

APPENDIX A

CONSTRUCTION OF INDICES

INDEX OF BUDGET INSTITUTIONS

The Index of Budget Institutions (IBI) is based on a survey conducted at the IDB by Alesina, Hausmann, Hommes and Stein (1996). Budget directors in 20 countries in Latin America and the Caribbean responded to the survey, which provided information about current arrangements regarding the drafting, approval and execution of budgets, as well as the changes in these arrangements that have occurred since 1980. A detailed explanation on the data set used and their sources is provided in Appendix D.

The index is based on a set of 10 characteristics covering the three types of budgetary rules outlined in the main text. For each of them, countries were assigned a score between 0 and 10, where higher values reflect the existence of constraints on the deficit, hierarchical rules, and transparent practices. For the case of institutional arrangements 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 four possible answers, the scores were 0, 3.33, 6.66 and 10.

Three of the survey questions related to constraints on the budget deficit. Question 1 inquired about the existence of constitutional or legal constraints on the fiscal deficit, such as balanced budget rules. Countries with such rules would have been assigned 10 points (no countries had such an arrangement), while the rest were assigned 0 points. Question 2 asked about the extent to which a previously approved macroeconomic program imposes constraints on the executive branch's discretion in drafting the budget. The highest score (10) was given to countries that answered that the macro program is an important constraint in formulating the budget submitted to the congress, while 0 points were assigned to countries where the macro program plays no role. Question 3 asked about the degree of the government's autonomy in borrowing. The highest score (10) was given to countries where the congress sets a ceiling on government borrowing before the budget is approved. The lowest score (0) was assigned to countries where the government can borrow without constraints whenever revenues fall short of expenditures.

The next questions dealt with procedural rules during the drafting, approval and execution stages of the budgetary process. Question 4 addressed the issue of the relative standing of the finance minister vis-à-vis the spending ministers during the drafting stage. The highest scores were assigned to countries where the finance minister has a considerably higher standing than the spending ministers in budget discussions. Question 5 asked about constraints on the legislature regarding amendments to the government's proposed budget. Countries where amendments cannot increase the size of the budget and the deficit were assigned 10 points. Simply limiting the ability of the congress to increase deficits (rather than spending) is not the same, since it leaves a loophole for congress to increase the expenditure level and at the same time to pass legislation creating new revenues. The most collegial institutions (which were assigned 0 points) are those where there are no constraints on the congress. Question 6 asked what happens if the budget is rejected or not passed by congress within the constitutionally established time frame. The most hierarchical arrangement is the one in which the budget proposed by the executive is executed even if congress rejects it or fails to approve it (10 points). We considered that the case in which the previous year budget is adopted is 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. Question 7 asked whether the budget can be modified after approval by congress, and on whose initiative. The highest scores were assigned in the case where it is not possible to modify the budget. Those systems in which the initiative to modify the budget falls on the government were considered more hierarchical than those in which it can be modified on the initiative of congress.

Question 8 asked whether the government can cut spending after the budget is passed. The highest scores were given to countries where the executive can cut the budget only when revenues are lower than projected. Intermediate scores were given to countries that can cut the budget without restrictions, since in this case, the executed budget might not reflect the spending priorities implicit in the budget passed by congress, rendering the process less meaningful and transparent. A score of 0 was assigned to those countries where the executive cannot

cut spending unilaterally under any circumstance. Questions 9 and 10 captured other important aspects of transparency. In particular, they focused on whether other public agencies, through their borrowing procedures, can make the budget less disciplined, less controlled and less transparent. Question 9 asked about the conditions under which the central government will assume debt originally contracted by other agencies, and the frequency of this occurrence. The budgetary process was considered more transparent if the central government only assumes debt that it explicitly guaranteed, and if this is an infrequent occurrence. Question 10 inquired about the borrowing autonomy of public enterprises. The highest marks (10) were assigned to countries where these agencies cannot borrow autonomously, while 0 points were assigned to those where these enterprises have no restrictions on borrowing.

Based on the responses to these 10 questions, the Index of Budgetary Institutions was constructed simply by adding the scores for each country. Since our fiscal performance database covers 1990–95, our index was defined as the average value for each country for this same period. This average is needed, since some countries have reformed some aspects of their budget institutions in recent years. For the purpose of comparability with European data on budget institutions, provided by Von Hagen, the index was normalized to vary between 0 and 1.

ACTIVITY DECENTRALIZATION INDEX

An Activity Decentralization Index (ADI) is constructed to try to measure two aspects complementing the information content of the mere quantitative decentralization share of subnational spending. The first question to be answered with the aid of the ADI for the region as a whole is which activities have typically been prone to be transferred to the subnational governments and which ones remain highly centralized? The second question is, for each country, to what extent have responsibilities for the provision of public services been moved from one level of government to another?

Four different aspects of decisionmaking power are considered when defining the index:

- Which level of government decides the amount spent on a particular activity?
- Which level of government decides on the structure of the spending (e.g., recurrent costs vs. investment spending, school construction vs. textbooks, etc.)
- Which level of government decides on subcontractors and hiring and disburses the public funds?

- Which level of government supervises the service delivery (standards, regulation, etc.)?

All information comes from an IDB questionnaire that has been answered by officials in the countries, most of whom are in charge of intergovernmental relations in their respective ministries. Additional information on the data set used and their sources is provided in Appendix D.

The ADI was built for the situation in 1996 and in 1985. All four aspects (amount, structure, execution, supervision) have the same weight of 25 percent. When for a particular activity the central government or its agencies is the sole public body taking a decision (i.e., only the central government decides on the amount and the structure, and executes the spending and supervises), the value for each of the four aspects is 0. To obtain ADI, the four values (for the four decisions) are added up after applying a weight of 25 percent to each decision. When a subnational government is the only government responsible for decision making, the value is 1 for each decision. Weighting by 0.25 and adding up results gives an ADI of 1 if all four decisions are taken by the subnational governments alone. If the two levels of governments share the decision power, the value is 0.33 if the central government is considered more important, 0.5 if both governments are equally important or no information on relative importance is available, and 0.67 if the subnational government is more important. The ADI per country is the unweighted average over all 20 activities. The ADI per activity is the unweighted average over all countries. ADI measures only the relative importance of different layers of the public sector and is not affected by privatization.

INDEX OF POLITICAL AUTONOMY AND PARTICIPATION

This index measures the degree of political autonomy of subnational levels of government, as well as the degree of citizen participation. It incorporates the following aspects: the existence of elections of public officials at the subnational level, as opposed to appointments by the central government; the nature of those elections; the existence of mechanisms of popular participation other than the vote; and the extent of respect for political rights (as measured by the Freedom House Index of Political Rights). A detailed explanation on the data set used and their sources is provided in Appendix D.

The index grades each country on a scale from 0 to 4, where higher values represent a higher degree of political autonomy and participation.

The aspects mentioned above enter into the index in the following way:

1) Elections:

Officials are elected at the subnational level	1
Officials are appointed by the central government	0

In some cases, heads of government are appointed by the subnational legislature, which in turn is freely elected by the local or state population. In such cases, countries were assigned 0.75 points, instead of 1.

2) Type of election:

Elections of executive officials are:	
Direct	1/4
Indirect	0

The electoral system for legislative bodies is:	
Plurality (first-past-the-post)	1/2
Mixed	1/4
Proportional representation	0

Elections at the subnational and national levels are held:	
On different dates	1/4
On the same date	0

Immediate reelection:	
Executive	1/4
Legislative	1/4
No reelection	0

3) Existence of additional mechanisms of popular participation (such as referenda or plebiscite):

Yes, and can be initiated by popular demand	1/2
Yes, only initiated by the government	1/4
Do not exist	0

4) Political rights: This element was taken from the Freedom House Survey of Political Rights, and enters into our index in multiplicative form. The Freedom House index ranges from 1 (maximum respect for political rights) to 7. We transformed this so as to assign a score of 1 to the maximum degree of political rights, and 0 to the minimum. The scores of each country in the other di-

mensions (which vary between 0 and 3) are multiplied by their score in the political rights dimension. The reason to introduce this variable in multiplicative form is that local elections, and electoral systems that would otherwise provide accountability, would do no good if elections were not clean and the political rights of the population not respected. Although the Freedom House survey is available only at the country level, we assume that respect for political rights at the subnational level closely matches that of the country.

Since the index just described has a maximum value of 3, we multiply it by 4/3 in order to make it consistent with the other indices described below, which vary between 0 and 4.

When countries present two levels of subnational governments (intermediate and local) the index is determined separately for each one of them, and the overall index for the country is obtained as a weighted average, where the weights are given by the relative importance of each level in total subnational expenditures.

INDEX OF DISCRETIONALITY OF INTERGOVERNMENTAL TRANSFERS

This index measures the degree of discretion of the central level of government regarding the transfer of resources to subnational level governments. The index does not intend to measure other important characteristics of the design of intergovernmental transfers, such as the existence of explicit incentives to an efficient fiscal performance, equity considerations, autonomy, vertical imbalance, etc. A detailed explanation on the data set used and their sources is provided in Appendix D.

To obtain the index of discretionality of intergovernmental transfers for each country, two steps are followed:

1. Compute an index for each one of the transfers from the central level to subnational level governments of a given country.
2. Weight the previous index of each transfer by the relative importance of such transfer in terms of the resources transferred in 1995.

The index of discretionality varies within a range from 0 to 4, where 0 represents the minimum level of discretion and 4 the maximum. To compute the index,

two fundamental issues of the transfer process are taken into account, and both are given the same weight. The final index results from the addition of the score obtained in both aspects:

1. Mechanisms to determine the amount of the transfer:

- a) Fixed amount or percentage of nondiscretionary income 0 points
- b) Percentage of income varies within a preestablished range 1 point
- c) The amount is determined in the budget 2 points

2. Mechanisms to determine the distribution of the transfer among jurisdictions:

- a) Fixed amount, preestablished percentages, objective criteria 0 points
- b) Less objective criteria 1 point
- c) Executive decision 2 points

INDEX OF BORROWING AUTONOMY

This index measures the degree of borrowing autonomy of subnational levels of government. The index of borrowing autonomy can vary between 0 and 4. Obviously, those countries where subnational governments cannot borrow have 0 autonomy. Out of the other criteria, higher weights were given to the issues of bank ownership by subnational governments and to government authorization. A detailed explanation on the data set used and their sources is provided in Appendix D. The index is built according to the following criteria:

1) Ability to borrow:

If subnational governments cannot borrow, 2 points.

