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Budget Discipline in Latin American and  
Caribbean Countries**



# Executive Authority, the Personal Vote, and Budget Discipline in Latin American and Caribbean Countries

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## Abstract:

Recent scholarship on the impact of fiscal institutions on budgeting outcomes in Latin America indicates that political institutions impact the level of budget discipline. This paper builds upon this previous institutional research. It argues that the principle problem that must be addressed to insure strong fiscal discipline is the common pool resource (CPR) problem. The source of the problem as well as its solution differ in the government and in the legislature. At the cabinet level, the CPR problem arises because ministers consider the spending and tax implications of decisions on their ministries only instead of on the general population. Centralization of the budget process through a strong central player like the finance minister at the cabinet level can reduce the CPR problem in the presidential and one-party parliamentary systems in Latin America and the Caribbean. The level of the CPR problem in the legislature, in contrast, depends upon the type of electoral system. If states have open lists, then increases in district magnitude increase the problem, while under closed lists increases in district magnitude *decrease* the problem. There is therefore an interactive effect between the extent of the CPR problem and the level of centralization of the budget process. Using a data set of Latin American and Caribbean countries for the period 1988-97, we find that executive power in the budget process is most effective in reducing budget deficits when the personal vote is high in Congress, while strengthening the president (or prime minister) in countries where the personal vote in the legislature is low has virtually no effect.

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## Introduction

Economists and political scientists alike have turned attention increasingly to domestic political institutions to explain the great variations in the size of budget deficits across countries since the early 1970's. One school of thought has focused on how governments make their budgets each year. These "budget institutionalists" argue that greater centralization of the budget process reduces common pool resource problems (von Hagen, 1992; Alesina and Perotti, 1995a; Hallerberg and von Hagen 1998 and 1999). Conversely, "electoral institutionalists" focus on the effects that electoral systems have either directly or indirectly on the budget process. The general finding is that plurality electoral systems maintain tighter fiscal discipline than proportional representation systems (Roubini and Sachs, 1989; Grilli et al., 1991; Alesina et al., 1997; and Milesi-Ferretti et al., 1999).

Most of these studies restrict their empirical examinations to OECD countries. Two exceptions to the general rule, Alesina et al. (1999) and Stein et al. (1999), examine how institutions affect fiscal policy in Latin America. Based on answers from a survey to budget directors in Latin American countries, Alesina et al. (1999) take the budget institutionalist approach. They argue that countries with more hierarchical budget institutions have lower budget deficits than countries with more collegial institutions in a sample of Latin American countries for the period 1980-92. Stein et al. (1999) find evidence for both institutional approaches. Based on regression analysis for Latin American countries for the period 1990-95, budget institutions Alesina et al. identify remain important in the later period, while increases in average district magnitude decrease budget discipline. Because plurality systems have a district magnitude of 1 and proportional representation systems have district magnitudes greater than 1 and become more proportional as district magnitude increases, this result provides direct support for the electoral institutions argument.

This paper focuses on the relationship between budget and electoral institutions in Latin America. There are two steps to the budget process—the government formulates its budget proposal within the cabinet, then the government sends the proposal to the legislature where it is considered, possibly amended, and approved. Following Hallerberg and von Hagen (1999), we argue that a strengthening of a dominant player (usually the finance minister) at the cabinet stage improves budget discipline in the presidential and one-party parliamentary systems found in Latin American and Caribbean countries. A similar strengthening of the executive vis-à-vis the legislature, in contrast, does not have clear implications—budget discipline increases only in countries where the personal vote is high. In such countries, the electoral system favors the election of individuals over the election of parties, and it encourages politicians to provide particularistic goods to specific groups to get reelected. A strengthening of the executive's position in such countries leads to tighter fiscal discipline. In countries where the personal vote is low, however, it is unclear what benefit one gains from strengthening the executive. The implication is that one cannot state simply that stronger budget institutions in the form of a strong executive, or plurality electoral systems, always lead to higher fiscal discipline—the impact of budget institutions depends upon the electoral system in place.

Section 1 begins with a discussion of the main contemporary problem of budgeting, namely fragmentation of decision-making that leads to common pool resource (CPR) problems. A CPR problem exists whenever decision-makers consider the benefits and costs of their decisions on their constituencies only. In a budgeting situation, they do not internalize the full tax implications of their decisions, and they request more spending, and in a multi-period game create larger budget deficits, than if they had considered the full burden. In a government cabinet the problem is usually endemic because ministers consider the spending and tax implications of decisions on their ministries. Hallerberg and von Hagen (1999) illustrate that centralization either in the form of *delegation* to a finance minister with a dominant position in the budget process or *commitment* to negotiated fiscal contracts among coalition partners can reduce the CPR problem in cabinet. Consistent with their argument on why some countries choose delegation over commitment, we expect the presidential systems and one-party parliamentary systems in our sample to rely on delegation to reduce the CPR problem in cabinet.

In the parliamentary stage, the relative size of the CPR problem depends on the extent to which the electoral system encourages the personal vote. The more the system rewards congresspersons who develop personal contacts, the larger the CPR problem in the congress. Systems that encourage the personal vote include open list proportional representation countries like Brazil, while closed list proportional representation systems like Argentina reduce the CPR problem. Hence, more hierarchical institutions within parliament are needed to control the CPR problem especially in countries where open list proportional representation is practiced.

Section Three examines these arguments empirically. Based on the data that Alesina et. al. (1999) collect, we confirm that virtually all countries in the sample have “strong” central players in the cabinet as the theory would expect. The most important findings concern the legislature. Executive power in the budget process is most effective in reducing budget deficits when the personal vote is high in the legislature, while strengthening the president (or prime minister) in countries where the personal vote in the legislature is low has virtually no effect.

## **1. Fragmentation and the Common Pool Resource Problem**

### **a. The Players**

In a broad sense we are concerned with politicians who make decisions that affect a given country’s budget. Individuals belong to one, and only one, political party. Parties differentiate themselves by appealing to different clienteles in the general population. They propose both spending packages and tax packages that are designed to benefit their supporters. This assumption means that, even if parties operate in Downsian fashion and converge towards the median voter in policy

positions, parties still want to get elected in order to distribute the “spoils” of victory to their supporters<sup>1</sup>.

