,3, 7 and 8. This is a sort of "borrowing constraint sub-index." In fact the first three questions ask about the existence of constitutional constraints on the deficit, the importance of a macroeconomic plan as a constraint to the budget process, and the existence of borrowing constraints on the Central Government. Questions 7 (can adjustments be made after the budget is passed?) and 8 (can the government cut spending unilaterally?) relate to whether the deficit constraints are binding ex-ante or ex-post.

²⁰In the NBER working paper version of this article we used a different disaggregation.

The second sub-index includes questions 4, 5 and 6, and can be identified as an "agenda-setting" index. On question 4 (the role of the Treasury Minister) there is virtually no variation across countries. Questions 5 and 6 capture the relative position of the Government vis a vis the legislature in the approval stage.

Finally we are left with questions 9 and 10. These questions are concerned with whether or not the budget of the Central Government can be subverted and "contaminated" by the borrowing practices of other public agencies. We interpret these questions as an indirect measure of transparency: the less the Central Government has control, and the more other agencies can influence the budget balance, the less meaningful is the central government budget plan.

Table 6 reports a cross country regression in which the three indices are entered separately. While all three indices have the expected negative sign only the first one reaches standard levels of significance. Thus, it appears that the "borrowing constraint" index has the most significant influence on deficit, while the effect of the other two components is less precisely estimated.

5. Final Remarks

Our evidence suggests that fiscal institutions are not just a "veil" but, on the contrary, influence fiscal outcomes. This result is consistent with evidence drawn from US states which shows that the stringency of balanced budget laws influences fiscal outcomes.²¹ In the case of Latin American countries balanced budget laws do not exist. However, as we argued above, some countries require that the budget be consistent with fiscal targets defined in the context of a macroeconomic program, approved prior to the budget. In other countries, debt ceilings approved prior to the budget balance restrict the size of the budget balance. Our results suggest that these forms of constraints may be a good substitute for balance budget laws, which may be sub optimal and overly restrictive

²¹See in particular Poterba (1994) and Bayoumi and Eichengreen (1995) amongst other and the survey by Alesina and Perotti (1997a) for additional references.

at the national level, although not necessarily at the sub national level.²² This result also relates to the literature on the order of voting, as in Ferejohn and Krehbiel (1987). These authors discuss whether the size of the budget depends on the order in which the total size and the composition of the budget are voted upon, reaching inconclusive results. Our evidence suggest that a voting procedure in which the level of deficits and in some cases the size of spending come first leads to more fiscal discipline than the alternative procedure in which the budget balance is determined at the same time or after the discussion on composition. More generally, the existence of various forms of borrowing constraints matter.

Voting procedures and agenda setting prerogatives may also matter, although the results of the subindex are in this case rather weak.²³ This is broadly consistent with a recent rich literature on the effect of voting procedures on fiscal outcomes, and in particular with Baron and Ferejohn (1989) and Baron (1989, 1991) amongst others. One important problem in linking our empirical results with this theoretical literature is that the latter is static. That is, it addresses the effect of different voting rules on the size and composition of spending, not on the intertemporal allocation of spending and taxation, i.e the path of budget deficits. An important area of further theoretical research is to broaden the scope of these procedural models in a dynamic setting.²⁴

Finally a word on transparency. While there are obvious difficulties associated with the measurement of transparency, and our empirical results on this issue are not strong, we remain convinced of the critical importance of this matter. From an empirical standpoint, one should improve on the measure of budget transparency, a problem not easily solvable for the very nature of the issue at hand. Despite these difficulties, several case studies

²²For more discussion of the optimality of balance budget laws in this context see Alesina and Perotti (1997a) and the references cited therein.

²³A different “agenda setting power” subindex which captured the relative power of the Executive and Congress during the approval and execution stages was used in the NBER working paper version, and turned out to be significant.

²⁴Velasco (1997) represents a recent effort in this direction.

point in the direction of transparency as a major source of procedural problems.²⁵ This is indeed an excellent topic for further research.

²⁵See for instance Alesina, Marè and Perotti (1996) on Italy and Tanzi (1995) on several other OECD countries.

References

- Alesina, A., R. Hausmann, R. Hommes and E. Stein (1996), "Budget Institutions and Fiscal Performance in Latin America," NBER Working Paper No. 5586, May.
- Alesina, A., M. Mare, and R. Perotti, (1996): "Le Procedure di Bilancio in Italia: Analisi e Pro-poste," unpublished.
- Alesina, A., and R. Perotti, (1995): "The Political Economy of Budget Deficits," IMF staff papers, March, 1-32.
- Alesina, A., and R. Perotti, (1997a): "Budget Deficits and Budget Institutions," unpublished.
- Alesina A. and R. Perotti (1997b) "Fiscal adjustments in OECD countries: Composition and macroeconomic effects" IMF Staff Papers
- Alt, J., and R. Lowry, (1994): "Divided Government and Budget Deficits: Evidence for the States," American Political Science Review.
- Baron, D. (1989): "A Non-cooperative Theory of Legislative Coalitions" American Journal of Political Science, 1048-84.
- Baron, D. (1991): "Majoritarian Incentives, Pork Barrel Programs and Procedural Control," American Journal of Political Science, 57-90, February.
- Baron, D., and J. Ferejohn, (1989): "Bargaining in Legislatures," American Science Review, 83: 1181-1206.

Bayoumi T. and B. Eichengreen (1995) "Restraining Yourself: The implications of fiscal rules for stabilizations," IMF Staff Papers, march 32-48.

Bohn, H., and R. Inman (1996), "Balanced Budget Rules and Public Deficits: Evidence from the U.S. States," Carnegie-Rochester Conference Series on Public Policy, 45, 13-76.