2) Authorization:

If borrowing by subnational governments requires central government authorization for all debt, 1 point.

In the case of local governments, if intermediate government has to authorize, 0.5 points.

3) Borrowing constraints:

If there are numerical constraints on borrowing, such as maximum debt service/revenue ratios, up to 0.5 points, according to coverage of constraints.

4) Limits on use of debt:

If it cannot be used for current expenditures, 0.5 points.

The value of the first part of the index (criteria 1 through 4) is equal to 2 minus the sum of the points from criteria (1) through (4). For example, if subnational governments in a country cannot borrow, the total for this part will be $2-2=0$. If they require central government authorization and can only borrow for investment, the value for this part will be $2-1-0.5=.5$.

Additional criteria are:

5) Subnational government banks:

If subnational governments own banks, 1 point. If these banks have substantial importance, an additional 0.5 points.

6) Public enterprises:

If subnational governments own important public enterprises, and these have liberal borrowing practices, 0.5 points.

To obtain the index for each country, the scores over criteria (5) and (6) are added to the first part of the index.

The index is calculated both for the state and local governments. The index for each country is the weighted average of both, where the weights correspond to the relative importance of these two levels of government in total subnational expenditures.

APPENDIX B

ECONOMETRIC ESTIMATES OF DIFFERENT INSTITUTIONAL ARRANGEMENTS ON FISCAL PERFORMANCE VARIABLES

The estimates presented in this appendix are cross-section regressions for 47 countries (the 26 countries of Latin America and the Caribbean that are members of the Inter-American Development Bank, and 21 OECD countries). The dependent variables are the following fiscal performance variables: 1) size of the consolidated public sector as a percentage of GDP (using three measurements: total spending by the consolidated public sector, total spending less interest payments and social security expenditures, and this latter figure less capital expenditures); 2) total and primary fiscal surplus; 3) public debt as a percentage of GDP and as a percentage of fiscal revenues; and 4) the correlation between the cyclical component of public spending and the cyclical component of GDP, which we shall call procyclicality. The first three variables (size, surplus, and debt) are the average for 1990–95, and procyclicality is calculated over 1970–95.

We have divided the independent variables into two groups: 1) control variables, among which are the public debt at the beginning of the period (1989), degree of openness of the economy measured as exports plus imports over GDP, the percentage of the population over 65, per capita GDP, and volatility;¹ and 2) institutional variables, including the size of the electoral district or district magnitude (i.e., the number of representatives elected per district), an index of budgetary institutions (IBI), and variables associated with the decentralization process such as degree of decentralization, an index of borrowing autonomy, degree of vertical fiscal imbalance, and an index of discretionality in intergovernmental transfers. Additional information on the data set used and their sources is provided in Appendix D.

Although the purpose of our research is focused on the effects that the institutional arrangements have on different fiscal performance variables in Latin American and Caribbean countries, OECD countries were included in the sample for two reasons: 1) to increase the number of observations for econometric purposes; and 2) to be able to compare some of the results for Latin America with more developed countries. Accordingly, for each regression based on the entire sample, another regression was performed in which the number of observations was limited to just Latin American and Caribbean countries.

In addition, in those regressions that included the size of the public sector as a dependent variable, two sets of control variables were used: one that includes the population over 65, and the other that includes per capita GDP. These two variables are not concurrently included because they are closely correlated. More specifically, the countries with a higher per capita income are also those that have a higher proportion of their population in retirement. Here it must be emphasized that when both variables are included in any of these regressions, the variable that tends to lose significance is per capita GDP, the proportion of the population over 65 remaining significant at the 1 percent level. Consequently, the set of regressions on which the analysis is based are regressions with a population over 65 as a control variable. Nonetheless, for completeness, all the regressions are duplicated with per capita GDP as a control variable.

Systematic tests were conducted on each of the institutional and control variables to see if any significant difference existed in the slope dummy among the different sets of countries. If this proved to be the case, new regressions were run to allow each coefficient (for Latin American and OECD countries) to be interpreted independently. Additional tests were then conducted on each regression to see if there was any significant difference in the intercepts between the OECD and Latin America. However, no regression was found to have any significant difference in the intercepts.

Regressions were run on each of the fiscal performance variables to quantify the effect of the control variables on the dependent variables. The size of the public sector is positively influenced by borrowing levels, degree of openness, proportion of the population over 65, and GDP per capita. For the regressions that have as a dependent variable the total fiscal surplus or the public debt levels, different control variables recommended by the literature were tested: shocks to the terms of trade, percentage of the population over 65, under 14, or in the dependency age (over 65 and under 14), and degree of

¹ Other control variables used were the proportion of the population under 14, proportion of dependent population (over 65 and under 14), real GDP growth, and variation in the terms of trade. However, because these variables were not significant, they were not included.

openness. In no cases were significance levels under 10 percent found; hence they were not included. In the case of primary surplus, debt at the beginning of the period had a positive effect, which indicates that the countries with high debt levels at the beginning of the period are countries with larger primary surpluses. Finally, the procyclicality of fiscal spending is positively influenced by GDP volatility.

ELECTORAL INSTITUTIONS, BUDGETARY INSTITUTIONS AND FISCAL PERFORMANCE

Appendix Tables B.1 through B.4 summarize some of the regressions that were run to quantify the impact of electoral or budgetary institutions on the different measures of fiscal performance. Appendix Table B.1 shows that district magnitude is positively correlated with the size of the public sector. This result is robust irrespective of the variable used to quantify the size of the government, changes in the set of control variables and whether or not the sample is restricted to only Latin American and Caribbean countries.²

Appendix Table B.2 shows a negative relationship between the district magnitude and the surplus, both total and primary. Additionally, it shows that budgetary institutions have a positive effect on fiscal surpluses. Although these results are robust for both samples, the effects appear to be stronger in Latin American and Caribbean countries, both in terms of the size of the coefficient and their significance. When budgetary institutions interact with electoral institutions as explanatory variables, electoral institutions in general lose their significance.

These relationships are preserved when we proceed to consider debt levels as an independent variable. Appendix Table B.3 shows the existence of a positive relationship between the size of the electoral district and debt levels. On the other hand, budgetary institutions have a negative and very significant effect on debt levels. As with the surpluses, the effect of electoral institutions on borrowing levels loses significance when it interacts with budgetary institutions. These results are robust irrespective of the sample, and they are even more significant if we limit the sample to just the Latin American and Caribbean countries.

Finally, electoral institutions have a positive effect on the degree of fiscal procyclicality, when measured as the correlation between the cyclical component of government consumption and the cyclical component of GDP growth, as may be seen in Appendix Table B.4. This outcome is robust regardless of whether the sample is

restricted to only Latin American and Caribbean countries.

DECENTRALIZATION AND FISCAL PERFORMANCE

Appendix Tables B.5 and B.6 show the different relationships that decentralization and the way in which decentralization is structured have on the size of the public sector.³ As mentioned earlier, the degree of decentralization has a positive effect on the size of the government. This result is robust to the different measures of size, to different sets of control variables, and to whether the analysis is limited to the Latin American and Caribbean countries. For the countries of the region, the effect of decentralization on the size of the public sector is larger.

Although decentralization has a direct effect on the size of the government, the way in which it is structured also has a positive impact. Vertical imbalance and borrowing autonomy have by themselves no effect on the different measures of government size. Nonetheless, when any of these variables is multiplied by the degree of decentralization, their effect on the size of the government is important. These results are robust regardless of the measure of size being used, the set of control variables, or whether the sample includes the OECD countries.

The effect on the size of the public sector is even greater if we interact these three variables, that is, if we multiply the degree of decentralization by the borrowing autonomy and by the degree of vertical imbalance. This interaction variable has a very significant positive effect on the size of government. This effect is larger in Latin American countries than in the OECD countries, and it is robust regardless of the different measures of size of the public sector being used. The results are even stronger if, instead of using the borrowing autonomy index in the interaction variable, the index of discretionality of intergovernmental transfer is used.

Finally, if decentralization is interacted with these interaction variables, in general it loses significance. That is to say, even though decentralization has a positive impact on the size of government, the way in which it is organized has a much more significant impact.

² As mentioned earlier, no significant relationship was found between any of the size measures and the index of budgetary institutions.

³ No empirically significant relationships were found between decentralization variables and fiscal surpluses, debt levels, or degree of fiscal procyclicality.