There are also two ideal types of government that are generally accurate characterizations of the two types of government found in Latin American and Caribbean countries. Parliamentary systems are those where a parliament elects the leader of the country, the prime minister. Terms of office are generally not fixed; the prime minister has the right to call an early election and to dissolve parliament. In contrast, in presidential systems the voters directly elect the president. The president cannot dissolve Congress, and elections are held at fixed times. Unified governments exist when one party controls a majority of seats in relevant chambers of Congress (lower house and, where they exist and where their approval is necessary for a bill to become law, upper house) as well as the executive. Divided government exists when one party does not control the relevant institutions.

## **b. The Problem**

An important reason for the occurrence of regular budget deficits is what is known in the literature as the common pool resource problem (Ostrom 1990; Ostrom, Gardner, and Walker 1994). In budgeting, the common pool that the budget players draw upon is state revenues. The crucial assumption is that decision-makers care most about their constituencies when they make budget bids. They therefore concentrate just on the benefits of additional spending and costs of additional taxes for only a small subset of the general population. Because a given constituency will enjoy the full benefits of every additional peso in spending but have to pay only a fraction of additional taxes for the additional spending, decision-makers will make budget bids that are larger than if they were to make bids that included the full tax burden.

The process for how budgets are determined given these preferences is then important. If the process is fragmented so that players essentially receive what they ideally bid, then both spending and the size of budget deficits in a multi-period game will be higher than under more centralized procedures. Any procedure that forces a consideration of the full tax burden in the budget decision, conversely, will reduce both spending and budget deficits (Velasco 1999, 2000; Hallerberg and von Hagen 1999). Yet what these authors have neglected to date are systematic differences in the amount of fragmentation (and, by extension, the size of the CPR problem) even in the absence of centralizing budgetary procedures. The crucial variable here is the proportion of the total tax burden that a given decision-maker considers. If all players have an incentive to consider the total tax burden, then there is no common pool problem to begin with. If decision-makers have incentives to consider only a small fraction of the total tax burden, then the CPR problem is potentially large.<sup>2</sup>

The next two sections examine how both system type (presidential or parliamentary) and the electoral system for the legislature create incentives for

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<sup>1</sup> For a good contemporary discussion of the “Downsian” (Downs 1957) and “Hibbsian” (1977) see Clark (forthcoming).

<sup>2</sup> For a formal exposition see Hallerberg (2001).

decision-makers to consider different proportions of the total tax base. It turns out that the level of fragmentation may not be all that different across Latin American cases for the cabinet stage of the budget process, but it does matter for the legislative stage. We begin with a discussion of institutional sources for different potential levels of the CPR problem within the cabinet and within the legislature. We then discuss potential solutions.

### **c. Sources of Fragmentation within the Cabinet**

Ministers usually belong to a political party. Political parties often represent distinct sectors in society. A long tradition in political science identifies labor parties as representing the interests of labor on the national stage, for example, while conservative parties represent the interests of capital (Hibbs 1977, 1987). To the extent that parties represent only subsections of society and that party clienteles are distinct from one another, and to the extent that cabinet members care only about the effects of their decisions on their party clienteles, a CPR problem will exist. Moreover, there are two dynamic expectations concerning party bias. First, the smaller the total tax burden that a given party making a budget decision represents, the larger the fragmentation of the budget process in absence of any centralizing institutions. Second, the more political parties that participate in the decision-making process, the more fragmented the process.

This aspect concerning parties would suggest that one party governments should have CPR problems of lesser magnitude. If parties are truly unified actors, and if they coherently represent one large block (in terms of proportion of the population), this statement is true. Yet parties across countries (and even within countries) are not equally unified. Parties can bring together different interests under one label. A single party may have an urban wing, an agricultural wing, and a Catholic wing. Moreover, parties in countries where there are traditionally only two major parties often have a “big tent” character that accommodate diverse, and sometimes contradictory, interests. In addition to inter-party fragmentation, therefore, there can also be *intra-party* fragmentation. The more a given party has different political wings to it that have distinct constituencies, the larger the fragmentation of decision-making and the larger the potential CPR problem. This problem is apparent when one considers that ministries may be awarded directly to the part of a political party that cares most about a given policy. An agriculture ministry, for example, may go to the rural party wing, while the ministry for urban affairs would go to the urban party wing.<sup>3</sup>

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<sup>3</sup> There is a potential third source of fragmentation, namely ministerial fragmentation. Consider an agricultural minister who sees her mission as improving the lot of farmers. She will make budget proposals that include spending for farmers, but she will consider the tax consequences of her spending request only on that part of the population that are farmers. If cabinets are composed of such players who have different jurisdictions and different constituencies to consider for taxation purposes, and if ministers simply receive what they ask for in the budget negotiations, then the common pool problem should be endemic. Moreover, there is a dynamic element to ministry bias across countries. All else equal, the more ministries there are in a given cabinet, which in general would translate into the “average” minister considering an ever smaller percentage of the total tax burden, the greater should the CPR problem be. Kontopoulos and Perotti 1999 provide evidence that increases in cabinet size increase budget deficits and expenditures in OECD countries during the period 1960-95. Unfortunately, comparable data for cabinet size across time is not readily available for Latin American countries.

Is there any systematic relationship between inter-party and intra-party sources of fragmentation? The answer is clearly “yes,” and it depends on both the type of political system (presidential vs. parliamentary) as well as the electoral system for the congress. Most presidential systems rely upon some form of plurality electoral system. This means that the president must receive the most votes to win the election. The presidency is not divisible, and hence by definition presidential systems have one-party executives. Yet, while such systems result in no inter-party fragmentation within the executive, they encourage *intra-party* fragmentation. While more details about the dynamics of such fragmentation appear below, it is often the case that presidential candidates must bring together often diffuse interests behind his/her candidacy in order to have a chance to win. Once a president assumes office, he may owe different wings of the party different cabinet posts. If these ministers can then dictate their budgets, the CPR problem will be large. At the same time, the president is the only actor on the national stage that has a truly national constituency. In principle, he therefore considers the nation’s tax burden, not the tax burden of a specific constituency. An important question is the extent to which the president’s national interests override any more localized interests that cabinet members represent.