Eichengreen, B., (1992): "Should the Maastricht Treaty be Saved?," Princeton Studies in International Finance, No. 74, December

Eichengreen, B., R. Hausmann and J. Von Hagen (1996): "Reforming Fiscal Institutions in Latin America: The case for a National Fiscal Council," unpublished, IDB.

Ferejohn, J., and K. Krehbiel, (1987): "The Budget Process and the Size of the Budget," American Journal of Political Science, 31: 296-320.

Grilli, V., D. Masciandaro, and G. Tabellini, (1991): "Political and Monetary Institutions and Public Finance Policies in the Industrial Democracies," Economic Policy, No. 13.

Hsiao, CH., (1989): "Analysis of Panel Data" Cambridge University Press, Cambridge, UK.

Perotti R. and J. Kontopoulos (1997) "Fragmented Fiscal policy" unpublished

Poterba, J., (1994): "State Responses to Fiscal Crises: "Natural Experiments" for Studying the Effects of Budgetary Institutions." Journal of Political Economy, June.

Roubini, N., and J. Sachs, (1989): "Political and Economic Determinants of Budget Deficits in the Industrial Democracies," European Economic Review, 33: 903-933 (May).

Stein E., E. Talvi and A. Grisanti (1998) "Institutional Arrangements and Fiscal Performance: the Latin American Experience," NBER Working Paper No. 6358, January

Tanzi, V., (1995): "International Systems of Public Expenditure: Lessons for Italy," Working paper Bank of Italy.

Velasco, A., (1997): "A Model of Endogenous Fiscal Deficits and Delayed Fiscal Reforms" NBER Working Paper No. 6336, December.

Von Hagen, J., (1992): "Budgeting Procedures and Fiscal Performance in the European Community," unpublished.

Von Hagen, J., and I.J. Harden, (1994): "National Budget Process and Fiscal Performance" unpublished.

Table 1
Ranking of countries for different indices

	j = .4	j = 1	j = 2
Jamaica	2	1	2
Mexico	1	2	3
Chile	4	3	1
Colombia	3	4	4
Panama	5	5	5
Uruguay	6	6	6
Paraguay	8	7	7
Costa Rica	9	8	8
Venezuela	10	9	11
Ecuador	12	10	9
Brazil	7	11	15
Bahamas	11	12	12
Guatemala	16	13	10
Honduras	13	14	16
Trinidad & Tobago	15	15	14
Argentina	17	16	13
El Salvador	14	17	18
Dominican Republic	18	18	17
Bolivia	19	19	19
Peru	20	20	20

$$I_j = \sum_{i=1}^{10} c_i^j$$

Table 4
Cross-Country Regressions

Dependent variable: Primary Deficits

	(1)	(2)	(3)	(4)	(5)	(6)	(7) Democracy	(8) Democracy
TRADE	-0.0068 (-1.92)	-0.0069 (-2.01)	-0.0042 (-1.59)	-0.0048 (-1.93)	-0.0049 (-1.90)	-0.0053 (-2.28)	-0.0030 (-1.23)	-0.0036 (-1.71)
PED79	-0.021 (-0.87)	-0.023 (-0.96)						
UND15	0.0016 (0.79)	0.0019 (0.68)	0.0024 (1.39)	0.0019 (1.13)				
OV65	0.0043 (0.98)	0.0032 (0.74)	0.0060 (1.49)	0.0047 (1.16)				
INDEX	-0.0011 (-2.46)		-0.0012 (-2.68)		-0.0012 (-2.79)		-0.0010 (-2.28)	
MID		-0.025 (-2.40)		-0.025 (-2.53)		-0.028 (-2.99)		-0.027 (-2.89)
HIGH		-0.029 (-2.46)		-0.032 (-2.92)		-0.032 (-3.23)		-0.031 (-3.16)
Adj. R ²	0.38	0.44	0.39	0.44	0.44	0.46	0.22	0.39
N	19	19	20	20	20	20	20	20

t-statistics are in parentheses.

Columns (7) and (8) include democratic years only.

Table 5
Two Step Regression

Dependent Variable: Primary Deficit

	(1)	(2)	(3)
TRADE _{it}	-0.00061 (-2.27)	-0.00061 (-2.29)	-0.00062 (-2.25)
CATAS _{it}	0.0090 (1.20)	0.0060 (0.79)	0.0090 (1.18)
GDPGR _{it}		-0.088 (-1.95)	
PRCONG _{it}			-0.0177 (-0.651)
INTL _{it}	-0.2195 (-2.55)	-0.241 (-2.79)	-0.220 (-2.49)
UND15 _{it}	0.0026 (0.94)	0.0033 (1.19)	0.00273 (0.95)
OV65 _{it}	0.0224 (1.29)	0.027 (1.56)	0.0258 (1.47)
PRDEFL _{it}	0.4036 (6.19)	0.379 (5.76)	0.397 (5.87)
Adj. R ²	0.53	0.54	0.53
N	159	159	144

INDEX _i	-0.00145 (-1.81)		-0.0015 (-1.61)		-0.00199 (-2.24)	
MED _i		-0.000175 (-0.009)		0.00345 (0.15)		-0.0096 (-0.48)
HIGH _i		-0.0422 (-2.19)		-0.0462 (-1.98)		-0.0591 (-2.81)
Adj. R ²	0.35	0.41	0.34	0.40	0.39	0.50
N	20	20	20	20	19	19

t-statistics are in parentheses.

Table 6
Sub-index Regressions

Dependent Variable: Primary Deficit

	(1)	(2)
TRADE	-0.00347 (-1.72)	---
SUB1	-0.0011 (-1.84)	-0.0011 (-1.82)
SUB2	-0.0012 (-0.96)	-0.00095 (-0.74)
SUB3	-0.0016 (-0.68)	-0.0025 (-1.01)
Adj. R ²	0.33	0.33
N	20	20

t-statistics are in parentheses.