Appendix Table B.1. Institutional Arrangements and Government Size

(Cross-section regressions, average 1990-95)

Fiscal performance LA + OECD	Total expenditures	Total expenditures (Excl. Gss, Gr)	Total expenditures (Excl Gss, Gr, Gk)
Institutional arrangements			
District magnitude (T-Stat)	1.48 (1.94)	1.67 (2.41)	2.10 (3.15)
Controls			
Constant (T-Stat)	0.09 (2.98)	0.16 (5.19)	0.12 (4.16)
Debt in 1989 (T-Stat)	1.58 (2.28)		
Openness (T-Stat)	8.51 (2.41)	5.83 (1.67)	1.92 (0.56)
Population > 65 Years (T-Stat)	1.90 (7.28)		
R2	0.75	0.16	0.20
DF	30	34	32
N	35	37	35

Fiscal performance LA + OECD	Total expenditures	Total expenditures (Excl Gss, Gr)	Total expenditures (Excl Gss, Gr, Gk)
Institutional arrangements			
District magnitude (T-Stat)	1.43 (1.71)	1.28 (1.62)	0.91 (1.42)
Controls			
Constant (T-Stat)	0.11 (3.45)	0.15 (4.63)	0.09 (3.43)
Debt in 1989 (T-Stat)	1.65 (2.19)		
Openness (T-Stat)	8.87 (2.33)	5.59 (1.59)	1.41 (0.50)
GDP per capita (T-Stat)	1.52 (6.38)	2.21 (0.99)	0.68 (3.72)
R2	0.71	0.16	0.42
DF	30	33	31
N	35	37	35

Fiscal performance Latin America	Total expenditures	Total expenditures (Excl Gss, Gr)	Total expenditures (Excl Gss, Gr, Gk)
Institutional arrangements			
District magnitude (T-Stat)	1.85 (1.10)	1.96 (1.48)	0.84 (0.85)
Controls			
Constant (T-Stat)	0.08 (1.37)	0.10 (2.85)	0.10 (3.56)
Debt in 1989 (T-Stat)	1.33 (1.81)		
Openness (T-Stat)	13.03 (2.95)	12.66 (3.42)	5.56 (1.98)
Population > 65 Years (T-Stat)	1.43 (1.92)		
R2	0.46	0.34	0.11
DF	16	20	19
N	21	23	22

Fiscal performance Latin America	Total expenditures	Total expenditures (Excl Gss, Gr)	Total expenditures (Excl Gss, Gr, Gk)
Institutional Arrangements			
District magnitude (T-Stat)	2.24 (1.34)	2.14 (1.55)	1.13 (1.12)
Controls			
Constant (T-Stat)	0.05 (0.71)	0.08 (1.60)	0.06 (1.62)
Debt in 1989 (T-Stat)	1.46 (2.00)		
Openness (T-Stat)	15.17 (3.36)	12.88 (3.40)	6.01 (2.15)
GDP per capita (T-Stat)	1.69 (2.11)	0.33 (0.55)	0.56 (1.24)
R2	0.48	0.31	0.13
DF	16	19	18
N	21	23	22

Notes: Government size is measured by the total expenditures of the consolidated public sector relative to GDP. District magnitude is the average number of representatives elected per district and enters the regression in logs. Gss = Social Security expenditures, Gr = Interest payments and Gk = Capital expenditures; LA = Latin America; OECD = Organization for Economic Cooperation and Development; DF = Degrees of freedom; N = Sample size.

Appendix Table B.2. Institutional Arrangements and Fiscal Surplus

(Cross-section regressions, average 1990-95)

Fiscal performance LA + OECD	Surplus	Surplus	Surplus	Primary surplus	Primary surplus	Primary surplus
Institutional arrangements						
District magnitude (T-Stat)	-0.76 (-2.31)		0.04 (0.16)	-0.46 (-1.41)		-0.34 (-1.65)
LA budgetary institutions (T-Stat)		0.14 (5.35)	0.14 (4.81)		0.19 (5.08)	0.19 (5.13)
OECD budgetary institutions (T-Stat)		0.07 (3.00)	0.07 (2.89)		0.06 (2.39)	0.06 (2.36)
Controls						
Constant (T-Stat)	-0.02 (-1.86)	-0.09 (-6.33)	-0.10 (-5.13)	0.02 (2.46)	-0.10 (-4.59)	-0.09 (-4.12)
LA debt in 1989 (T-Stat)				-0.34 (-1.13)	2.79 (1.89)	2.48 (1.71)
OECD debt in 1989 (T-Stat)				-0.20 (-0.13)	9.78 (5.33)	10.16 (5.65)
R2	0.11	0.55	0.53	0.02	0.59	0.61
DF	36	31	29	33	29	28
N	38	34	33	37	34	34
Fiscal performance Latin America	Surplus	Surplus	Surplus	Primary surplus	Primary surplus	Primary surplus
Institutional arrangements						
District magnitude (T-Stat)	-1.71 (-2.57)		-0.61 (-1.07)	-1.11 (-1.53)		-1.12 (-1.74)
LA budgetary institutions (T-Stat)		0.13 (2.57)	0.11 (2.03)		0.22 (3.68)	0.19 (3.05)
Controls						
Constant (T-Stat)	-0.02 (-2.57)	-0.09 (-2.98)	-0.07 (-1.87)	0.04 (2.83)	-0.12 (-3.25)	-0.09 (-2.04)
Debt in 1989 (T-Stat)				-0.38 (-1.20)	3.17 (1.73)	3.48 (3.05)
R2	0.20	0.23	0.23	0.08	0.41	0.46
DF	22	18	16	19	17	15
N	24	20	19	22	20	19

Notes: Fiscal surplus is measured by the surplus of the consolidated public sector relative to GDP. Primary surplus is total surplus minus interest payments. District magnitude is the average number of representatives elected per district and enters the regression in logs. The index of budgetary institutions was calculated based on Alesina et al. (1996) for Latin America, and drawn from Von Hagen and Harden (1995) for the OECD.

LA = Latin America; OECD = Organization for Economic Cooperation and Development; DF= Degrees of freedom; N = Sample size.

Appendix Table B.3. Institutional Arrangements and Government Debt						
<i>(Cross-section regressions, average 1990-95)</i>						
Fiscal Performance LA + OECD	Debt/GDP	Debt/GDP	Debt/GDP	Debt/Revenues	Debt/Revenues	Debt/Revenues
Institutional arrangements						
District magnitude (T-Stat)	0.14 (1.17)		0.02 (0.59)	0.20 (0.48)		-0.04 (-0.35)
LA budgetary institutions (T-Stat)		-0.99 (-3.06)	-1.01 (-2.96)		-2.14 (-1.66)	-2.59 (-1.83)
OECD budgetary institutions (T-Stat)		-0.66 (-2.31)	-0.68 (-2.40)		-3.07 (-2.66)	-3.24 (-2.76)
Constant (T-Stat)	0.56 (1.70)	1.14 (6.17)	1.09 (5.04)	2.38 (2.05)	3.60 (4.88)	3.85 (4.27)
R2	0.01	0.20	0.24	0.01	0.18	0.16
DF	36	31	29	36	31	29
N	38	34	33	38	34	33
Fiscal performance Latin America	Debt/GDP	Debt/GDP	Debt/GDP	Debt/Revenues	Debt/Revenues	Debt/Revenues
Institutional arrangements						
District magnitude (T-Stat)	0.62 (2.21)		0.02 (0.22)	1.91 (1.93)		0.07 (0.18)
LA budgetary institutions (T-Stat)		-0.47 (-0.65)	-0.66 (-0.86)		-5.89 (-1.89)	-6.51 (-1.94)
Constant (T-Stat)	-0.05 (-0.10)	0.83 (1.92)	0.88 (1.74)	0.51 (0.27)	5.85 (3.17)	6.02 (2.71)
R2	0.15	0.03	0.03	0.11	0.12	0.12
DF	22	18	16	22	18	16
N	24	20	19	24	20	19

Notes: Government debt is measured by the total debt of the consolidated public sector relative to GDP and as a percentage of government revenues. District magnitude is the average number of representatives elected per district and enters the regression in logs. The index of budgetary institutions was calculated based on Alesina et al. (1996) for Latin America, and from Von Hagen and Harden et al. (1995) for the OECD.

LA = Latin America; OECD = Organization for Economic Cooperation and Development; DF= Degrees of freedom; N = Sample size.

Appendix Table B.4. Institutional Arrangements and Procyclicality		
<i>(Cross-section regressions)</i>		
Procyclicality	G7+LA	LA
Institutional arrangements		
District magnitude (T-Stat)	0.08 (2.99)	0.12 (2.22)
Controls		
Constant (T-Stat)	-0.32 (-2.06)	-0.14 (-0.68)
Volatility (T-Stat)	14.59 (4.91)	10.24 (3.00)
R2	0.51	0.32
DF	20	16
N	23	19

Notes: Procyclicality is measured by the correlation coefficient between the cyclical component of government consumption and the cyclical component of output for the period 1970-95. District magnitude is the average number of representatives elected per district and enters the regression in logs.

LA = Latin America; G7 = Group of Seven; DF = Degrees of freedom; N = Sample size.

Appendix Table B.5. Decentralization and Government Size, Latin America and OECD

(Cross-section regressions, average 1990-95)