The second possibility is that a state has a parliamentary system. In this case, the electoral system plays an important role in determining the number of parties in government. The literature is clear that electoral systems have an important impact on the number of political parties who can get elected to the legislature, and by implication, how many parties are necessary to form a governing majority (or minority, as the case may be in Europe). As Duverger (1954) illustrated decades ago, plurality systems generally lead to a two-party system, and countries with such electoral systems are therefore likely to have one-party majority governments. Proportional representation (PR) systems have more variation in their district magnitudes, though the magnitudes are always larger than those found in plurality systems. They tend to have a larger number of “effective” parties in parliament, and they are likely to be characterized by multi-party majority or either one-party or multi-party minority governments (Lijphart 1984, 161; Lijphart (1994); and Taagepera and Shugart (1989 and 1993). Neto and Cox (1997) add an important extension to the theory. They convincingly argue that the effects of pre-existing social cleavages and electoral institutions on the effective number of parties, and hence on the likelihood of one-party or multi-party governments, is multiplicative. We should therefore conceive of the electoral system setting an upper bound. Plurality will usually lead to two-party systems, but the number of parties in a PR state ultimately depends on the number of underlying social cleavages, such as regional, ethnic, or income divides.

While the theoretical discussion is important, for the purposes of this paper our discussion can be simplified. Even in parliamentary systems we will be dealing as a rule with one-party executives. Of the twenty-five Latin American and Caribbean countries in our sample, only the Caribbean countries have parliamentary systems, and they all rely upon plurality electoral systems.<sup>4</sup>

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<sup>4</sup> Those countries are the Bahamas, Barbados, Belize, Jamaica, and Trinidad & Tobago.

Given that we are dealing almost exclusively with one-party executives in our data set, Hallerberg and von Hagen (1999) would propose the the following centralizing mechanism at the executive stage of the budget process as appropriate to overcome the common pool resource problem. They argue *delegation* of strategic powers to a strong central player, such as to the finance minister, is the appropriate solution to fragmentation problems in one-party government.<sup>5</sup> What is important is that the central player concern herself with the entire tax burden, not just the tax burden of individual ministries and/or the tax burdens on specific wings of the political party controlling the executive.

It should be noted that strengthening the finance minister is not necessarily appropriate in all cases. Hallerberg and von Hagen (1999) also propose an alternative institutional mechanism, *commitment* to fiscal contracts. Commitment arises when political parties form a coalition and expect to run against each other in future elections. They have good reason not to trust one central player, who inevitably must come from one political party. Instead of granting discretion to one central player parties agree to formal rules in the form of binding fiscal targets for every ministry. This method reduces the CPR problem because it forces parties to consider more of the tax burden when drafting budgets. The ultimate sanction of a party defects from the fiscal contract is dissolution of the coalition to punish the offender. Because the Latin American and Caribbean countries in our sample are either presidential or one-party majority parliamentary governments, commitment makes little sense for the states in our data set. Coalition government is not a concept applicable to presidential systems where a party cannot lead to a fall in the executive, while we simply have no coalition governments in our parliamentary systems in the sample.

Argentina provides a useful case in practice to illustrate delegation in a Latin American setting. Individual ministers hold bi-lateral discussions with the National Budget Office located within the Ministry of the Economy. The National Budget Office then creates budgetary ceilings for every ministry, which are established according to revenue forecasts established by another part of the Ministry (the Department of Finance). In cases of disagreement, the President may intervene (Jones, 1998).<sup>6</sup> One should note how this centralized process differs from a set-up where ministers propose their budgets in a cabinet setting and where log rolls that occur when ministers back each other's budgets are common.

Powers beyond setting the agenda in one-party governments in parliamentary systems work where the head of the government necessarily enjoys majority support in parliament. The finance minister is not concerned that her own party will undercut his actions. This argument relies on more than just party

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<sup>5</sup> In some countries this post is held by a budget, treasury, or economy minister instead of a finance minister. We care more about the functional definition of the ministry than its name, and for simplicity we refer throughout to this player as the "finance minister."

<sup>6</sup> European parallels are the United Kingdom and France. In the United Kingdom, the Chancellor of the Exchequer negotiates budgets one-on-one with individual spending ministers. This arrangement makes it impossible for spending ministers to create log rolls where they each support each other's initial budget bid in a vote within the full cabinet. In France, the finance minister issues a "framework letter" at the beginning of the budget process that essentially sets spending levels for each ministry (Hallerberg and von Hagen 1999).

discipline—more centralized decision-making that benefits the sitting government also benefits the majority party, and members of parliament from the majority party have little reason to undercut their finance minister. It therefore makes sense that the central player receives strategic powers during all parts of the budget process, from the initial formulation of the budget within the government to the execution of the budget itself.

This argument would at first seem just as appropriate for presidential systems. Since the president is the only player with a nation-wide constituency, he also has an interest in reducing the common pool resource problem as much as possible. We expect to find delegation on *his* part to a strong central player such as a finance minister whose responsibility covers the budget. Like in the parliamentary case, the finance minister can have strategic powers at the budget proposal stage. He may be an agenda-setter who determines the order of votes in cabinet, he may have the ability to cut initial budget proposals from spending ministers, or he may even simply designate certain spending levels for each ministry in the draft budget.

Yet whether the finance minister has any powers outside of the cabinet and beyond the initial proposal of the budget depends on the regularity of majorities behind the president in congress. Unlike in the parliamentary case, knowing that the executive is controlled by one party tells one nothing about the basis of support for the executive in the legislature. Under divided governments, it is unlikely that a majority in congress would delegate to the finance ministers significant powers related to the execution of the budget. The majority instead would want to reserve the right to rewrite budget legislation in the Congress.

It is also likely that the congress will want to monitor the assignments that traditionally are assigned to the finance minister, such as keeping track of the level of government spending across ministries. Powers to cut expenditure even after the budget has been passed may be one issue of contention between the finance minister and Congress. In Mexico, for example, the finance minister has traditionally had fairly wide latitude to decide how to spend money that the Congress has authorized. Moreover, the Mexican president can move authorized spending between accounts so long as he notifies Congress of his actions the following year (Weldon 2001?).<sup>7</sup>

To summarize our predictions: all states in the sample may have “strong” finance ministers to combat fragmentation at the budget proposal stage. Yet we predict that their relative strength throughout the budget process will vary depending upon the regularity of one-party majorities in congress in support of the president.