Figure 1

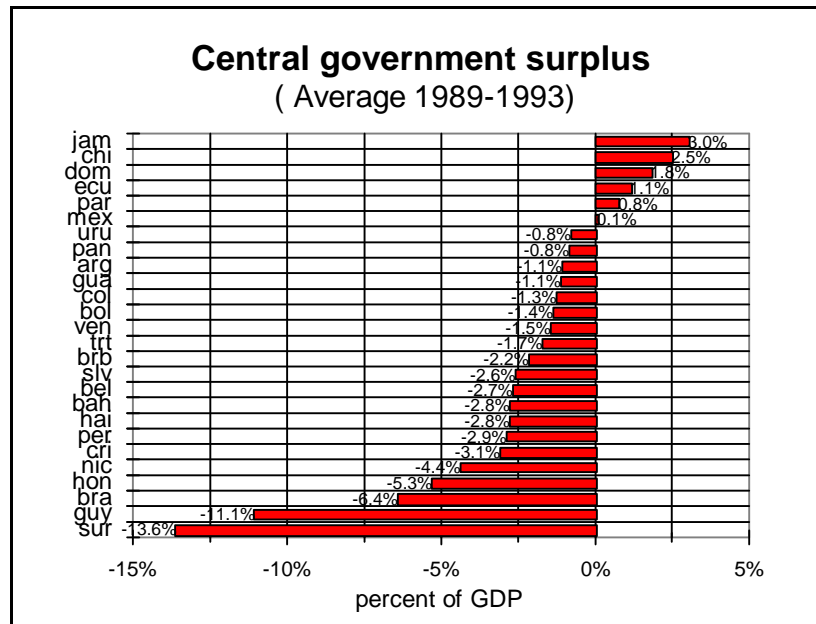


Figure 2

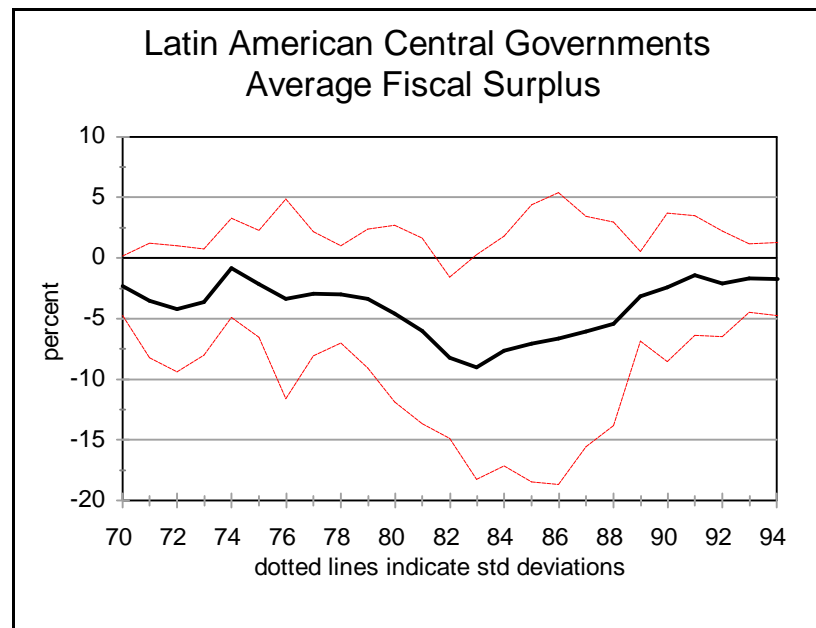


Figure 3

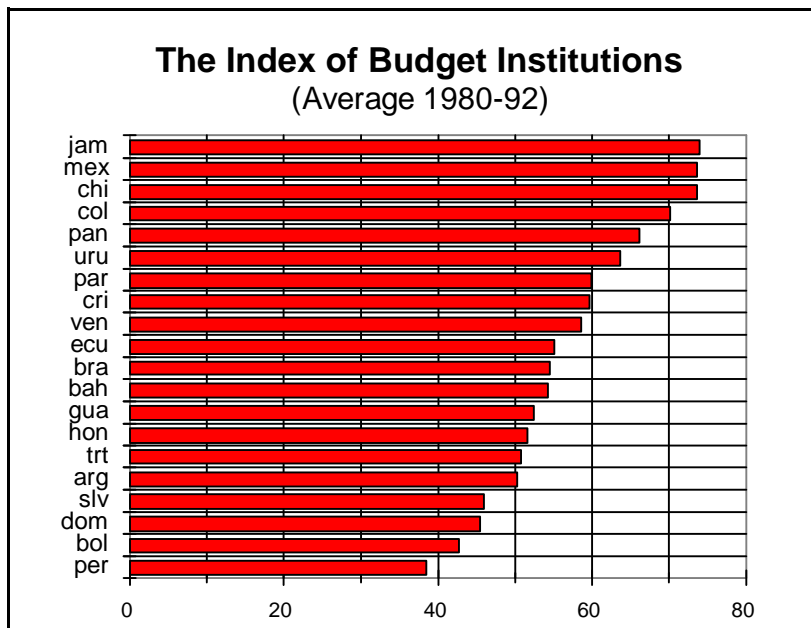
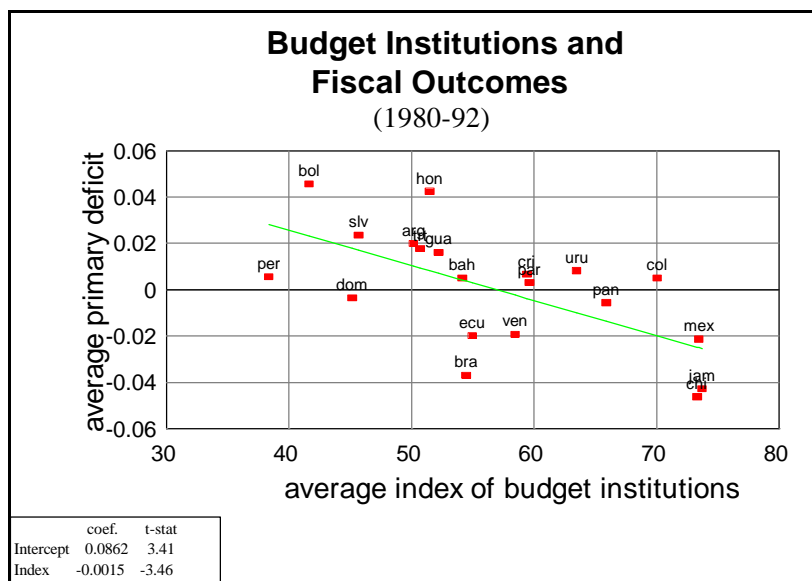


