PRESIDENTS AND CABINETS: THE POLITICAL DETERMINANTS OF FISCAL

BEHAVIOR IN LATIN AMERICA*

by

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ABSTRACT

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What political factors affect fiscal behavior in Latin America's presidential democracies? This work seeks to identify the political determinants of the level of public spending and the primary balance of 10 democratic regimes in Latin America in 1980-1998. We consider, besides the influence of traditional variables such as the government's ideological orientation and electoral cycle, the impact of other institutional and political aspects, such as the legislative strength of the president, ministerial stability, and the degree of centralization of budget institutions. Methodologically, the work is based on a pooled cross-section–time series data analysis of 132 observations. Our main findings are that presidents supported by a strong party and leading a stable team of ministers, and ones more to the right on the political spectrum, had a negative impact on public spending and a positive effect on fiscal balance; and that the electoral cycle deteriorates the latter.

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I. Introduction

The 1980s and 90s were a period of profound political and economic changes for Latin American nations. On the political side, nearly all countries in the region adopted democratic regimes. From an economic standpoint, the two decades saw gradual abandonment of the development model based on industrialization by substitution of imports along with a move to market-oriented economies.

While these transformations spread throughout Latin America, inarguably constituting one of the most important watersheds in the continent's history, the experiences of individual countries were quite diverse. Contrast, for example, the relative political and economic stability of Chile in the 1990s with the constant turmoil endured by Ecuador and Venezuela in the same period. Significantly, Chile after its return to democracy in 1990 was governed by a solid coalition of Socialists and Christian Democrats that always commanded comfortable legislative majorities, while the party systems in Ecuador and Venezuela were highly fragmented, leading to shaky minority governments.

Brazil is illustrative of this contrast. In 1985-94[1] the country lived in constant political and economic turmoil, particularly in the latter sphere, with double-digit *monthly* inflation, but the situation normalized appreciably from 1995 onward. During the first phase, the party system also went through a strong fragmentation process, which greatly hindered the effectiveness of governments in dealing with a seemingly intractable economic crisis. However, in 1995, under the leadership of President Fernando Henrique

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[1] The country returned to democracy in 1985 after two decades of military rule.

Cardoso, a well-cemented center-right coalition assumed power, an alliance so strong in Congress that it was dubbed the "steam roller." The latter was able to ensure a modicum of stability between 1995 and 2002. And so far, the leftist government of new President Lula has shown strong signals of hewing to a similar coalition-building style and economic policy.

In broad brushstrokes, then, Latin America over the past two decades presents an empirically rich and diverse nexus between economy and politics. The challenge for economists and political scientists is, therefore, to identify the precise mechanisms that mediate between the economy and politics in the region. This work aims to contribute to this research agenda by examining how democratic regimes affect the macroeconomic performance of Latin American countries. More specifically, our goal is to discern whether and how the political attributes of governments and legislatures, and institutional characteristics affect fiscal behavior.

Fiscal behavior is a crucial political question nowadays because markets and taxpayers (whether in developed or developing nations), country members of economic integration pacts, and multilateral organizations, particularly the IMF, have become less and less tolerant of the high fiscal deficits that marked the 1980s and part of the 90s.

Besides the practical relevance of this theme, there is also a scholarly concern about cross-country differences in fiscal policy in particular, and economic policy in general. Hence, it is not surprising to find an extensive theoretical and empirical literature on such a subject. This literature, however, is mainly focused on developed countries. One of its main findings is that economic performance can be associated with the ideological makeup of governments, leading to an increase in inflation under the left and higher unemployment

under the right (Alesina 1987; Hibbs 1977). In the United States, for example, there have been significant differences between the macroeconomic and fiscal policies of Democratic and Republican governments (Alesina and Rosenthal 1995).

The relatively few comparative works on Latin America show that governments of the left spend more than those of the right (Ames 1987) and that unemployment increases less under governments of the left or center than under those of the right (Borsani 2003). There is also evidence that Latin American governments are more likely to adopt expansionist fiscal policies in electoral periods (Kraemer 1997).

Although still meager, studies of the influence of political institutions on economic performance in Latin America have started to appear. We can point to recent works on the institutional characteristics of the public budget and fiscal deficit (Alesina *et al.* 1999; Jones *et al.* 1999), studies of electoral cycles and the exchange rate (Frieden *et al.* 2001) and an analysis of the effect of electoral cycles and government legislative support on macroeconomic results (Borsani 2003).