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<sup>7</sup> A practical example comes from the United States under the Nixon administration, where previous impoundment practices were expanded significantly. President Nixon’s convictions to reduce government expenditure collided with the Democratic Congress, which sought the continuation of previous spending practices established under Johnson. Nixon adopted a confrontational approach by impounding close to 20% of controllable expenditure, declining to allocate funds despite a clear intent of Congress to spend them, and by refusing to allocate funds for programmes such as the Federal Water Pollution Control Act (Pfiffner, 1979: 40-44). These practices were successfully challenged by Congress in courts, and it was later able to unite to reform the budgetary process by introducing the Congressional Budget and Impoundment Act in 1974 (Pfiffner, 1979; Berman, 1979).

#### d. Sources of Fragmentation within the Legislature

Differences across electoral systems lead to systematic differences in the level of fragmentation within Congress. In particular, the more *candidate-centered* the electoral system the higher the level of fragmentation.

The standard dichotomy one finds in the literature on electoral systems is between plurality and proportional representation systems. Under plurality (often referred to as first-past-the-post), voters cast their ballots for an individual. The winner is simply whoever receives the most votes. While an absolute majority of 50%+1 guarantees victory, if more than two candidates run in a given electoral district the percentage required to win a seat can be much lower than an absolute majority. Only one candidate can win from each electoral district. This means that the district magnitude (DM) under such systems is one.

Proportional representation systems take two forms, and the difference between the two is important. Under *closed* list systems, political parties determine the order of candidates on a party list of nominees. Voters cast their ballots for parties only. The share of the vote a given party receives determines how far down the list one goes to determine who is elected. If a party nominates candidates for all seats in a district with a district magnitude of 100, for example, and the party wins 33% of the vote, the first 33 persons on the list would be elected. Under *open* list systems, the procedure is the same except that voters determine the order of the party's candidates on the list.

This seemingly small modification to the system makes a big difference in terms of the level of fragmentation within the congress. It shifts the focus of the election from political parties to individuals, and in so doing it changes the incentives that candidates face. Under an open list system, candidates must appeal directly to voters in an electoral district to get elected. Moreover, as district magnitude increases, intra-party competition for *district* voters increases as well, and candidates have an incentive to promise particularistic benefits to an ever smaller group of voters to assure (re)election. An example comes from Brazil, where candidates even promise infrastructure improvements to specific firms in exchange for block voting from a firm's employees for the candidate (Ames 1995, 2001). In contrast, under a closed list system, candidates must appeal to party leaders to get a high ranking on the list. The effects of district magnitude then *reverse*: as district magnitude increases, fragmentation decreases (Carey and Shugart 1995). Consider, for example, a country where district magnitude is just four. It may make sense for individuals to appeal to specific constituency interests when district magnitude is small—in a district with four seats, for example, the marginal gain in seats can jump with minor electoral gains from 25% of the seats (1 of 4) to 50% of the seats (2 of 4), and the candidate who appears second on the list has every incentive to make such an directly to the constituency. If there are 40 seats in the district, however, candidate order on the party's list is far more important to an individual than appeals to a particular constituency within the district. Candidates therefore have an incentive to care more about the wishes of party leaders (Shugart and Haggard 2000).

Carey and Shugart (1995), in an article that deserves far more attention than it has so far received, create an index for the extent of the personal vote based on three classifications that can be used to measure differences in the personal vote across countries. First, they consider the extent of power political party leaders have over who appears on the ballot. Countries where leaders are present and where voters may not disturb the party list receive a score for *ballot* of “0,” countries where leaders exist but where voters may disturb the list are scored a “1,” while countries where leaders have no control over the list are scored a “2.” The logic of the ranking is based on the importance of party leaders in determining who appears on the ballot in the first place. Their second variable, *pool*, concerns how votes are pooled. Countries where pooling occurs across the party are scored a “0,” countries where there is pooling at the sub-party level are scored a “1,” and countries where there is no pooling at all are scored a “2.” Clearly, candidates have more incentives to care about their party’s support when all pooling is at the party level. Finally, *vote* expresses the number of votes one can cast; “0” represents the case where voters can cast one vote only, “1” is the case where voters cast multiple votes, and “2” is the case where individuals cast one vote only at the sub-party level (i.e., for a party faction or an individual). Using these classifications one can then rank countries from systems that provide the fewest incentives for the personal vote (all three variables scored a “0”) to systems where the personal vote is extremely important (all three variables scored a “2.”)

There are a growing number of studies that examine the effects of the personal vote on economic reform, economic growth, and corruption. Eaton and Maxfield (1999) argue that differences in the level of the personal vote have real effects on the extent of economic reform that Latin American countries successfully executed. They contend that countries where the personal vote is important have legislators who concern themselves only with the interests of a narrow band of voters within their districts. Legislators in countries where the personal vote is weak have legislators that have a greater incentive to think of national issues and are hence more supportive of economic reforms.

In contrast, Shugart (year; 1999?) contends that intermediate levels of the personal vote are optimal. If the personal vote is high, politicians have little regard for collective benefits. If the party vote is high, however, politicians have no reason to care about the needs of voters. They concentrate only on the needs of specific groups that back them. An intermediate position between candidates and parties is the most efficient system. Lending some empirical support to this argument, Gaviria et. al. (2000) find that intermediate levels make it easier for state to recover from economic shocks and to resume economic growth.

Incentives to cultivate the personal vote may also be directly connected with levels of corruption. Golden and Chang (2001) find that the open-list electoral system employed in Italy through 1994 contributed to the high levels of corruption in Italy, and within the Christian Democratic Party in particular. Candidates

needed to raise financing to differentiate themselves from their competitors from within the same party.<sup>8</sup>

Yet to date no one has examined the relationship between the level of the personal vote and budgetary outcomes. To do this, we begin with a comparison of the personal vote based on the Carey and Shugart (1995) classification scheme (see Table 1). We also create a new variable, "Personal," which is our coding of the relative incentives of a given system for the personal vote. We create this variable in the following way. We assume that initial moves from 1 to 2 in district magnitude affect the personal vote more than increases in district magnitude from 80 to 81. We therefore take the log of district magnitude. Second, we add ballot, pool, and votes together and add "1" to them to create the variable  $a$ . If the electoral system has a closed list and is not plurality, we divide this number by the log of the district magnitude. This reflects the intuition that, as the district magnitude increases in closed list systems, the extent of the personal vote should decline. In the remaining systems, we add the log of district magnitude to  $a$ . This captures the intuition that increases in district magnitude lead to increases in the personal vote. Finally, we divide the index by 10 to rescale the index so that it ranges from 0 (no personal vote) to 1 (only personal vote). Note that the index reflects the general argument of Shugart and Haggard (2000) that plurality electoral systems, such as the one found in the United States, encourage the personal vote less than systems like's Brazil's with an open list but more than systems with a closed ballot. Table 1 indicates that the personal vote is least apparent in Guyana at .06 and most apparent in Colombia at .76.