Figure 4



APPENDIX A: THE DATA SET

CATAS This is a dummy variable which measures natural catastrophes (major earthquakes, hurricanes, etc) and wars; it takes value 1 for catastrophes' years, and 0 otherwise.

Sources: Direct survey to the IADB country economists for the countries studied.

The World Almanac and Book of Facts, Ed. Robert Famighetti.

Funk&Wagnalls Corporation, St.Martin Press, New York, 1995

DICT Dummy for dictatorship, it takes value 1 in years when the government regime was a dictatorship, and value 0, otherwise

Dictatorships are defined as those governments which were not elected into office.

Source: The Statesman's Year-Book. Ed.Brian Hunter.

St.Martin Press, New York, 1993

GDPGR Real GDP growth rate, this variable was constructed as rate of growth of real GDP

Source : Economic and Social Database(ESDB), IADB

HIGH Dummy for countries which have a high average value of the index

Source: Own calculations

INTL Total debt interest payments from the Central Government as a share of GDP

Source: Economic and Social Database(ESDB), IADB

MID Dummy for countries which have an average value of the index in the middle range.

Source: Own calculations

OV65 Share of the population over 65 years old.

Actual data points for this variable were available every five years; for 1995, there were three estimates available, low,

medium and high variant, the medium variant was the one used.

The yearly series was constructed by linear interpolation among every two data points.

Source: The Sex and Age Distribution of the World Populations,

The 1994 Revision, United Nations

PED79 Stock of Public External Debt, in US\$, as a share of GDP, in US\$.

It was not available for Bahamas

Source: World Debt Tables, World Bank 1995

PRDEF Primary Deficit of the Central Government as a share of GDP (a positive value represents a deficit, a negative value represents a surplus)

Source: Economic and Social Database(ESDB), IADB

PRCONG Real Private Consumption growth rate, this variable was constructed as

rate of growth of private real consumption, in local currency

It was not available for Argentina

Source : World Tables 1993-1994, World Bank, 1994

TRADE This variable was constructed as the product of the growth in the terms of trade times the degree of openness of the economy, defined as the sum of exports and imports of goods and services, in local currency, as a share of GDP, in local currency.

Source: World Tables 1993-1994, World Bank, 1994

UND15 Share of the population under 15 years old.

Actual data points for this variable were available every five

years; for 1995, there were three estimates available, low, medium and high variant, the medium variant was the one used.

The yearly series was constructed by linear interpolation among every two data points.

Source: The Sex and Age Distribution of the World Populations, The 1994 Revision, United Nations, 1994

APPENDIX B: The construction of the index of budget institutions

In order to study the incidence of budgetary institutions on fiscal outcomes, one needs a measure of the institutions of different countries according to the hierarchical/transparent-collegial/untransparent criteria sketched above. For this purpose, we created an index with several components which refer to all the stages of the budget preparation, approval and implementation.

The data for the construction of the index was collected through two questionnaires that were answered by the budget directors of 20 Latin American and Caribbean countries.²⁶ In the first questionnaire we obtained detailed information about the budgetary processes as they are today, while through the second one we learned about their evolution, as described by the changes in a set of ten characteristics that cover the different stages of the budgetary process. It is on the basis of these ten characteristics that we built our index. The information about the evolution of the institutions over time was necessary because a few countries have experienced reforms of their budgetary institutions during our sample period.

For each of the questions in the second questionnaire, countries were given a multiple choice of answers to describe the present situation, and were asked to report the years in which changes in the rules had occurred, as well as the nature of such changes. In each question, for each year, countries were assigned a score between 0 and 10 according to their answers, 10 for the case of the answer that we considered was the most “hierarchical”, and 0 for the one most “collegial”. In some cases, their answers to particular questions were complemented with more descriptive information contained in the first questionnaire. For the case of answers that ranged in the middle of these extremes, we assigned intermediate scores according to the number of possible answers. For example, if a question admitted three answers the possible scores were 0, 5 and 10. If there were 4 possible answers, the scores were 0, 3.33, 6.66 and 10.

In choosing the ten components of the index we followed two criteria. First, we wanted to capture as many as possible of the features discussed in Section 2, which characterize budget institutions on the hierarchical-collegial dimension. Second, we restricted ourselves to questions which received usable answers from all the countries. In some cases, we also checked the answers by comparing them to the available original written legislation. The advantage of using questionnaires rather than only the written legislation is twofold. First, answers to questionnaires allow for an evaluation of “practices” above and beyond the letter of the law. Second, the amount of information collected through the questionnaires is much larger than it would have been possible to obtain independently.

We now briefly illustrate each question. The first three relate to constraints on the budget deficit. Question 1 asks about the existence of constitutional constraints on the fiscal deficit, such as balanced budget rules. None of the countries has a balanced budget rule, which would have resulted in 10 points, nor do they have constraints such as the ones that exist for the European Union countries, reflected in the Maastricht criteria. 5 points were assigned to countries that the budget document must identify the sources of financing of the deficit, while zero points were given to those countries that responded that there are no constitutional constraints on the deficit. Table A1 shows the information and the scores regarding question 1 on a country by country basis.