Size LA+OECD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Institutional variables								
Decentralization (T-Stat)		0.21 (2.71)					0.13 (1.20)	0.12 (1.15)
Decentralization* Vertical imbalance (T-Stat)			0.25 (2.06)					
LA decentralization* Borrowing autonomy (T-Stat)				0.09 (2.67)				
OECD decentralization* Borrowing autonomy (T-Stat)				0.03 (1.80)				
LA Dec*Vi*BA (T-Stat)					0.28 (3.36)		0.21 (2.06)	
LA Dec*Vi*Discretionality in transfers (T-Stat)						0.47 (2.65)		0.38 (2.00)
OECD Dec*Vi*BA (T-Stat)					0.05 (1.61)	0.04 (1.19)	0.02 (0.50)	0.01 (0.31)
Controls								
Constant (T-Stat)	0.10 (3.48)	0.05 (1.67)	0.08 (2.69)	0.02 (0.53)	0.00 (0.01)	0.00 (0.01)	-0.01 (-0.22)	-0.01 (-0.23)
Debt in 1989 (T-Stat)	1.79 (2.66)	2.02 (3.44)	2.09 (3.40)	7.04 (1.73)	8.18 (2.09)	7.72 (1.85)	8.13 (2.09)	7.76 (1.87)
Openness (T-Stat)	0.10 (3.01)	0.11 (2.65)	0.07 (1.83)	0.08 (1.69)	0.06 (1.41)	0.05 (1.12)	0.08 (1.73)	0.07 (1.45)
Population > 65 Years (T-Stat)	2.21 (10.36)	2.01 (8.15)	2.22 (9.92)	2.34 (7.96)	2.60 (9.52)	2.74 (8.98)	2.42 (7.83)	2.57 (7.59)
R2	0.74	0.84	0.83	0.85	0.86	0.87	0.87	0.87
DF	39	32	32	28	28	25	27	24
N	43	37	37	34	34	31	34	31
Size LA+OECD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Institutional variables								
Decentralization (T-Stat)		0.21 (1.79)					0.05 (0.22)	0.04 (0.20)
Decentralization* Vertical imbalance (T-Stat)			0.30 (1.89)					
LA decentralization* Borrowing autonomy (T-Stat)				0.07 (1.41)				
OECD decentralization* Borrowing autonomy (T-Stat)				0.02 (0.82)				
LA Dec*Vi*BA (T-Stat)					0.16 (1.36)		0.14 (0.85)	
LA Dec*Vi*Discretionality in transfers (T-Stat)						0.17 (0.69)		0.14 (0.48)
OECD Dec*Vi*BA (T-Stat)					0.08 (1.51)	0.08 (1.44)	0.07 (1.05)	0.07 (1.02)
Controls								
Constant (T-Stat)	0.13 (3.64)	0.08 (1.79)	0.10 (2.58)	0.60 (1.06)	0.06 (1.10)	0.06 (0.99)	0.06 (1.03)	0.06 (0.94)
Debt in 1989 (T-Stat)	1.53 (1.81)	1.77 (2.21)	1.92 (2.39)	4.76 (0.84)	5.72 (1.02)	0.04 (0.72)	5.69 (0.99)	4.38 (0.69)
Openness (T-Stat)	0.13 (3.24)	0.15 (2.48)	0.11 (2.13)	0.13 (1.90)	0.11 (1.68)	0.12 (1.84)	0.12 (1.62)	0.13 (1.75)
GDP per capita - Power purchase parity (T-Stat)	1.41 (7.27)	1.26 (4.55)	1.44 (6.68)	1.56 (4.28)	1.53 (5.33)	1.48 (4.71)	1.47 (3.59)	1.42 (3.26)
R2	0.59	0.71	0.71	0.70	0.71	0.70	0.70	0.69
DF	39	32	32	28	28	25	27	24
N	43	37	37	34	34	31	34	31

Notes: Government size is measured by the total expenditures of the consolidated public sector relative to GDP. Regressions 5 through 8 exclude Argentina.

Dec = Decentralization; VI = Vertical fiscal imbalance; BA = Borrowing autonomy; LA = Latin America; OECD = Organization for Economic Cooperation and Development; DF= Degrees of freedom; N = Sample size.

Appendix Table B.6. Decentralization and Government Size, Latin America

(Cross-section regressions, average 1990-95)

Size Latin America	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Institutional variables								
Decentralization (T-Stat)		0.45 (4.24)					0.20 (1.43)	0.24 (2.57)
Decentralization* Vertical imbalance (T-Stat)			0.63 (3.14)					
Decentralization* Borrowing autonomy (T-Stat)				0.13 (3.97)				
Dec*Vi*BA (T-Stat)					0.39 (7.44)		0.27 (2.79)	
Dec*Vi*Discretionality in transfers (T-Stat)						0.65 (6.60)		0.45 (4.09)
Controls								
Constant (T-Stat)	0.14 (2.77)	-0.00 (-0.06)	0.06 (1.14)	-0.04 (-0.58)	-0.10 (-2.25)	-0.04 (-0.76)	-0.11 (-2.56)	-0.07 (-1.72)
Debt in 1989 (T-Stat)	1.63 (2.13)	1.75 (3.85)	2.02 (3.85)	10.27 (2.51)	13.97 (5.16)	12.19 (4.09)	13.25 (5.01)	12.57 (4.92)
Openness (T-Stat)	0.11 (2.29)	0.25 (3.23)	0.15 (1.95)	0.20 (2.47)	0.19 (4.00)	0.20 (3.75)	0.22 (4.41)	0.24 (5.39)
Population > 65 Years (T-Stat)	1.24 (1.54)	0.89 (1.87)	1.05 (1.93)	1.45 (2.63)	2.02 (5.52)	0.42 (0.43)	1.83 (4.91)	0.48 (0.62)
R2	0.36	0.67	0.55	0.56	0.82	0.82	0.84	0.89
DF	19	14	14	12	12	9	11	8
N	23	19	19	17	17	14	17	14
Size Latin America	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Institutional variables								
Decentralization (T-Stat)		0.42 (3.48)					0.43 (2.19)	0.24 (2.72)
Decentralization* Vertical imbalance (T-Stat)			0.53 (2.13)					
Decentralization* Borrowing autonomy (T-Stat)				0.10 (2.83)				
Dec*Vi*BA (T-Stat)					0.25 (2.81)		0.01 (0.08)	
Dec*Vi*Discretionality in transfers (T-Stat)						0.62 (6.08)		0.42 (3.97)
Controls								
Constant (T-Stat)	0.14 (2.35)	0.02 (0.42)	0.11 (1.93)	0.00 (0.03)	0.01 (0.25)	-0.03 (-0.88)	-0.04 (-0.64)	-0.06 (-2.07)
Debt in 1989 (T-Stat)	1.71 (2.14)	1.84 (3.67)	2.06 (3.51)	11.51 (2.57)	12.77 (2.84)	12.76 (4.41)	11.91 (3.02)	12.07 (5.43)
Openness (T-Stat)	0.12 (2.43)	0.21 (2.51)	0.10 (1.18)	0.13 (1.44)	0.10 (1.18)	0.19 (3.66)	0.16 (2.07)	0.23 (5.47)
GDP per capita - Power purchase parity (T-Stat)	1.14 (1.31)	0.75 (1.34)	0.77 (1.08)	1.35 (2.28)	1.19 (1.94)	0.39 (0.99)	1.16 (2.18)	0.38 (1.27)
R2	0.33	0.63	0.48	0.51	0.51	0.83	0.63	0.91
DF	19	14	14	12	12	9	11	8
N	23	19	19	17	17	14	17	14
<p>Notes: Government size is measured by the total expenditures of the consolidated public sector relative to GDP. Regressions 5 through 8 exclude Argentina.</p> <p>Dec = Decentralization; VI = Vertical fiscal imbalance; BA = Borrowing autonomy; LA = Latin America; OECD = Organization for Economic Cooperation and Development; DF= Degrees of freedom; N = Sample size.</p>								

APPENDIX C: DECENTRALIZATION ARRANGEMENTS

Appendix Table C.1. Expenditure Assignments of National, Intermediate and Local Levels of Government, 1996

Activities	Function	ARG	BRA	BOL	CHL	COL	CRI	DOM	ECU	GTM	HND	MEX	PAN	PER	PRY	SLV	SUR	TTO	URY	VEN
Police	Amount	I,N	I	N		N	N	N	N	N	N	L,N,I	N		N	N	N	N	N	L,N,I
	Structure	I,N	I	N		N	N	N	N	N	N	L,N,I	N		N	N	I	N	N	N,I,L
	Execution	I,N	I	N		N	N	N	N	N	N	L,N,I	N		N	N	L	N	N	N,I,L
Social housing	Supervision	I,N	I	N		N	N	N	N	N	N	I,N	N		N	N	N	N	N	N
	Amount	I	N,I,L		N	N,L	N	N	N	N	N	N,I	N		N	N	N	N	N,I	N
	Structure	I	N,I,L		N	N,L	N	N	N	N	N	N,I	N		N	N	N	N	N,I	N
Nutrition programs	Execution	I	N,I,L		N	N,L	N	N	N	N	N	I,N	N		N	N	N	N	N,I	N
	Supervision	I	N,I,L		N	N,L	N	N	N	N	N	N	N		N	N	N	N	N,I	N
	Amount	N	N	N		N,L	N	N	N	N	N	N,I	N	N	N	N	N	I	N,I	N
Drinking water and sewerage	Structure	I	N	N		N,L	N	N	N	N	N	N,I	N	N	N	N	L	I	N,I	N
	Execution	I	N	N		N,L	N	N	N	N	N	N,I	N	N	N	N	L	I	N,I	N
	Supervision	I	N	N		N,L	N	N	N	N	N	N,I	N	N	N	N	N	I	N,I	N
Waste collection	Amount	N,I	N,I,L	N,L	N	L	N	N	N,L	N,L	N	N,I,L	N	N,L	N	N	N	N	N,I	N,I
	Structure	N,I	N,I,L	L	N	L	N	N	N,L	N,L	N	I,N,L	N	N,L	N	N	L	N	N,I	N,I
	Execution	N,I	N,I,L	L	N	L	N	N	N,L	N,L	N	I,N,L	N	N,L	N	N	L	N	N,I	N,I
Primary and preschool education	Supervision	N,I	N,I,L	N	N	N	N	N	N,L	N,L	N	N	N	N,L	N	N	I,L	N	N,I	N,I
	Amount	L	L	L		L	L	I	L	L	L	L	L,I	L	L	L	L	N	I	L
	Structure	L	L	L		L	L	I	L	L	L	L	L,I	L	L	L	L	N	I	L
Secondary education	Execution	L	L	L		L	L	I	L	L	L	L	L,I	L	L	L	L	N	I	L
	Supervision	L	L	L		L	L	I	L	L	L	L	L,I	L	L	L	L	N	I	L
	Amount	I	L	N		N,I,L	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Universities	Structure	I	L	L		N,I,L	N	N	N	N	N	I,N	N	N	N	N	N	N	N	N
	Execution	I	L	L		N,I,L	N	N	N	N	N	I,N	N	N	N	N	N	N	N	N
	Supervision	I	N,I	N,L		N,I	N	N	N	N	N	N	N	N	N	N	I	N	N	N
Public health	Amount	N	N,I	L		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Structure	N	N,I	L		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Execution	N	N,I	L		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Hospitals	Supervision	N	N	N,L		N,I,L	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Amount	N,I	N,I,L	N		N,I,L	N	N	N	N	N	N,I	N	N	N	N	N	N	N	N,I
	Structure	N,I	N,I,L	N		N,I,L	N	N	N	N	N	N,I	N	N	N	N	N	N	N	N,I
Interurban highways	Execution	I	N,I,L			N,I,L	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Supervision	I	N,I,L			N,I,L	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Amount	N	N	N		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Urban highways	Structure	L	L	L		L	N	N	L	L	N,L	I,N,L	N	I,L	L	N	N	N	I	I,L
	Execution	L	L	L		L	N	N	L	L	N,L	I,N,L	N	I,L	L	N	N	N	I	I,L
	Supervision	L	L	L		L	N	N	L	L	N,L	I,N,L	N	I,L	L	N	N	N	I	I,L

Appendix Table C.1. Expenditure Assignments of National, Intermediate and Local Levels of Government, 1996 (cont.)