Obviously, the extant literature must serve as the starting point for any study on the influence of political systems on economic performance. Nevertheless, this literature fails to fully take into account the economic consequences of the uniqueness and diversity of institutional structures and patterns of governance in Latin America. While the uniqueness lies, above all, in the combination of presidentialism with proportional representation, a distinctive feature of the region in the context of contemporary democracies (Lijphart 1991), the diversity refers to the various ways in which these two institutions can be combined (Shugart and Carey 1992; Mainwaring and Shugart 1997).

More specifically on the matter of the political determinants of the public deficit in Latin America, the existing studies either have the drawback of omitted variables (Kraemer 1997) or are based solely on comparative statics (Baldez and Carey 1999; Alesina *et al.* 1999; Stein *et al.* 1999). Hence, there is a dearth of studies on fiscal behavior that include a broad set of political variables and that provide a dynamic comparative analysis. The only exception is the recent work of Mejía Acosta and Coppedge (2001), whose methods and results will be duly discussed and compared in the next sections.

Our goal, therefore, is to fill in the gaps identified above. We consider not only the effect on fiscal performance of classic variables such as the ideological orientation of the government and the electoral cycle, but also the impact of institutional aspects and political characteristics of Latin American nations. Moreover, our comparative and dynamic analysis of fiscal performance will use two dependent variables: the level of public spending and of the primary balance. The independent variables take into account the effects of the following factors: the president's legislative strength; the ideological leanings of the government; ministerial stability, electoral cycles, and the degree of centralization of budget-making institutions. Our main findings are that presidents supported by a strong party and leading a stable team of ministers, and ones more to the right on the political spectrum, had a negative impact on public spending and a positive effect on fiscal balance; and that the electoral cycle deteriorates the latter.

The paper is organized as follows: the next section presents a review of the literature, seeking to identify the main hypotheses regarding the political determinants of fiscal deficits in contemporary democracies. In the third section we try to adjust these hypotheses to the political-institutional context of Latin America. The fourth section

contains a pooled cross-section–time-series data analysis for public spending and the primary balance in 10 countries between 1980 and 1998. In the fifth section we discuss our principal findings. The sixth section concludes.

II. Literature Review

The relationship between political systems and economic performance has been attracting growing interest in recent years, both from economists and political scientists. For obvious reasons – decades of uninterrupted democracy and ample data availability – most theoretical and empirical studies have focused on OECD countries.

The majority of studies on the relationship between politics and economic performance grew out of theoretical models developed in the mid-1970s. In particular, the works of Nordhaus (1975) and Hibbs (1977) can be identified as the main starting points on the theme. According to former, the main goal of governing parties is to stay in power. Hence, they intervene in the economy to maximize their votes in the next election. This is called the opportunistic model. For Hibbs, parties want power to translate their macroeconomic policy preferences into policy. However, the preferences of the parties differ due to their electoral constituencies. Parties more to the right, associated with the middle and upper classes, prefer a lower inflation rate at the cost of higher unemployment. Parties on the left, supported by the working classes, prefer less joblessness over monetary stability.

With the development of the theory of rational expectations, the assumption concerning voter behavior shifted from that of a myopic actor to one able rationally to anticipate the consequences of government decisions. This implied the acceptance of limits on the discretion of governments to manipulate economic variables and the need to

introduce new theoretical concepts, such as asymmetrical information and government competence (Rogoff and Siebert 1988; Persson and Tabellini 1990).

Based on the notion of rational expectations, Alesina (1987) and Alesina and Rosenthal (1995) analyzed the influence of majority and minority governments on economic outcomes in the US. According to these authors, in mid-term elections, voters tend to give more congressional power to the opposition as a way to moderate government policies when these tend to be either overly inflationary or recessive. And as a result of the chief executive's loss of a congressional majority, at the end of the president's term, economic policies tend to become a mixture of Democratic and Republican preferences.

On the topic of the influence of political factors on macroeconomic outcomes and fiscal and monetary policy instruments, a wide-ranging comparative study covering 18 developed countries (Alesina *et al.* 1997) concludes that ideological differences explain unemployment and inflation at the start of each governmental period. Interestingly, there is no statistical evidence in favor of the hypothesis that left-wing governments have a greater bias towards deficits in 1961-1993. However, in a shorter (1961-1985) sample Alesina *et al*. found evidence indicating higher budget deficits under such governments. The authors interpret these finding as suggesting that even left-wing governments have become fiscally conservative in OECD countries (1997, p. 205).