This classification leads to different expectations about the effects of electoral systems on budget outcomes than Stein et al (1999) predict. They take the log of district magnitude and run it in their regressions, and they find that increases in district magnitude lead to decreases in the size of the public deficit. Table 1 ranks the countries from "best" to "worst" in terms of their expected performance on the budget based on their electoral systems. It also highlights cases where the predictions about the effects differ by more than five places in the ranking. It is noteworthy that 9 of 25 countries have rankings that differ by such an amount from each other. The biggest changes in ranking come for two of the larger countries, Colombia and Brazil, which both should have legislators who care much more about the personal vote than the vote for their party.

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<sup>8</sup> Note that, in contrast to Tabellini's contention that proportional representation systems lead inherently to more "corrupt" political systems, it is the nature of the open list system, rather than proportional representation itself, that is central.

**Table 1: Comparison of Incentives for the Personal Vote and District Magnitude**

Country	Ballot	Pool	Votes	District Magnitude (DM)	Personal Index	Personal Rank, Performance	DM Rank, Performance
Guyana	0	0	0	43.4	0.06	1	1
Paraguay	0	0	0	19.2	0.08	2	3
Bolivia	0	0	0	12.5	0.09	3	5
Bahamas	0	0	0	1	0.10	4	21
Barbados	0	0	0	1	0.10	4	21
Trin&Tob	0	0	0	1	0.10	4	21
Argentina	0	0	0	8.7	0.11	5	7
El Salvador	0	0	0	8.2	0.11	6	8
Costa Rica	0	0	0	8.1	0.11	7	9
Nicaragua	0	0	0	8.1	0.11	7	9
Jamaica	0	0	0	1.3	0.11	8	20
Honduras	0	0	0	7.1	0.12	9	11
Belize	0	0	0	1.6	0.12	10	19
Mexico	0	0	0	4	0.17	11	14
Dom Rep	0	0	0	3.4	0.19	12	15
Venezuela	0	0	1	7.6	0.23	13	10
Guatemala	0	0	1	6.9	0.24	14	12
Suriname	0	0	1	5.1	0.28	15	13
Uruguay	1	0	2	11.4	0.38	16	6
Panama	0	0	0	1.8	0.39	17	18
Ecuador	0	0	1	3.2	0.40	18	16
Chile	1	0	2	2	0.43	19	17
Peru	1	0	1	4	0.50	20	14
Brazil	2	0	2	16.8	0.62	21	4
Colombia	2	1	2	42	0.76	22	2

Countries are ranked from best to worst in terms of the effects of the electoral system on the budget balance. Shaded countries represent cases where the rank order of countries differs notably from Stein et. al. 1999. District magnitude is for the lower house only. We thank Carolyn Wild for research assistance in putting together the classification of the countries.

These classifications are not the whole story. They tell us the amount of fragmentation we would expect in congress or parliament given the electoral system without knowing anything about budget institutions. In fact, the classifications suggest that some countries are more in need of centralized budgetary procedures than others. Brazil and Colombia would both suffer proportionately more from a lack of centralizing procedures than Paraguay and Bolivia because of their higher scores on the personal vote.

We can now bring together the discussion of budgetary institutions within the cabinet and budgetary institutions within parliament. Special powers delegated to the president on budgetary issues should have greater effect the larger the

personal vote incentive in congress. There are two reasons for this, one involving the nature of the CPR problem and one involving the nature of a common power the president possesses, the veto power. The president is elected from a nation-wide constituency, and is thus expected to consider the nation's tax burden. Second, the veto is a reactive rather than proactive power. This means that the president has some ability to make cuts to budgets in situations where he prefers lower spending than congress, but he does not have a similar power to increase spending beyond what congress desires (Kiewiet and McCubbins 1988; Shugart and Haggard 2000).

## Predictions and Evidence

### Institutional Design

Combining the discussion of cabinets and legislatures yields the following predictions. First, concerning the endogeneity of centralized budgetary institutions, the most centralized budgetary systems should be expected where there are usually unified government. Problems of delegation to a central player who can consider the entire tax burden are least evident where solutions to the problem benefit the party in power. Since presidential cabinets are by definition unified, we can make the following predictions:

*H1: All presidential governments and one-party parliamentary government should have a strong central player at the formative stage of the budget within cabinet. In the Latin American and Caribbean country data set this covers all countries.*

*H2: Unified governments are more likely to have a central player with substantial strategic powers for all parts of the budget process. Divided governments, however, will not have a central player with strong powers over the execution of the budget.*

The principle evidence available to test these relationships comes from Alesina et. al. 1999. They asked budget directors in 20 Latin American and Caribbean countries ten questions about the budget process in their countries. One of their questions (question #4) asked, "does the minister of finance have more authority than the spending ministers regarding the budget?" Of 20 countries in their sample, 18 budget directors reported that the minister of finance possessed authority "considerabl[y] greater than that of other ministers (p. ?)."

This finding is perfectly consistent with the theoretical expectation reported here. Unfortunately, however, the question is also rather vague. It does not allow us to differentiate between authority that the minister of finance has at different stages of the budget process. It therefore does not allow a direct test of *H2*.

Other parts of the Alesina et. al. study are more specific and allow us to examine *H2*. The data base includes an index that measures the relative position of the

government vis-à-vis the legislature, which they refer to as “Subindex 3.”<sup>9</sup> They construct the twenty-point index based on survey responses to two questions. The first considers what restrictions are placed on congressional amendments to the executive’s budget proposal. Countries receive the following scores: 10 points if amendments cannot increase the size of the budget, and the size of the budget deficit; 7.5 points if the government must approve any additional spending proposed by congress; 5 points if amendments cannot increase the size of the deficit; 0 points if no constraint was in place. The second question covers the procedure when a Congress refuses to pass the budget. Countries receive the following scores: 10 points if the government budget is implemented even if congress refuses to pass it; 6 points if the previous year’s budget is enacted; 5 points if a government resigns if its budget is defeated. We rescale this variable to range from 0 to 1. Scores range from a low of .1 in Trinidad and Tobago and .2 in Honduras to a high of .875 in Chile, Ecuador, Nicaragua, and Peru (after 1990).