Activities	Function	ARG	BRA	BOL	CHL	COL	CRI	DOM	ECU	GTM	HND	MEX	PAN	PER	PRY	SLV	SUR	TTO	URY	VEN
Electric power supply	Amount	I	N,I			N,L	N	N	N,L	N	N	N	N	N,I	N	N	L		N	N,I
	Structure	I	N,I			N	N	N	N,L	N	N	N	N	N,I	N	N	I,L		N	N,I
	Execution Supervision	I	N,I		N	N,L	N	N	N,L	N	N	N	N	N,I	N	N	L		N	N,I
Oil and gas pipelines	Amount		N			N	N	N	N			N				N	L			N
	Structure		N			N	N	N	N			N				N	I,L			N
	Execution Supervision	N	N		N	N	N	N	N			N				N	L			N
Irrigation	Amount	I	N			N,I,L	N		N	N	N	N,I	N	N		N	N	N		N,I
	Structure	I	N			N,I,L	N		N	N	N	I,N	N	N		N	I,L	N		N,I
	Execution Supervision	I	N			N,I,L	N		N	N	N	I,N	N	N		N	L	N		N,I
Telecommunications	Amount		N			N,L	N	N	N	N	N	N	N		N	N	L		N	
	Structure		N			N,L	N	N	N	N	N	N	N		N	N	L		N	
	Execution Supervision	N	N			N,L	N	N	N	N	N	N	N		N	N	L		N	
Ports and navigable waterways	Amount	I	N,I			N,L	N	N	N	N	N	N,I	N	N		N	N	N		N,I
	Structure	I	N,I			N,L	N	N	N	N	N	N,I	N	N		N	I	N		N,I
	Execution Supervision	I	N		N,I	N	N	N	N	N	N	N	N	N		N	I,L	N		N,I
Airports	Amount	N,I	N,I,L			N	N	N	N	N	N	N	N	N		N	N	N		N,I
	Structure	N,I	N,I,L			N	N	N	N	N	N	N	N	N		N	N,I	N		N,I
	Execution Supervision	N	N,I,L			N	N	N	N	N	N	N	N	N		N	I,L	N		N,I
Railroads	Amount		N,I			N	N		N	N	N	N	N		N	N	N		N	N
	Structure		N,I			N	N		N	N	N	N	N		N	N	I		N	N
	Execution Supervision	N	N,I			N	N		N	N	N	N	N		N	N	I		N	N
Urban transportation	Amount		I,L			L	N	N		N		L,I		I,L	N	N	I	N		L
	Structure		I,L			L	N	N		N		L,I		I,L	N	N	I,L	N		L
	Execution Supervision		I,L			L	N	N	N,L	L		L,I		I,L	N	N	I	N	I	L

Legend: Amount: Who decides the amount spent?

Structure: Who defines the structure of expenditure?

Execution: Who executes the expenditure?

Supervision: Who supervises and sets standards?

The order reflects the relative importance of each level.

N = National level

I = Intermediate level

L = Local level

Appendix Table C.2. Tax Assignment to Subnational Governments, 1996

	ARG	BOL	BRA	COL	CRI	CHL	ECU	GTM	HND	MEX	NIC	PAN	PRY	PER	URY	VEN
Property	I,L all	L	N,L ¹ all	L adm	L all	L adm	N,L est,adm	L ² adm	N,L ³ bas,adm	I,L rate,adm	L adm	N,L all	L all	L ⁴ adm	I all	L all
Transfer property	L all	L all	L ⁵ all		L all		N,L all		L all	I,L all				L adm	N,I all	
Industry and trade				N,L rate,adm	L	L adm	L	L	L	I,L all	L adm		L	L		L all
Vehicles	I,L ⁶ all	L ⁷	I all	I,L adm		L adm	N,L all		N,L all	I all	L adm	L all	L all		I all	L all
Gambling	N,I all			I,L adm		N,L adm	N,L all		N,L ⁸ all	I,L all	L adm		L all	L adm	N,I all	L all
Stamp	I ⁹ all			I			N,L all			I,L all						I adm
Natural resources			N,I adm				N,L all		N,L all	N,I adm	L adm					
Sales/VAT/Turnover	N,I all		N,I all							N,I adm	L adm					
Excise				N,I rate,adm						I adm					N,I adm	
Fuel			L all	N,L ¹⁰ rate,adm						N,I adm						
Payroll	N,I all									I all						
Pollution				L rate,adm											N,I all	

Level: I Intermediate
L Local
N,I Mix National/Intermediate
N,L Mix National/Local
I,L est Intermediate/Local
rate set the rate
base set the base
adm administer the revenue
all of the above

¹ In 1985, only local level was involved.
² In 1985, both national and local level were responsible for all functions.
³ In 1985, local level was only responsible for administration.
⁴ In 1985, administration was shared with national level.
⁵ In 1985, only intermediate level was involved.
⁶ In 1985, only intermediate level was involved.
⁷ In 1985, responsibilities were shared with national level.
⁸ In 1985, local level was only responsible for administration.
⁹ In 1985, responsibilities were shared with the national level.
¹⁰ In 1985, national and intermediate levels were responsible for administration.

Appendix Table C.3. Alternative Forms of Intergovernmental Transfer Programs					
<i>(In percent of total transfers)</i>					
Country	Method of allocating the divisible pool among eligible units	Method of determining the total divisible pool			
		Specified share of national or state tax	Fixed amount	Ad hoc decision	Reimbursement of approved expenditures
Argentina	Origin of collection of the tax Formula Reimbursement of costs Ad hoc	89 1 5	5		
Bolivia	Origin of collection of the tax Formula Reimbursement of costs Ad hoc	6 56		38	
Chile	Origin of collection of the tax Formula Reimbursement of costs Ad hoc			17	83
Colombia	Origin of collection of the tax Formula Reimbursement of costs Ad hoc	85		15	
Dominican Republic	Origin of collection of the tax Formula Reimbursement of costs Ad hoc	100			
Ecuador	Origin of collection of the tax Formula Reimbursement of costs Ad hoc	100			
Guatemala	Origin of collection of the tax Formula Reimbursement of costs Ad hoc	100			
Honduras	Origin of collection of the tax Formula Reimbursement of costs Ad hoc	15 45		40	
Mexico	Origin of collection of the tax Formula Reimbursement of costs Ad hoc	36 38		26	
Panama	Origin of collection of the tax Formula Reimbursement of costs Ad hoc		92	8	
Peru	Origin of collection of the tax Formula Reimbursement of costs Ad hoc			8 92	
Suriname	Origin of collection of the tax Formula Reimbursement of costs Ad hoc	100			
Trinidad & Tobago	Origin of collection of the tax Formula Reimbursement of costs Ad hoc			100	
Venezuela	Origin of collection of the tax Formula Reimbursement of costs Ad hoc	97 1		3	

Appendix Table C.4. Intergovernmental Transfers

Country	Name of transfer	How is the amount determined?	Amount 1995	How is it allocated?	Allocation	Cofinancing?	Notes	
ARGENTINA	Coparticipation in federal taxes	Automatic. A minimum of \$740 million. 56.66% of the following: 80% VAT, 64% profit tax, 50% asset tax, 100% domestic taxes and other taxes.	8,092.1 million pesos	Automatic. Shares set in law 23.548.	Not allocated.	No		
	Transfer of profit tax	Automatic. 14% of income tax.	871.3 million pesos	Automatic. 10% for Buenos Aires province (with a cap of 650 million pesos), 4% for all other provinces according to a measure of unmet basic needs.	Allocated for social infrastructure works.	No		
	Transfer to Education Fund	Automatic. 50% of asset tax.	48.1 million pesos	Automatic. 65% to the provinces, 35% for the federal government. Resources allocated according to coefficients calculated by the Ministry of Education.	Allocated for education.	No	The repeal of the asset tax left this fund with no financing.	
	Social security	Automatic. 1.1% of VAT + 10% of property tax.	162.7 million pesos	Automatic. Transferred to the provinces and municipalities, according to the number of beneficiaries in the each province as of 31/05/91.	Allocated for social security system.	No		
	FONAVI	Automatic. Guaranteed for 900 million pesos 42% of 79% of fuel tax.	736.2 million pesos	Automatic. Allotted between provinces and Municipality of Buenos Aires according to coefficients established in the 1992 Fiscal Pact.	Allocated.	No		
	Fuel tax	Automatic. 29% of 79% of fuel tax.	464.8 million pesos	60% to provincial road authorities, according to percentages set by Consejo Vial Federal. 30% infrastructure works, in accordance with law 23.548. 10% to the Fondo de Desarrollo Eléctrico del Interior according to percentages set by Consejo Federal de Energía Eléctrica.	Allocated for roads and electricity	No		
	Compensation Fund for Provincial Imbalances	Automatic. 45.8 million pesos monthly.	543.6 million pesos	Automatic. Allotted among provinces according to predetermined amounts.	Not allocated.	No		
	Contributions from the Treasury	Automatic. 1% of the Fondos Coparticipables + 2% of profit tax.	597.0 million pesos	Discretionary.	Not allocated.	No		
	BAHAMAS	Participation of national revenues	Semi-automatic. Up to 50% of the property tax, up to 50% of the motor vehicle tax, and up to 100% of airport tax, hotel, commercial and ship licences.		Automatic. Allotted among districts according to the geographic origin of the collection. Subject to executive and legislative approval.	Not allocated.	No	
		Direct subsidy	Discretionary.		Discretionary. Subject to executive and legislative approval.	Not allocated.	No	