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

²⁶ The questionnaires are available upon request.

macroeconomic program clearly identifies limits on the size of the budget and its balance compatible with the achievement of other economic goals. Question 2 inquires about the existence and importance of such macroeconomic program requirement. We assigned 10 points for those countries that reported that the macro program plays an important role as a prerequisite for the submission of the budget to Congress, 5 points for “some importance”, and 0 for “not important or not required”. Information by country and scores are presented in table A2.

Question 3 asks about the degree of borrowing autonomy by the government, and the extent to which it is subject to borrowing constraints. Von Hagen and Harden (1994), and Eichengreen, Hausmann and Von Hagen (1996) have suggested the creation of independent agencies in charge of setting borrowing ceilings on the central government. None of the Latin American countries have this institutional arrangement. The highest scores (10) were given to countries where Congress sets a ceiling on what the government may borrow, as this was considered more restrictive than having the government setting a constraint upon itself (6.66 points were assigned in this case). In fact, having Congress setting the debt ceiling before the budget is approved is equivalent to discussing the size of the budget first, and its composition later. Having each borrowing operation approved by Congress may have disruptive effects, since it may lead to recurrent bargaining between government and Congress on other budget issues, shifting the balance of power from the Executive to Congress. This view, based on the experience in government of two of the authors of this study, led us to assign countries where this arrangement is in place 3.33 points. In cases where case by case approval is combined with an overall ceiling by Congress, we averaged both scores, assigning those countries 6.66 points. The lowest scores (0) were given to countries in which the government can borrow without constraints, whenever revenues fall short of expenditures. Information by country and scores are presented in table A3.

Question 4 relates to the degree to which institutions are hierarchical or collegial during the budget preparation stage. It addresses the issue of the relative standing of the budget authority, typically the Treasury Minister, vis-a-vis the spending ministers in budgetary issues. While in a previous version of the paper we interacted this variable with one that captured the average tenure of a Treasury Minister in office, here we ignore this last consideration, on the grounds that tenure is endogenous to fiscal performance. There is little variability in the region with regards to this question. In most countries, the Treasury Minister does have a considerably higher standing than spending ministers on budgetary issues. We assigned 10 points to these countries. Five points were assigned to those where the Treasury Minister has a somewhat higher standing, and 0 for the case where they are on equal footing with the spending ministers. Information by country and scores are presented in table A4

Questions 5 and 6 reflect the relative power of the government and the legislature during the discussions of the budget. In question 5, we ask about constraints on the legislature regarding amendments to the government’s proposed budget. Those countries where amendments cannot increase the size of the budget, or its size and the deficit, were given 10 points. If the legislature cannot increase spending or the deficit over the amount proposed by the government autonomously, but they can do it with government’s approval, we assigned 7.5 points, since in this case changes in the budget could be subject to negotiations, where the legislature could agree to pass other legislation proposed by the government in exchange for increases in the budget. In table A5, which contains information and scores country by country, this case is represented by marking the third and fourth column, indicating that the legislature cannot increase deficits or spending unless government approves. We assigned 5 points for the case where the legislature can only propose changes that may not increase the deficit. This constraint leaves a loophole for the legislature to amend the budget increasing the expenditure level, and at the same time pass legislation creating new revenues (more or less “real”), which might then fall short of expectations, resulting in the end in larger deficits. Zero

points were assigned in the case of no constraints. Table A5 contains information and scores country by country.

Question 6 asks what happens if the budget is rejected or not passed by the legislature within the constitutionally established time frame. Even in countries where the budget has always been approved on time, different rules in the event of rejection may result in different outcomes of the budgetary process. The weaker the relative position of the government in this issue, the greater the incentives to propose a larger budget, in order to insure approval. An extreme “hierarchical” case, which applies to several countries in the region, is the one in which the budget proposed by the government is executed, even if Congress rejects it or fails to approve it (10 points were assigned to these countries). A number of countries have different rules for rejection or lack of approval. In most of these cases, lack of approval in time results in the proposed budget being enacted, while rejection results in the previous year budget being adopted. We assigned 8 points for this case. We considered the case where the previous year budget is adopted more favorable to the government than the case in which a new budget has to be presented to Congress, as long as the government can redistribute spending between items (we assigned six points for this case, but only 2 when the government does not have the possibility of reallocating expenditures). In the cases where a new budget has to be presented, a greater degree of discretion for the government in terms of reallocating expenditures until the new budget is approved is given higher marks (4 points) than the case where there is no reallocation (2 points) or the case where Congress reallocates expenditures (0 points).

In The Bahamas, as is the case in many parliamentary systems, the government has to resign in case the budget is rejected. In terms of the balance of power between Congress and the government, this drastic possibility could go either way. One could argue that, since rejection is very costly for the country, the legislature will have incentives to always agree on a budget. On the other hand, this institutional arrangement may induce the government to propose a budget that is more palatable to Congress. Thus we assigned an intermediate score (5 points) for this case. In Mexico, no funds may be expended if the budget is rejected. Given that the government moves first in this game, we believe that this arrangement tilts the balance of power in their favor, so we assigned Mexico 8 points (see table A6 for information by country).