We predict that this subindex should be higher for countries that are accustomed to unified/one-party governments. In such countries, we hypothesize that the political party in power benefits from the centralization of the process, which reduces the extent of the CPR problem. Such centralization does exist in Europe’s parliamentary systems. Countries with one-party majority governments, and more generally countries that delegate strategic powers to their finance ministers at the cabinet stage of the budget, restrict significantly the ability of parliament to amend the budget (Hallerberg 2001). This prediction is also consistent with case study work on individual Latin American countries. Jones (1998) finds that the Argentine Congress has a much lower role in the budget process when the President’s party does not have hold a Congressional majority.

Our evidence on this score for Latin American countries does not confirm the hypothesis. We compare whether a country had one-party governments 1991-95 with Subindex 3 from Alesina et al 1999. We find no correlation at all between the two; the score is -.07. This means that unified governments are no more likely than divided governments to centralize the budget process around the president.

### **Budget Discipline**

The discussion also indicated that the CPR problem should be more or less the same in all cabinets. The CPR problem will vary, however, across electoral systems within legislatures. This leads to two predictions about budgetary performance:

*H3: States that lack strong central players within the cabinet will have, on average, larger budget deficits than states that do not.*

*H4: Centralization under the president on budget issues will have a greater effect the higher the level of the personal vote.*

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<sup>9</sup> Note that the working paper version of Alesina et. al. 1997 provides the data the authors use in Alesina et. al. 1999.

Our first hypothesis here cannot be directly tested with Latin American and Caribbean countries because there is no variation in the Alesina et al. 1999 survey results for the strength of the finance minister—virtually all countries report that there is some centralization of the process under the finance minister. This result suggests that the crucial issue concerns the relationship between the legislature and the executive.

We do, however, have adequate data to test H4. To test H4 we create an interactive term between the strength of the executive vis-à-vis the legislature, which is again Subindex 3 in Alesina et al (1999), and the level of the personal vote, which is the index for the personal vote we create above. Our expectation is that there should be little practical effect of more centralized procedures around the president where the personal vote is low in the legislature, but the more centralized system will have an important effect in reducing deficits where the personal vote (i.e., fragmentation) within the legislature is high.

Table 2 reports regression results from the 20 Latin American and Caribbean countries included in the Alesina et al. 1999 data set for the time period 1988-97. A lagged dependent variable is included to correct for autocorrelation. We rely on panel-corrected standard errors to correct for fact that we have more countries in our data set than years.<sup>10</sup> We also include economic growth as a control variable. We expect that economic conditions have an effect on the budget balance.<sup>11</sup>

The regression results are encouraging. Table 2 indicates that increases in the personal vote have a negative effect on the budget balance as we would expect, and the interaction term has the expected positive sign. Both variables are also significant at the  $P < .05$  level with a one-tailed test. Yet the regression equation by itself is not a good test of our central hypothesis, which assumes an interactive effect between the the personal vote and executive authority in the budget process. One should keep in mind that the coefficients for the personal vote and executive authority indices indicate the effect of the respective variable when the other variable is zero; that is, when the personal vote index is zero increases in executive authority have an insignificant effect on the budget balance. We therefore compute conditional coefficients as well as conditional standard errors. Graph 1 plots the conditional coefficients of the interactive term *given* certain values of the personal vote index.<sup>12</sup>

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<sup>10</sup> For more details see Beck and Katz 1995. We also ran regressions without this correction and they were somewhat stronger than those reported here.

<sup>11</sup> The exact effect of this variable probably differs in our data set than one would expect in a data set for OECD countries. In the latter case the relationship is procyclical—that is, the balance improves when the economy improves while the balance declines when the economy declines. Automatic stabilizers on the expenditure side as well as

<sup>12</sup> If  $D = \beta_1 + \beta_2 S + \beta_3 W + \beta_4 SW + e$

$$\text{Then } \frac{\partial E(D)}{\partial S} = \beta_2 + \beta_4 W$$

$$\text{And } \frac{\partial E(D)}{\partial W} = \beta_3 + \beta_4 S$$

To get a significance test, you need to calculate:

**Table 2: The Interaction of Presidential Power and the Extent of the Personal Vote within Congress**

Budget Balance the dependent variable:  
(Standard errors in parentheses)

<i>Variables that Test Hypothesis H4</i>	
Personal Vote Index	-13.9* (8.3)
Executive Strength vis-à-vis the legislature Index	-0.9 (1.8)
Executive Strength Index * Personal Vote Index	17.8* (10.5)
<i>Control Variables</i>	
Constant	-0.2 (0.9)
Lag of Budget Balance	.33** (.12)
Economic Growth	.09 (.06)

\* p .05, \*\*p .01. Standard errors in parentheses. Significance levels based on a one-tailed test for the political variables.  
N=179, r<sup>2</sup>=.31

Graph 1 indicates that centralization of the budgetary process is especially effective where incentives towards the personal vote are high. Values before the grey line at a value of .2 for the personal vote are not significant. One can see that at low levels of the personal vote increases in the strength of the president have little effect; for Paraguay, for example, which is the state with the lowest personal vote index in the sample, an increase of the power of the president vis-à-vis the legislature from its value of .4 to the level in Uruguay (.675) would lead to an insignificant improvement of the budget balance of .13 percentage points of GDP. If Paraguay changed its electoral system to the “mean” country in the sample with a personal vote of .24, the same increase in the power of the president improves the budget balance by a statistically significant .9 percentage points of GDP. If Paraguay had an electoral system equivalent to the most extreme value of the personal index, found in Colombia, increasing the power of the president again by .275 would improve the budget balance 3.5 percentage points.