BOLIVIA	Budget transfers to public sector	Discretionary. Treasury budget line item.	530.54 million bolivianos	Discretionary. Transfers allotted to municipalities, prefectures and public enterprises.	Not allocated.	No	
	Tax coparticipation. Law 1551 (popular participation)	20% of revenue from main taxes.	686.4 million bolivianos	Automatic. Allotted among the municipalities according to population.	Not allocated. 15% current expenditures, 85% capital expenditures, especially education and health.	Yes. Percentage varies according to municipal resources and the type of project.	
	Transfer of special hydrocarbons tax	25% of revenue from the special tax on hydrocarbons and derivatives.	168.6 million bolivianos (in 1996)	Automatic. Allotted among prefectures. 50% according to population and 50% according to origin of production.	Not allocated.	No	Effective 1996.
BRAZIL	State Participation Fund (FPE)	21.5% of net revenue from income tax and industrialized products tax.	\$3,942.2 million (in 1991 US\$)	Automatic. Distributed among states according to legal requirements calculated using the population and the inverse of the per capita state income. The corresponding requirements are limited to 15% for the Southern-Southeastern states and to 1% for the case of São Paulo.	25% to education. Treasury can subtract debt currently owed by states.	No	Per capita income is an imperfect measure of fiscal capacity.
	Municipality Participation Fund (FPM)	22.5% of net revenue from income tax and industrialized products tax.	\$4,244.8 million (in 1991 US\$)	Automatic. 10% for capital municipalities, according to population and the inverse of the per capita income, 4% for municipalities bigger than 156,000 inhabitants in 1980, 86% among states according to the 1989 transfer schedule, allotted according to population and the inverse of the per capita income.	25% to education. Treasury can subtract debt currently owed by states. Credited to the Unemployment Insurance Fund.	No	Utilizes per capita income as a fiscal capacity indicator which blurs the distinction between rich and poor municipalities.
	Transfers to health system	Discretionary. Budget line item.		Semi-automatic. Transfer to Municipal Health Councils. 50% proportional to population and 50% according to programs and projects.	Health.	No	
	Quota of tax on goods and services turnover (ICMS)	25% of effective revenues from circulation of goods tax and services collected by states.		Automatic. Transfer to municipalities, 75% according to the value added generated within the municipality, 25% according to legal requirements that account for population, number of municipalities, own collection.	25% to education.	No	
	Transfers negotiated	Discretionary. Budget line item.		Discretionary. Transfer to states and municipalities. Individual negotiation.	Specific projects.		
	Fondo de Resarcimento de Exportaciones	10% of tax on industrial goods.	\$867 million (in 1991 US\$)	Semi-automatic. Transfer to states and municipalities. First, there is a share of industrial exports that is transferred (66.6% proportional to collection and 33.3% at the government's discretion). From this amount, 25% is transferred to the municipalities.	25% of all resources transferred to the states for education.	No	
	Transfer of education payroll taxes	66.7% of payroll tax.	\$570.4 million (in 1991 US\$)	Automatic. Transfer to states is proportional to collection.	Yes. Investment in basic education	No	

Appendix Table C.4. (cont.)

Country	Name of transfer	How is the amount determined?	Amount 1995	How is it allocated?	Allocation	Cofinancing?	Notes
CHILE	Transfer of gold tax	30% of the gold tax.	\$5.1 million (in 1991 US\$)	Automatic. Transfer is proportional to the geographic origin of the gold.	25% to education.	No	
	Transfer of rural estate tax	50% of rural property tax.		Automatic. Transfer to municipalities is proportional to collection.		No	
	Education subsidy	Automatic. Fixed amount per student.	442,993 million pesos	Automatic. Transfer to municipalities is proportional to number of students and education level.	Education.	No	The criterion establishes a country-wide expense floor per student.
	Transfer to health sector	Automatic. The Department of Education determines the cost of each service and this is included in the budget as such.	48,096 million pesos	Automatic. Transfer to municipalities according to the number of legal benefits. Paid according to monthly invoicing.	Health.	No	
	National Fund for Regional Development	Discretionary. Budget line item.	61,082 million pesos	Semi-automatic. Regional transfers according to socioeconomic indicators and territorial condition.	Not allocated.	No	5% of resources are transferred as an administrative efficiency bonus.
	Provisions for rural education and electrification	Discretionary. Budget line item.	12,000 million pesos	Automatic. Transfer to municipalities according to number of beneficiaries.	Education, rural electricity.	No	
	Neighborhood improvement program	Discretionary. Budget line item.	23,584 million pesos	Automatic. Regional distribution, which depends on projects proposed by the municipalities.	Investment in water and sewage.	No	
	Urban improvement and community development program	Discretionary. Budget line item.	8,893 million pesos	Automatic. Regional distribution. 80% proportional to unemployed and number of municipalities. 20% for emergencies. Regions distribute resources according to projects proposed by each municipality.	Not allocated.	No	
	Situado Fiscal (fiscal earmarking)	A minimum share of current revenues, set at 24.5%.	1,746,552 million pesos	Automatic. 15% equally divided between departments and districts. The other 85% is split in two steps: first, it is distributed among departments and districts until the inflation-adjusted 1993 amount is reached. The rest is split according to the beneficiary population and the fiscal effort. Then it is adjusted according to the per capita income of each department relative to the national average.	60% education, 20% health, 20% education or health (as determined by each department).	No	This criterion tries to prevent decentralization problems, but formalizes an unequal and inefficient situation.
	COLOMBIA						

	Participation of Treasury revenues	Automatic. A share of current revenues, which will annually be increased from 14% in 1993 up to 22% in the year 2001.	1,206,696 million pesos	Automatic. Among municipalities and districts, 60% according to population with unmet basic needs (NBI) and relative poverty, 22% according to population, 12% according to fiscal and administrative efficiency, 6% according to progress at NBI.	30% education, 25% health, 20% water and sewage, 5% recreation and culture, 20% discretionary.	No	The allotment criterion will be used only as of the year 2000. Until then, an increasing share of the resources (50% in 1996) will follow such norms and the remaining will be distributed proportional to 1992 VAT transfers.
	Cofinancing	Discretionary. pesos	523,128 million districts.	30% for emergencies, 70% among departments and This 70% is allotted as: 40% according to NBI, 60% by sectors according to specific sector indicators (health, student enrollment, rural index, water and sewage coverage deficit). Municipalities are beneficiaries.	Four sector funds: social, urban infrastructure, road infrastructure, rural development.	Yes. The percentage changes according to the department/municipality category and the type of project. Range between 0-85%.	Resources managed through administrative fiduciaries (CODECO and UDECO) that carry out technical analysis on project viability prior to approving funds.
COSTA RICA	Transfer to banana producing municipalities	Automatic. \$1.50 per banana box exported.	292,000 colones	Automatic.	Not allocated.	No	
	Transfer to Alajuela municipalities	Automatic. 30 colones per port user.	30,000 colones	Automatic.	Not allocated.		
DOMINICAN REPUBLIC	Coparticipation of national tax revenues	Automatic. 20% of current revenue collection.	451.2 million RD\$	Automatic. 100% at the local level, according to population.	Not allocated.	No	The amount to transfer has never been respected. The decision is taken by the President and the Secretary General of the Dominican Municipal League.
EQUADOR	Transfer to Fondo de Desarrollo Seccional, FODESEC	2% of budget revenues. Three billion sucres from oil exports at 1991 prices, adjusted for CPI. All FONAPAR (Fondo Nacional de Participaciones) allowances. Future allowances credited on budget.	510 billion sucres	Semi-automatic. 2% for province capital municipalities; 19.6% for provincial councils and the Instituto Nacional Galápagos: 60% for population, 20% for area, and 20% for NBI. 73.5% for municipalities: 60% distributed by the Finance Ministry (60% for population, 30% for NBI, and 10% according to administrative efficiency) and 40% is transferred into the Investment Fund at the State Bank. The remaining 4.9% goes to the Emergency Reserve.	Transfer to provincial councils: 70% discretionary, 30% investment. Municipal transfer: not allocated.	No	Close to 5% is transferred according to municipal administrative efficiency.

Appendix Table C.4. (cont.)