If the budget can be easily revised during the execution stage, the entire budgetary process becomes less meaningful and less transparent. In fact, even the most stringent “ex ante” constraints, such as requirements that the executive elevate a balanced budget to Congress, or that Congress approve a balance budget, would become weak constraints if it is easy to expand the budget during the year. In question 7 we inquire whether the budget can be modified after approval by the legislature, and on whose initiative. We assigned the best score in the case where it is not possible to modify it (10 points). Consistent with the case of questions 5 and 6, we rate those systems where the initiative to modify the budget falls on the government as more hierarchical than those where it may be modified at Congress’ initiative (we assigned 0 points in this last case). However, provided the government has the initiative, we assigned a larger score (7.5) for the case where the government requires the legislature’s approval. When the government can modify the budget autonomously, we distinguished those systems where they may do so up to a limit of 10 percent (5 points) and those where the limits are less stringent or do not exist (2.5 points). See table A7

Question 8 asks whether the government can cut spending after the budget is passed. Here there are conflicting arguments regarding government discretion in cutting the budget. Intuitively, it would seem that the possibility of cutting the budget will result in smaller deficits. However, it is also possible that the government will not have incentives to submit a small budget if they can cut it later at their discretion. And later on, it may be difficult to cut it even if this was intended from the beginning. In addition, the executed budget might not reflect the spending priorities implicit in the budget passed by the legislature. In this case, the budgetary process becomes less transparent, and

less meaningful as a way to allocate scarce resources among competing spending programs. For these reasons, we assigned the highest score to those countries where the government can only cut the budget when revenues are lower than projected, rather than those who can cut without restrictions (6.66 points). A score of 0 was assigned to those countries in which the government cannot cut spending unilaterally under any circumstance (see table A8)

The next two questions attempt to capture other important aspects which are to some extent related to transparency. In particular, they focus upon whether the budget of the central government is truly meaningful, or whether other public agencies, through their borrowing procedures, can undermine the degree of control that the central government has over its budget. Question 9 asks about the conditions for the central government to assume debt originally contracted by other agencies, and the frequency of this occurrence. The ideal case in terms of budget control is one in which the Central Government never assumes debt contracted by other agencies, but none of the countries had this type of arrangement, which would have been assigned a score of 10. The next best case is one in which the government only assumes the guaranteed debt, and this occurs only on an occasional basis (6.66 points). Frequent cases of assuming only guaranteed debt was considered as problematic as occasional assumptions of debt, including that which was not guaranteed (3.33 points). A score of zero was given to those countries where the Central Government frequently assumes even the non-guaranteed debt. In our first questionnaire, we asked what percentage of the current Central Government debt was originally contracted by other public agencies. We used the response to this question to complement the one about the frequency of debt assumption: the response “occasionally” was changed to “frequently” for those countries that reported that a large portion of the current debt of the Central government was originally contracted by other agencies. Mexico reported that the central government has assumed debt originally contracted by other public agencies only exceptionally, and that in such cases the agencies which could not repay their debts were subject to severe restructuring or liquidation. We assigned this country 7.5 points (see table A9 for information and scores by country).

Question 10 inquires about the borrowing autonomy of the state and local governments, and the public enterprises. The highest marks were assigned to those countries where these agencies cannot borrow autonomously (10 points). In the case of the local governments, the requirement of approval by the local legislature (2.5 points) was not considered to add much discipline to the budgetary process compared to the case where there are no restrictions to borrowing, which is the case that can lead to more fiscal surprises, and to which we assigned a score of 0. We assume that control by the central government adds more discipline (7.5 points) than control by Congress (5 points), since in a way the interests of the legislators are aligned with those of the districts that elect them. In contrast, in the case of public enterprises, approval by Congress was considered equivalent to approval by the central government (5 points). The total score for this question is the average of the partial scores for state and local governments, and public enterprises, respectively.

The simplest way of constructing an index based upon the ten question described above is to simply add all the scores. This is in fact what we do. The average value of the index for each country between 1980 and 1992 is reported in table A11, and in Figure 3 of the main text. The average is necessary because, as is clear from the preceding tables, some countries experienced changes in their budget procedures during the sample period.

Table A1

Question 1: What constitutional constraints are there on the fiscal deficit?

	No restrictions	Budget should include proper financing for deficit	Deficits are not allowed	Score
Argentina		X		5
Bahamas	X			0
Bolivia	X			0
Brazil		X		5
Chile		X		5
Colombia		X		5
Costa Rica		X		5
Dominican Republic		X		5
Ecuador		X		5
El Salvador		X		5
Guatemala	X			0
Honduras		X		5
Jamaica		X		5
Mexico		X		5
Panama		X		5
Paraguay		X		5
Peru		X		5
Trinidad and Tobago	X			0
Uruguay		X		5
Venezuela		X		5

Table A2

Question 2: Is there a legal requirement for the approval of a macro program to precede the presentation of the budget to Congress? How important is this requirement in practice?

	Very important	Relatively important	Not important or not required	Score (Ave. 90-92)
Argentina	1993	1980-92		5
Bahamas			X	0
Bolivia	1985-86 and 1993	1980-84 and 1987-92		5.77
Brazil	X			10
Chile			X	0
Colombia	1990-93	1980-89		6.15
Costa Rica	1988-91	1980-87 and 1992-93		6.53
Dominican Republic			X	0
Ecuador		X		5
El Salvador		1993	1980-92	0
Guatemala	X			10
Honduras			X	0
Jamaica	X			10
Mexico	1984-93	1980-83		8.46
Panama		X		5
Paraguay	X			10
Peru	1991-93		1980-90	1.54
Trinidad and Tobago	1993	1980-92		5
Uruguay			X	0
Venezuela		X		5

An X indicates that the response is valid for the whole period surveyed (1980-1993).

Table A3

Question 3: What kind of borrowing constraints are there on the government?

	No constraints: Govt. borrows if shortfall	Ceiling set by the government	Ceiling set by Congress	Congress approves each borrowing operation	Score (Ave. 90-92)
Argentina	1980-92		1993	1993	0
Bahamas			X	X	6.66
Bolivia				X	3.33
Brazil			X	X	6.66
Chile			X		10
Colombia			X		10
Costa Rica			X	X	6.66
Dominican Republic				X	3.33
Ecuador	X				0
El Salvador				X	3.33
Guatemala			X	X	6.66
Honduras				X	3.33
Jamaica		X			6.66
Mexico			X		10
Panama			X		10
Paraguay				X	3.33
Peru			X		10
Trinidad and Tobago			X		10
Uruguay			X	X	6.66
Venezuela			1993	1980-92	3.33

An X indicates that the response is valid for the whole period surveyed (1980-1993).