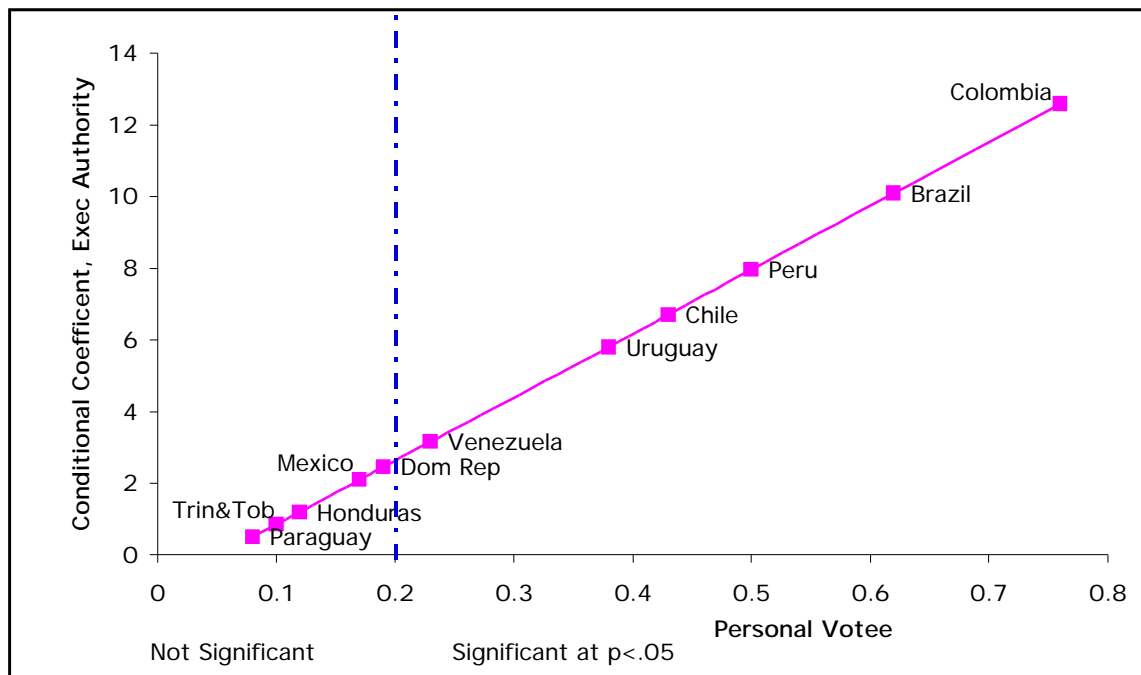
We can also consider the practical policy implications of this exercise. If Brazil were to have a president with the same powers the president had in Chile, the budget balance would have been on average 4.0 percentage points of GDP better than it is was in the time period. This suggests that a real reform of the budget

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$$\text{Var}\left(\frac{\partial E}{\partial S}\right) = \text{var}[\beta_2] + W^2 \text{Var}[\beta_4] + 2W \text{cov}[\beta_2, \beta_4] \text{ (Greene 1997).}$$

process in Brazil that gave the president more power could have profound effects. More generally, these findings indicate that greater centralization of the budget process is not equally effective. One must be aware of the incentives that the electoral system creates for decision-makers before one can understand whether a stronger president would alleviate fiscal problems in a given country.

**Graph 1: The Conditional Effects of Increases in the Power of the Executive Given Different Levels of the Personal Vote in the Legislature, 1988-97**



Because of clustering not all countries in the data set are included in the graph; see Table 1 for the values of the personal vote for all Latin American and Caribbean countries.

### Alternative Explanations

Our results do not consider alternative political explanations for our findings. A central claim of this paper is that it is the effects of district magnitude on the size of the personal vote, rather than district magnitude itself, that affects the budget balance in Latin American and Caribbean countries. Stein et al. (1999) argue that electoral systems with high average district magnitude have higher debts and deficits than electoral systems with low district magnitude, such as majoritarian systems where district magnitude equals one. Column 1a of Table 2 reports our regression with district magnitude. One can see that the coefficient itself is hardly distinguishable from zero and is not statistically significant. The effect of district magnitude therefore washes out when the variables for the personal vote and executive authority are included.

*AH 1: Strong budgetary institutions should lead to lower levels of deficits.*  
(to test this directly, we need to subtract out executive authority from their index.)

With regard to the effects of electoral systems, Stein et al. (1999) argue that electoral systems were another causal factors for lower deficits and debts. They

posit that systems with high average district magnitude have higher debts and deficits than electoral systems with low district magnitude, such as majoritarian systems where district magnitude equals one. They discover that there does not seem to be a pattern out of the coalition trap for Latin American countries using a proportional electoral system (132). Their analysis includes average district magnitude, number of effective parties and support for the governing party in the legislature (124). They conclude that only average district magnitude was statistically significant (126). The second alternative hypothesis is then:

<i>Variables that Test Hypothesis H4</i>	<b>Original Model (A)</b>	<b>District Magnitude (B)</b>	<b>Original Budget Inst. Index (C)</b>	<b>Unified Govt and Partisanship (D)</b>	<b>Elections (E)</b>
<b>Personal Vote Index</b>	<b>-13.9*</b> <b>(8.3)</b>	<b>-13.5</b> <b>(8.4)</b>			
<b>Executive Strength vis-à-vis the legislature Index</b>	<b>-0.9</b> <b>(1.8)</b>	<b>-1.3</b> <b>(2.1)</b>			
<b>Executive Strength Index * Personal Vote Index</b>	<b>17.8*</b> <b>(10.5)</b>	<b>18.3*</b> <b>(10.6)</b>			
<i>Control Variables</i>					
<b>Constant</b>	<b>-0.2</b> <b>(0.9)</b>	<b>.2</b> <b>(1.1)</b>			
<b>Lag of Budget Balance</b>	<b>.33**</b> <b>(.12)</b>	<b>.33**</b> <b>(.12)</b>			
<b>Economic Growth</b>	<b>.09</b> <b>(.06)</b>	<b>.09</b> <b>(.06)</b>			
<i>Additional Political Variables</i>					
<b>District Magnitude</b>		<b>-.03</b> <b>(.03)</b>			
<b>Budget Institution Index, Alesina et. al.</b>					
<b>Unified Government</b>					
<b>Partisanship</b>					
<b>Important Election</b>					

Missing Guyana for exec authority, Nicaragua for budget inst,

Hypothesis 2: The measure of average district magnitude, such as the one employed by Stein et al. (1999) should be statistically significant in our model for both data sets.

Within the cases studied, proportional representation systems tend to produce coalition or minority government although some exceptions do occur, such as the presidential and legislative victory of the PAN in Guatemala (1996), PL in Honduras (1997), and PPP in Guyana (1997), which produced single party governments and a President from the same party.

Partial results seem to confirm their conclusion, but caution is required. For the median data set, average district magnitude has a strong effect on public finances with a correlation coefficient of  $-.359$  and is statistically significant at the  $.05$  level. The effect is not as strong when the time-series data set is employed, but remains with a correlation coefficient of  $-.281$  significant at the  $.01$  level. However, once we remove Guyana from the analysis, an outlier in this analysis, the relationship disappears. Further attention is granted to this issue in the section dealing with the statistical analysis.