Country	Name of transfer	How is the amount determined?	Amount 1995	How is it allocated?	Allocation	Cofinancing?	Notes
	Transfer to Fondo de Desarrollo Provincial, FONDEPRO	Automatic. 2% of current revenues in the budget.	50.4 billion sucres	Automatic. 50% transferred to state banks as capital (75% in equal parts and 25% according to population). The remaining 50% is transferred to the provincial councils (75% in equal parts, 25% according to population).	Allocated. Only for development works.	No	
EL SALVADOR	Annual state contribution to Fondo Municipal	As established by the law that created the fund.	25 million colones	Automatic. 5% for administrative expenses and capital formation. 95% proportional to the inverse of the municipality's population.	Not allocated.	No	
	Contribution to municipalities	Discretionary.	35 million colones	At the discretion of the executive.	Not allocated.	No	
GUATEMALA	Constitutional transfer to municipalities	Automatic. 10% of budget current revenues.	464.5 million quetzales	Automatic. 25% proportional to population, 25% in equal parts among municipalities, 25% proportional to the per capita income of each municipality, 15% proportional to the number of villages, 10% proportional to the inverse of the per capita income of each municipality.	90% for education, health, infrastructure and public services.	No	
	Transfer of VAT to municipalities	% of VAT.	242.3 million quetzales	Automatic. 25% proportional to population, 25% shared among the municipalities, 25% proportional to the per capita income of each municipality, 15% proportional to the number of communities, 10% inversely proportional to the per capita income of each municipality.	Education, health, infrastructure and public services.	No	
GUAYANA	Regional transfer			Discretionary.	Not allocated.	No	
HONDURAS	Transfer to municipalities	5% of central government budget tax revenues.	81.5 million lempiras	Automatic. 20% in equal parts among all municipalities. 80% proportional to population.	Allocated: 10% administrative expenditures and 90% investment expenditures.	No	
	Transfer to port municipalities	4% of the Port Authority and Customs Authority annual revenue.	27.5 million lempiras	Automatic. Distributed according to the origin of the collection.	Not allocated.	No	
	Other transfers to municipalities	Discretionary.	71.9 million lempiras	Discretionary.	Not allocated. For public works repairs and lighting.	No	

MEXICO	Fondo General de Participaciones	Automatic. 80% of the 18.51% of the federal participatory revenues (IFP) (includes all main taxes).	23,258.6 million 1993 pesos	Automatic. Distributed among states: 45.17% according to population, 45.17% proportional to the previous year federal tax revenue, 9.66% inversely related to the previous two.	Not allocated.	No	
	Fondo General de Participaciones	Automatic. 20% of the 18.51% of the federal participatory revenues (IFP).	5,814.7 million 1993 pesos	Discretionary. Distributed among the municipalities by states according to own criteria (not uniform).	Not allocated.	No	Transfer from the states to the municipalities.
	Coordinación de Derechos (Entitlement coordination)	Automatic. 1% of IFP.	1,461 million 1993 pesos	Automatic. Distributed among those states that coordinate with the federation, service rates collected according to the same criteria of the previous transfer.	Not allocated.	No	
	Special tax bases, contingency reserve and vehicle use	Automatic. Special bases: 0.11% of IFP, Contingency reserve: 0.25% IFP, Vehicle Use: 1.6% IFP, Other incentives: 0.25% IFP.	2,233.7 million 1993 pesos	Automatic. Distributed among states according to the same previous formula.	Not allocated.	No	
	Fondo de Fomento Municipal y de Reordenamiento Urbano	Automatic. 1% del IFP.	1,461.1 million 1993 pesos	Automatic. Distributed among municipalities according to real estate tax collection and municipal water fees.	Not allocated.	No	The formula gives incentives for greater collection effort by rewarding municipalities that improve collection relative to other municipalities.
	CONACAL	Discretionary.	6,500 million pesos in 1997	Discretionary. Joint evaluation of state governments and Communication, Transportation and Social Development Departments.	Allocated for highways and rural roads.	Yes. The percentage is negotiated on a case by case basis.	
	Health and education	Discretionary.	22,930.5 million 1997 pesos	Discretionary. Joint evaluation by Health, Education and Finance Departments.	Allocated for education, health.	No	
	Municipality law	5% of tax revenues.					
	Contribution to municipalities	Discretionary.	2,522.0 CS thousands	Discretionary. Distribution determined by the Instituto Nicaragüense de Fomento Municipal (INIFOM).	Allocated for payroll.	No	
	Decentralizing transfer to municipalities	Automatic. Assigned cost per primary and secondary student in schools managed by the municipalities.	14,813.0 CS thousands	Automatic. According to number of students by education level.	Allocated for education.	No	
NICARAGUA							

Appendix Table C.4. (cont.)

Country	Name of transfer	How is the amount determined?	Amount 1995	How is it allocated?	Allocation	Cofinancing?	Notes
PANAMA	Municipal investment project	Discretionary. Budget line item.	51,287.0 CS thousands	Discretionary.	Allocated by projects.	No	
	Recurrent transfer to poor municipalities	Discretionary (subsidy to municipalities that cannot cover basic expenses).	\$1.1 million	Discretionary: determined by the Ministries of Government and Justice.	No specific allocation (for operational expenses).	No	
	Capital transfer for local investment	Automatic. Set allocations by municipality, district, province or community.	\$13.1 million	Each province is allowed 100,000 balboas, each district, 50,000, each district 25,000, and each community 10,000.	No specific allocation (social infrastructure, agriculture, industry)	No	The Ministry of Planning and Economic Policy assigns 750,000 balboas for project design.
PARAGUAY	Coparticipation of national tax revenues	Automatic. 15% of VAT and 30% of gambling revenues.		Automatic. Departments receive 15% of what is collected within their territory.	Health, education and public works.	No	Before 1994 the distribution of these resources was discretionary.
	Coparticipation of local taxes	Automatic. 15% of the real estate tax collected at the municipal level.		Automatic at the municipal level. Distributed among poor municipalities according to a formula.	Not allocated.	No	Transfer between municipalities.
	Coparticipation of local taxes	Automatic. 15% of real estate tax collected at the municipal level.		Automatic. At the department level, resources go to the department the municipality belongs to.	Not allocated.	No	Transfer from the municipal to the department level.
PERU	Transfers of Treasury revenues	Discretionary. Budget line item.		Discretionary. At the department level, according to the projects of each governorship.	Not allocated.	No	
	Programa Social del Vaso de Leche	Discretionary. Budget line item.	229.8 million soles	Automatic. To the municipalities according to a poverty map.	Allocated for children 0-6 years old and for expecting and breastfeeding women.	No	
	Regional transfers	Discretionary. Budget line item.	2,916 million soles	Discretionary. Transfers to the region based on need. Congress must approve proposal by the executive.	Not allocated.	No	
	Compensation for tax repeal	Discretionary. Budget line item.	13.7 million soles	Automatic. To three municipalities according to collection before repeal of the tax.	Not allocated. For investment expenses.	No	

Appendix Table C.4. (cont.)

Country	Name of transfer	How is the amount determined?	Amount 1995	How is it allocated?	Allocation	Cofinancing?	Notes
VENEZUELA	Situado Constitucional (constitutional earmarking)	20% of current revenues.	893,019 million Bs.	Automatic: 30% in equal parts among states, 70% according to the population of each state, 20% of resources in each state must be transferred to the municipalities. This percentage has been increasing 1% annually starting at 10% in 1990 up to 20% by the year 2000.	Not allocated specifically.	No	
	Transfers associated with the decentralization of responsibilities	Same share of current revenues incurred as an expense by the central government at the time the service was transferred.	56,600 million Bs.	Automatic: Transfers to states follows the same distribution schedule it had before the transfer of responsibilities.	Allocated. State under the obligation to use resources to provide the corresponding service.	No	
	Ley de Política Habitacional	Discretionary. The global budget (at the national level) must be 5% of the current revenues less the "situado" and other legal obligations.	25,157 million Bs.	Discretionary: Distribution between states and municipalities is carried out by the executive, with suggestions from the National Housing Council.	Allocated for housing plans.	No	
	Public education promotion program	Discretionary.	24,741 million Bs. en 1996	Discretionary. Distribution between states and municipalities is carried out by the Ministry of Education according to the projects and individual negotiations.	Allocated for education.	Yes. The percentage changes according to socio-economic characteristics, type of project and the administrative structure in charge of the project. Range of 25%–40%.	Transfers are credited to FIDES. The potential availability of funds is determined according to formula, but resources are delivered as projects are approved. Transfers in 1996 amounted to Bs 200,000 million.
	Coparticipation of states and municipalities in sales tax revenues (IGV) through FIDES (intergovernmental decentralization fund)	15–20% from luxury goods tax and wholesale tax. Congress sets the share to transfer in the budget.	10,528 million Bs.	Automatic: 60% to states and 40% to municipalities. These resources are then distributed according to the following: 45% according to population, 10% according to territory, 45% according to the unmet basic needs index calculated by FIDES. Transfer is done based on approved projects.	No specific allocation.	Yes. States under the obligation to provide their own funds for each project. No share has been established.	Transfers are credited to FIDES. The potential availability of funds is determined according to formula, but resources are delivered as projects are approved. Transfers in 1996 amounted to Bs 200,000 million.

Appendix Table C.5. Constraints on Subnational Borrowing

Country	Are SNGs allowed to borrow?	Borrowing must be authorized				Are there numerical constraints on debt?	Constraints on use of debt		Can SNGs use tax sharing as guarantees?	Do SNGs own banks?	Borrowing practices of SNG public enterprises	Notes
		For intermediate governments	For local governments	Internal debt	External debt		Intermediate	Local				
Argentina	Yes	By state legislature. If denominated in foreign currency, by central govt.	By local legislature. If denominated in foreign currency, by central govt.	By central govt. and state legislature.	By central govt. and local legislature.	In most provinces. Debt service is generally limited to 20/25% of current revenues. Some provinces impose constraints on municipalities.	For investment and structural reforms.	For investment and structural reforms.	Yes	Yes (they play a significant role in financing SNGs)	Established in by-laws of each firm.	
Bahamas	No		N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Bolivia	Yes	By central government and local legislation.	By central government and local legislature.	By central government, national legislature, and local legislature.	By central government, national legislature, and local legislature.	No	1996. For investment.	1996. For investment.	Yes	No		
Brazil	Yes	By national and state legislature.	By national and local legislature.	By national and state legislature.	By national and local legislature.	The amount is limited to that approved with the budget of each state and municipality.	Limited to specific projects (only when contracted to a multilateral organization)	Limited to specific projects (only when contracted to a multilateral organization)	Yes	Yes (they play a significant role in financing the SNGs).	Since 1978 such practices have been widely discouraged by central banks' regulations.	
Chile	No. SNGs can only contract debt after the national congress passes a special law approving operations of each entity.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	
Colombia	Yes	By department legislature (intermediate level).	By local legislature.	By the national government and the legislature in the departments.	By the national government and local legislature.	Until 1996 debt services were limited to 30% of current revenues. A new law changes the limit to a debt interest/operational savings ratio of less than 40% or a debt/current revenues ratio of less than 80%.	For investment.	For investment.	Yes	Yes	Limited to that allowed by rules dictated by the central government.	