Table A4

Question 4: Is the authority of the Minister of Finance greater than that of the spending ministers on budgetary issues?

	Yes, considerably greater	Somewhat greater	No	Score (Ave. 90-92)
Argentina	X			10
Bahamas	X			10
Bolivia	X			10
Brazil		X		5
Chile	X			10
Colombia	X			10
Costa Rica	X			10
Dominican Republic			X	0
Ecuador	X			10
El Salvador	X			10
Guatemala	X			10
Honduras	X			10
Jamaica	X			10
Mexico	X			10
Panama	X			10
Paraguay	X			10
Peru	1991-93		1980-90	1.54
Trinidad and Tobago	X			10
Uruguay	X			10
Venezuela	X			10

An X indicates that the response is valid for the whole period surveyed (1980-1993).

Table A5

Question 5: Restrictions on the content of amendments to the budget by Congress: Congress can only pass amendments...

	That do not increase the deficit	That do not increase spending	That do not increase deficit or spending	With government approval	No restrictions	Score (Ave. 90-92)
Argentina	93				80-92	0
Bahamas			X	X		7.5
Bolivia					X	0
Brazil			X	X		7.5
Chile			X	X		7.5
Colombia			X	X		7.5
Costa Rica					X	0
Dominican Republic			X			10
Ecuador			X	X		7.5
El Salvador			X			10
Guatemala					X	0
Honduras					X	0
Jamaica ¹			X ¹			5
Mexico	X					5
Panama			X	X		7.5
Paraguay					X	0
Peru			1991-93		1980-90	1.54
Trinidad and Tobago					X	0
Uruguay			X	X		7.5
Venezuela		X		X		7.5

An X indicates that the response is valid for the whole period surveyed (1980-1993).

¹ In Jamaica, the government sends the budget bill to a budget pre-committee, which can modify the proposed budget. Once the budget pre-committee sends it for approval to parliament, the size and deficit cannot be modified. We assigned 5 points to Jamaica for this arrangement.

Table A6

Question 6: What happens if Congress rejects the budget, or does not approve it within the constitutionally set time frame?

	The previous year's budget is enacted	The budget proposed by government is enacted	The government submits a new budget	No funds may be expended	The government resigns	Score (Ave. 90-92)
Argentina	X (govt. redist.)					6
Bahamas					X	5
Bolivia ¹		if not approved	if rejected			6
Brazil			X (by 12ths)			2
Chile		X				10
Colombia	if rejected (govt. redist.)	if not approved				8
Costa Rica		X				10
Dominican Republic	X (govt. redist.)					6
Ecuador	decentralized agencies	central government				10
El Salvador			X (by 12ths)			2
Guatemala	X (govt. redist.)					6
Honduras			X (govt. redist.)			4
Jamaica		X				10
Mexico ²				X		8
Panama	if rejected (govt. redist.)	if not approved				8
Paraguay	if rejected (govt. redist.)	if not approved				8
Peru		X				10
Trinidad and Tobago	X (by 12ths)					2
Uruguay	X (govt. redist.)					6
Venezuela	X (govt. redist.)					6

An X indicates that the response is valid for the whole period surveyed (1980-1993).

Table A7

Question 7: Can the budget be modified after Congress approval?

	On government's initiative with congressional approval	On government's initiative <u>without</u> congressional approval	On Congress' initiative	No	Score (Ave. 90-92)
Argentina	X				7.5
Bahamas	X				7.5
Bolivia	X		X		0
Brazil		X (up to 20%)			2.5
Chile	X				7.5
Colombia	1990-93	1980-89			3.65
Costa Rica	X				7.5
Dominican Republic	X				7.5
Ecuador	X (up to 10%)	X (up to 5%)			5
El Salvador	X				7.5
Guatemala	X		X		0
Honduras	X				7.5
Jamaica	X				7.5
Mexico		X (for specific items ¹)			5
Panama	X				7.5
Paraguay		X (up to 5%)			5
Peru		X			2.5
Trinidad and Tobago	X				7.5
Uruguay				X	10
Venezuela	X				7.5

An X indicates that the response is valid for the whole period surveyed (1980-1993).

¹ In Mexico, increases in the budget can be done without Congress approval in the case of interest payments and revenue sharing with subnational governments. In this last case, transfers are a predetermined portion of some revenue sources, so if revenues increase, so will transfers. In addition, expenditures in a few priority items can be increased provided revenues are higher than budgeted. We assigned a score of 5 to Mexico, since the government is limited in terms of the items in which it may increase expenditures unilaterally, and they can only do it if revenues are higher than projected.

Table A8

Question 8: Is the government legally empowered to cut spending after the budget has been approved?

	At government's discretion on any item	At government's discretion for non-earmarked expenditures	Only when revenues are lower than projected	No	Score (Ave. 90-92)
Argentina			X		10
Bahamas	X				6.66
Bolivia			X		10
Brazil			X		10
Chile		X			6.66
Colombia			X		10
Costa Rica		X			6.66
Dominican Republic			X		10
Ecuador			X		10
El Salvador	1989-93			1980-88	2.05
Guatemala			X		10
Honduras			X		10
Jamaica			X		10
Mexico			X		10
Panama				X	0
Paraguay	X				6.66
Peru				X	0
Trinidad and Tobago	X				6.66
Uruguay		X			6.66
Venezuela	X				6.66

An X indicates that the response is valid for the whole period surveyed (1980-1993).