Empirically we begin with governmental fragmentation. The expectation is that coalition governments have been considered more prone to accumulate deficits than single party governments (Alesina and Perotti, 1995b). However, as highlighted by Tsebelis (1999) there is variance in the ability of coalitions to pass legislation. The greater the ideological dispersion of the coalition and the greater the number of party, the more likely policy stability will be achieved (591). Based on the later we can assume that a government will be less likely to make the necessary fiscal adjustments required to lower the deficit if there is a high number of parties in a coalition. It should be noted that Stein et al (1999) argue that such mechanism, which is present in Europe, does not seem to be present in Latin America, but we should still test for it in our somewhat newer data set:

*Hypothesis 3a: The higher the degree of fragmentation within a government, the higher should the deficit be.*

A partial analysis of this effect seems to confirm that this relationship does not exist in Latin America. The Herfindahl index for government, which measures the degree to which a government is fragmented on a 0 to 1 scale (0 being absolute fragmentation and 1 a single party government), was not statistically significant in both data sets when correlated with our measures of deficits.

Second, as stated above, district magnitude does not necessarily reflect the composition of the legislature following an election due to specific rules altering the representation of parties within it. As a result, to properly reflect high levels of fragmentation and high number of parties present in the legislature, it becomes imperative to evaluate the extent to which the fragmentation of a legislature influence the levels of deficit instead of just focusing on the basic electoral formula.

*Hypothesis 3b: Highly fragmented legislature will tend to generate higher deficits than less fragmented legislature.*

A first glance at correlation coefficients raises questions about this relationship. Our index of parliamentary fragmentation (Herfindahl) is correlated to deficits with a coefficient of  $-.151$  ( $.01$  level) in the time-series data set. However, this relationship does not exist when we use the median data set.

At the same time, presidential systems, which account for 20 out of the 25 countries studied, are also prone to exhibit behaviour similar to coalition government if the President is powerful and from a political party that is not part of the ruling majority in the legislature. The same logic applies to the second

chamber, which is quite powerful in many countries. Therefore, the control of all relevant houses (President, Legislature, Senate) should result in lower deficit since the executive power is then centralised. Divided governments, where party (ies) controlling the executive is different from the party (ies) controlling the legislature, should result in higher deficits. McCubbins (1991).

*Hypothesis 3c: The Control of all houses by the executive should lead to a lower deficit.*

As with the previous case, our variable has a correlation coefficient of  $-0.139$  (.05 level) when we use the time-series data set, but is not significantly correlated in the median data set.

Another set of difficulties stems from relatively instable party systems that are being found in Latin America despite cleavages similar to Europe (Roberts and Wibels, 1999). Defections from one party to another seem also more frequent than in Europe. For example, following the 1996 election in Suriname two members from the winning party (NF) switched to the opposition party (NDP) allowing the latter to form a coalition government with these two members receiving governmental positions (Europa Yearbook). These occasional shifts are most likely to occur when the majority of the government is thin. As a result, the governing party (ies) may then create bargains with other deputies in order to lure them to join their government or to simply get their vote even though the current government has an actual majority (Jones 2000).

## **Conclusion**

This paper has argued that the type of electoral system plays an important role in determining the effects of fiscal institutions. This implies that reforms of the electoral system may have significant effects on budget policy, and on budgetary institutions. [this will be fleshed out in the final version. I will also add some information on the recent Brazilian reform.]

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## Data

The data used for this paper comes from diverse sources and has been constructed during the semester. The time period under study is 1988-1997 and the data was compiled in a yearly fashion. The main sources are the World Bank, Stein et al (1999), Leblang (1999), IABD, Europa World Yearbook (various years) and l'État du monde (various years). The Europa World Yearbook was used to extend the data set to 1997<sup>13</sup>. The source of each variable used in this paper will be written in brackets once it has been linked to its concept.

The dependent variable, surplus/deficits, which is captured by the variable SURDEF (IABD), represents government's surplus or deficit as a percentage of GDP. We used the figures related to central government finances from Facing Up to Inequality in Latin America (IABD: 1999). It ranges from -31.6 to 7.1 and has a mean of -2.326.

District magnitude was analysed using the variable average district magnitude (AVGDIST – Stein et al.). This variable, provided by Stein et al (1999), is fixed across the time period under study. This variable ranges from 1 to 43.2.

Legislature fragmentation is represented by the variable LEGFRAC (World Bank). LEGFRAC is the sum of the squared seat shares of all parties in the legislature for the current year<sup>14</sup>. 1 would imply the control of the legislature by one party. This variable ranges from .1194 to .9060.

GOVMAJ (World Bank) conceptualises government's majority. It is the total number of seats from the governing party(ies) divided by the total number of seat in the legislature. It ranges from .2388 to 1 (1= grand coalition of all political parties in the legislature).

GOVFRAC (World Bank) is calculated in a fashion similar to LEGFRAC and represents the degree of fragmentation within the government. It is the sum of the squared seat shares of all parties in the government for the current year.

ALLHOUSE (World Bank) is a dummy variable, where 1 implies that the party of the executive have an absolute majority in the houses that have lawmaking powers while 0 means that the executive does not have such majority. ELE\_CAM and ELE\_PRES (État du monde & Europe World Yearbook) have been created with the following formula:  $x/360$  where  $x$  represents the day of the year. This result in a weight of influence that can be shared prior to election date. For example, if an election occurred on July 1 1990, 0.5 was recorded for 1989 and 0,5 for 1990.

EXEC (adapted from World Bank) represents the ideological position of the executive (where 0=Left; 1=Centre; and 2=Right).

INDBUD is the measure of budgetary institutions provided by Stein et al (1999), a high score on this index implies that a country has strong restrictions on the size of budgetary deficits. Therefore, a high level of budgetary institutionalization should result in improved public finance. This variable ranges from .45 to .76.

Finally, GROWTH, GDPCAP and CPI where all obtained from Facing up to Inequality in Latin American (IABD: 1999). Due to the high disparity in inflation, the later was log to produce LNCPI. Growth is a measure of the change in GDP from the previous year while GDPCAP is the GDP per capita for that year.

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<sup>13</sup> The World Bank data set covers the years 1975-95.

<sup>14</sup> The World Bank data set presents political figures as of January 1 of each year.