Appendix Table C.5. Constraints on Subnational Borrowing (cont.)

Country	Are SNGs allowed to borrow?	Borrowing must be authorized:		Are there numerical constraints on debt?		Constraints on use of debt		Can SNGs use tax sharing as guarantees?	Do SNGs own banks?	Borrowing practices of SNG public enterprises	Notes
		For intermediate governments	For local governments	Internal debt	External debt	Intermediate	Local				
Costa Rica	Yes		By local legislature and the Office of the Controller General.	By national and local legislature. Favorable opinion from the Office of the Controller General.	Debt service is limited to 10% of municipal current revenues when contracted for financing of projects that will not generate sufficient funds for repayment.		For investment.	No	No		
Dom. Rep.	Yes		By national government and local legislature.	By national government and local legislature.	No		There are no limits regarding use of public funds.	Yes	No		
Ecuador	Yes	No authorization is required.	No authorization is required.	No authorization is required.	When used in projects that do not generate sufficient resources for repayment, debt service is limited to 20% of current municipal revenues.	For investment.	For investments in infrastructure when contracted for more than one year.	No	No		The main lender for SNGs is the Banco de Desarrollo. External debt has been used to finance investments. There have been instances of the national government assuming debt of SNGs.
El Salvador	Yes		No formal authorization is required.	By the national government and the national legislature (when a guarantee is applied for).	No		External is limited to investment. Internal can be used for infrastructure and current expenditure.	No	No		Although there are not many formal obstacles to municipal borrowing capacity, SNG credit is seldom used. 80% of municipalities have deficits or are insolvent. In external debt operations a guarantee issued by the national government is usually demanded by lenders. Due to their insolvency, SNGs find it difficult to obtain such backing.

Guatemala	Yes			By national legislature.	By national legislature.	No		There are no limits regarding use of public funds.	No	No	Must have approval by national legislature.	Local borrowing is very small in comparison with that of the national level.
Honduras	Yes			By the national government. Favorable opinion issued by the central bank is required	By the national government. Also by the national legislature when a guarantee is issued by the national government.	No		There are no formally set limits, although in practice the debt is used for investment in projects that generate enough resources for repayment.	No	No		
Mexico	Yes	States are not allowed to contract external debts.	By state legislature.	By state and municipal legislatures.	Municipalities are not allowed to contract external debts.	Some states limit their municipalities' borrowing capacities to a given ratio (i.e., the municipalities of the state of Oaxaca are limited to 35% of their transfers).	For investment.	For investment.	Yes, in the case of municipalities	No	Such practices need to be approved by state legislatures.	
Nicaragua	Yes			By local legislature.	Need to be guaranteed by the national government.			For investment.	Yes	No		
Panama	Yes	Are not allowed to borrow.	Are not allowed to borrow.	By national government and local legislature.	By national government and local legislature	No	N/A	For investment.	No	No	There are no such enterprises.	
Peru	Yes	By the national government, since its guarantee is required.	No authorization is required.	No authorization is required unless the guarantee of the national government is sought.	No authorization unless the guarantee of the national government is sought.	When a guarantee by the national government is sought there are limits to debts services established annually by law.	When debt is backed by own revenues the use is restricted only current expenditures. When there is guarantee by the national government it can only be used for investments in infrastructure and public services.	When debt is backed by own revenues the only restricted use is current expenditures. When there is guarantee by the national government it can only be used for investments in infrastructure and public services.	No	No		

Appendix Table C.5. Constraints on Subnational Borrowing (cont.)

Country	Are SNGs allowed to borrow?	Borrowing must be authorized:				Are there numerical constraints on debt?	Constraints on use of debt			Can SNGs use tax sharing as guarantees?	Do SNGs own banks?	Borrowing practices of SNG public enterprises	Notes
		For intermediate governments	For local governments	Internal debt	External debt		Intermediate	Local	Local				
Trinidad and Tobago	Yes			By national government and local legislature.		Borrowing is limited to the amount approved in annual estimates of expenditure.		For investment or overdraft.	No	No		The national government guarantees the full amount of loans made to SNGs.	
Uruguay	Yes	By the department legislature.	By national legislature and legislature at the department level.			Quantitative limits are determined in annual budgets.			No	No	Enterprises do not contract debts independently from SNGs which assist firms in case of deficit.		
Venezuela	Yes	By special law passed by the national legislature, and by national government, and the state or local legislature.	Are not allowed to borrow.	By special law passed by the national legislature, and by national government, and the state or local legislature.	Are not allowed to borrow.	No	There are no limits regarding use of borrowed funds.	There are no limits regarding use of borrowed funds.	No	No	Those practices are subject of the same authorization process that states and municipalities need to undergo when borrowing.	The authorization process SNGs must go through is extremely difficult and slow, virtually prohibiting them from borrowing.	

Note: Shaded areas indicate that the level of government does not exist.

APPENDIX D

DATA SOURCES

VARIABLES OF FISCAL PERFORMANCE

Total public debt as a share of GDP. Average for the period 1990–95. Source: 1) Latin America: own calculations based on *Recent Economic Developments*, IMF. 2) OECD: OECD national accounts, 1996.

Correlation coefficient between the cyclical component of government consumption and the cyclical component of output for the period 1970–1995. Source: Talvi and Végh (1996).

Consolidated public sector expenditures as a share of GDP. Average for the period 1990–95. Source: 1) Latin America: own calculations based on *Recent Economic Developments*, IMF. 2) OECD: OECD national accounts, 1996.

Capital expenditures from the consolidated public sector as a share of GDP (Gk). Average for the period 1990–95. Source: 1) Latin America: own calculations based on *Recent Economic Developments*, IMF. 2) OECD: OECD national accounts, 1996.

Net interest payments from the consolidated public sector as a share of GDP (Gr). Average for the period 1990–95. Source: 1) Latin America: own calculations based on *Recent Economic Developments*, IMF. 2) OECD: OECD national accounts, 1996.

Social security expenditures from the consolidated public sector as a share of GDP (Gss). Average for the period 1990–95. Source: 1) Latin America: own calculations based on *Recent Economic Developments*, IMF. 2) OECD: OECD national accounts, 1996.

Consolidated public sector revenues as a share of GDP. Average for the period 1990–95. Source: 1) Latin America: own calculations based on *Recent Economic Developments*, IMF. 2) OECD: OECD national accounts, 1996.

Total surplus from the consolidated public sector as a share of GDP. Average for the period 1990–95. Source:

1) Latin America: own calculations based on *Recent Economic Developments*, IMF. 2) OECD: OECD national accounts, 1996.

Primary surplus from the consolidated public sector as a share of GDP. Average for the period 1990–95. Source: 1) Latin America: own calculations based on *Recent Economic Developments*, IMF. 2) OECD: OECD national accounts, 1996.

CONTROL VARIABLES

Total public debt as a share of GDP at the beginning of the period of analysis. Source: 1) Latin America: own calculations based on *Recent Economic Developments*, IMF. 2) OECD: OECD national accounts, 1996.

Real GDP per capita adjusted by power purchase parity. Average for the period 1990–95. Source: United Nations, *World Development Report*, 1990–95.

Real GDP output growth. Average for the period 1990–95. Source: *International Financial Statistics*, March 1997.

Share of exports plus imports over GDP (Openness). Average for the period 1990–95. Source: *International Financial Statistics*, March 1997.

Share of population under 14 years old, 1995. Source: World Bank indicators, 1995.

Share of population under 14 and over 65 years old, 1995. Source: World Bank indicators, 1995.

Share of population over 65 years old, 1995. Source: World Bank indicators, 1995.

Population, 1995. Source: World Bank indicators, 1995.

Standard deviation of real GDP growth for the period 1970–1995 (volatility). Source: Own calculations based on *International Financial Statistics*, March 1997.

INSTITUTIONAL VARIABLES AND INDICES

Degree of decentralization. Source: Decentralization survey conducted at the IDB by the Office of the Chief Economist (1997), Government Financial Statistics (1996), and Nickson (1994).

Vertical fiscal imbalance. Source: Decentralization survey conducted at the IDB by the Office of the Chief Economist (1997), Government Financial Statistics (1996), and Nickson (1994).

District magnitude. Source: Latin America: Constitutional and legal texts. OECD: Hallerberg and Von Hagen (1997).

Legislative electoral formulas. Source: Constitutional and legal texts.

Absolute number of political parties with representatives in parliament. Source: Wilfred Derksen.

Effective number of political parties with representatives in parliament. Source: Own calculations based on data by Wilfred Derksen.

Percentage of legislative seats held by the head of government's party (or parties) in the lower (or single) house. Source: Wilfred Derksen.

Changes in legislature allowing mayoral elections, election systems for executive and legislative branch in sub-national levels, existence of other mechanisms of citizen

participation. Sources: Decentralization survey conducted at the IDB by the Office of the Chief Economist (1997), constitutions and relevant laws, and Nickson (1994).

INDICES

Index of Activity Decentralization. Source: Decentralization survey conducted at the IDB by the Office of the Chief Economist (1997), Government Financial Statistics (1996), and Nickson (1994).

Index of Budgetary Institutions. Average for the period 1990–95. Source: 1) Latin America: based on a survey conducted at the IDB by Alesina, Hausmann, Hommes and Stein (1996). 2) OECD: kindly provided by Dr. Jurgen Von Hagen.

Index of Borrowing Autonomy. Source: 1) Latin America: Decentralization survey conducted at the IDB by the Office of the Chief Economist (1997), Government Financial Statistics (1996), and Nickson (1994). 2) OECD, kindly provided by Dr. Jurgen Von Hagen.

Index of Discretionality of Intergovernmental Transfers. Source: Decentralization survey conducted at the IDB by the Office of the Chief Economist (1997), Government Financial Statistics (1996), and Nickson (1994).

Index of Political Autonomy and Participation. Sources: Decentralization survey conducted at the IDB by the Office of the Chief Economist (1997), constitutions and relevant laws, and Nickson (1994).