Table A9

Question 9: Does the central government typically assume debt originally contracted by other public agencies? Under what circumstances?

	Frequently	Occasionally	Exceptionally	Only on guaranteed debt	Including non-guaranteed debt	Score (Ave. 90-92)
Argentina		X		X		6.66
Bahamas		X			X	3.33
Bolivia		X			X ¹	3.33
Brazil	X			X		3.33
Chile		X		X		6.66
Colombia	X			X		3.33
Costa Rica	X			X		3.33
Dominican Republic	X			X		3.33
Ecuador	X				X	0
El Salvador	X			X		3.33
Guatemala	X			X		3.33
Honduras		X		X		6.66
Jamaica		X			X	3.33
Mexico			X	X		7.5
Panama		X		X		6.66
Paraguay		X		X		6.66
Peru	X				X	0
Trinidad and Tobago		X			X	3.33
Uruguay		X		X		6.66
Venezuela	X				X	0

An X indicates that the response is valid for the whole period surveyed (1980-1993).

¹ The survey response for Bolivia indicated that only the guaranteed debt is assumed by the central government, but that during the structural adjustment program of 1985 and 1986, they also assumed non-guaranteed debt. Rather than assigning different scores for different periods, we marked Bolivia in the “including non-guaranteed debt” column, since we believe the important issue of this question is whether there is a history of assuming non-guaranteed debt, or a perception that there are implicit guarantees

Table A10

Question 10: Can these agencies borrow autonomously?

	State and local governments					Public enterprises				Score (Ave. 90-92)
	With local legislative approval	With central gov't approval	With Congress approval	Yes, without restrictions	No	With central government approval	With Congress approval	Yes, without restrictions	No	
Argentina				X		1993		1980-92		0
Bahamas					X		X			7.5
Bolivia ¹	X domestic		X external				X			4
Brazil		1993		1980-92		X				2.5
Chile					X				X	10
Colombia		X				X				6.25
Costa Rica	X					X				3.75
Dominican Republic				X				X		0
Ecuador				X		X				2.5
El Salvador				X			X			2.5
Guatemala		X				X				6.25
Honduras			X				X			5
Jamaica		X				X				6.25
Mexico ¹	X domestic				X ext.	X				4.5
Panama		X				X				6.25
Paraguay			X				X			5
Peru		X				X				6.25
Trinidad & Tobago		X				X				6.25
Uruguay			X			X				5
Venezuela					X	X				7.5

An X indicates that the response is valid for the whole period surveyed (1980-1993).

¹In Bolivia and Mexico, where borrowing rules for state and local government are different for external and domestic debt, the score is a weighted average, where 80% of the weight is given to domestic debt, as the access of subnational governments to external debt is usually quite limited even in the absence of borrowing rules.

Table A11
Index of budget institutions, 1980-92:

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Total Index
Argentina	5	5	0	10	0	6	7.5	10	6.66	0	50.16
Bahamas	0	0	6.66	10	7.5	5	7.5	6.66	3.33	7.5	54.15
Bolivia	0	5.77	3.33	10	0	6	0	10	3.33	4	42.43
Brazil	5	10	6.66	5	7.5	2	2.5	10	3.33	2.5	54.49
Chile	5	0	10	10	7.5	10	7.5	6.66	6.66	10	73.32
Colombia	5	6.15	10	10	7.5	8	3.65	10	3.33	6.25	69.88
Costa Rica	5	6.53	6.66	10	0	10	7.5	6.66	3.33	3.75	59.44
Dominican Republic	5	0	3.33	0	10	6	7.5	10	3.33	0	45.16
Ecuador	5	5	0	10	7.5	10	5	10	0	2.5	55.00
El Salvador	5	0	3.33	10	10	2	7.5	2.05	3.33	2.5	45.71
Guatemala	0	10	6.66	10	0	6	0	10	3.33	6.25	52.24
Honduras	5	0	3.33	10	0	4	7.5	10	6.66	5	51.49
Jamaica	5	10	6.66	10	5	10	7.5	10	3.33	6.25	73.74
Mexico	5	8.46	10	10	5	8	5	10	7.5	4.5	73.46
Panama	5	5	10	10	7.5	8	7.5	0	6.66	6.25	65.91
Paraguay	5	10	3.33	10	0	8	5	6.66	6.66	5	59.65
Peru	5	1.54	10	1.54	1.54	10	2.5	0	0	6.25	38.37
Trinidad & Tobago	0	5	10	10	0	2	7.5	6.66	3.33	6.25	50.74
Uruguay	5	0	6.66	10	7.5	6	10	6.66	6.66	5	63.48
Venezuela	5	5	3.33	10	7.5	6	7.5	6.66	0	7.5	58.49

THE INDEX, ITS COMPONENTS AND SUBINDICES

INDEX Index of budgetary institutions. Sum of variables v1 through v10

- V1 Constitutional constraints on the fiscal deficit
- V2 Macroeconomic program as a prerequisite for submission to congress
- V3 Government borrowing autonomy
- V4 Authority of Minister of Finance relative to spending ministers in budgetary matters.
- V5 Legal constraints on congress' authority to amend the gvt's proposed budget
- V6 Options available to the government when its proposed budget is rejected or not passed by congress
- V7 Flexibility to change budget after approval
- V8 Govt's ability to cut spending unilaterally after passage of the budget by congress

- V9 Does the govt. assume debt originally incurred by other public entities?
- V10 Borrowing autonomy of state and local governments, and of public enterprises.
-
- SUB1 Subindex 1. Constructed as the sum of variables v1, v2, v3, v7 and v8
- SUB2 Subindex 2. Constructed as the sum of variables v4, v5 and v6.
- SUB3 Subindex 3. Constructed as the sum of variables, v9 and v10

Source: OCE's survey to the Budget Directors of the different countries and OCE's calculations