Economic performance has also been analyzed as a function of the ideological orientation of governments and the type of labor unions. While some studies confirm the classic hypotheses of the link between low inflation under governments of the right and reduced unemployment under governments of the left (Alt and Lowery 1994; Blais *et al*. 1993), other works find evidence that the interaction between government ideological

leanings and type of union structure is what determines macroeconomic or fiscal results. Governments of the left tend to favor economic growth, along with reduced inflation and unemployment, in countries with strong and centralized unions. Conversely, governments of the right have had better economic results in countries with weak and decentralized labor movements (Garret 1998; Alvarez *et al*. 1991).

Specifically regarding fiscal policy, the main findings indicate that coalition governments encounter more problems in implementing fiscal adjustments and respond more slowly to budgetary shortfalls than do single-party governments. While fiscal adjustments occur with the same frequency under coalition and single-party governments, the adjustments undertaken by the former usually do not succeed (Alesina *et al*. 1997; Alesina and Perotti 1995; Roubini and Sachs, 1989). In addition, there is evidence that budget deficits are in part determined by political instability and that there is a tendency for greater deficits in countries with short-lived governments (Roubini 1991; Roubini and Sachs 1989).

In short, the analytical core of the OECD-centered literature on the relationship between politics and the economy is based on the simple proposition that the influence of governments on economic performance depends on their motivations and political resources. The motivations concern electoral opportunism and ideological leanings. Resources spring from legislative strength and internal government cohesion, along with the kind of union support they can draw on.

The question, then, becomes: which factors affect the motivations and resources of governments in Latin America regarding their ability to maintain fiscal balance? Mejía Acosta and Coppedge (2001) performed the most complete and systematic study on this

question, the only one to include a considerable number of relevant political variables and to carry out a cross-section–time-series analysis of the data. Below we present a brief discussion of these authors' work, and then offer our own distinct empirical solutions.

The Work of Mejía Acosta and Coppedge

Mejía Acosta and Coppedge (henceforth MAC), in their analysis of the political determinants of fiscal discipline in Latin America, make use of what we call above the analytical core of the literature on OECD economic policy. To their thinking, fiscal discipline depends on the will and capacity of governments. However, they hold that variables traditionally considered as key to explain the policy-making process in Latin America (the size of the president's party, the number of parties, party discipline, the ideological distance between presidents and legislatures and the ideological polarization of the party system) do not have separate effects on public spending and the deficit. The effects of these variables are interactive.

As for the dependent variables, that is, the measures of fiscal behavior, MAC, while acknowledging that analysis of the deficit is important, contend that examination of the level of spending is also fundamental. This is because the determinants of revenue are probably very different from those of spending, and there are good reasons to believe that politics has a stronger effect on the latter. Politicians are deeply concerned with spending, and worry less about revenues, especially in Latin America. In the authors' words, "We should expect, then, that political forces exert a more powerful influence on spending and a more indirect influence, through spending, on budget equilibrium" (p. 2).

In other words, MAC propose to model fiscal balance as the result of a two-stage process, in which the president's political support has a significant impact on government

spending, which in turn affects overall fiscal performance. Once they establish their dependent variables – public spending and fiscal deficit – they define the following independent political variables as relevant: (1) the degree of centralization of budget institutions, as defined by Alesina *et al.* (1999); (2) the budget-electoral cycle, i.e., a variable that measures the temporal distance between a given year from the upcoming presidential election year; (3) the Washington consensus of the 1990s (a dummy variable); and (4) the partisan powers and the ideological position of the president.

The last variable is the most complex to operationalize, because it involves the interaction of several terms. The first step given by MAC is to establish the partisan powers of the president. The first term of the president's partisan powers is the strength of his party,[2] defined as the product between the size of this party and its discipline. While information on party size for Latin American presidents is easy to obtain, data on party discipline is scarce. To resolve this problem, MAC estimate from case studies the average discipline of parties in the seven Latin American countries included in their sample. They propose the following scores: Mexico and Venezuela = 1; Argentina and Uruguay = 0.9; Chile = 0.816; Brazil and Ecuador = 0.6.[3]

After calculating the strength of the president's party, Mejía Acosta and Coppedge define the president's "floor of legislative success." They assume that the latter goes up or down in step with the degree of polarization of the party system. Polarized systems have a lower floor, allowing few bills to be easily approved by the legislature. Party systems with

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[2] As there are only male presidents in our sample, henceforth we will use only the pronoun *he* to refer to Latin American chief executives.
[3] The Rice Index has the following formula: |%yes – %no|; where "yes" and "no" refer to the votes cast by the legislative members of each party in roll-call votes.

low polarization have higher floors, generating a high level of success in getting bills passed.

MAC also take into account the probability that the president will lose the support of his party, since a large and disciplined party is of little use if it is in conflict with the president. This variable assumes the value zero for the majority of observations. However, MAC give it a value of 0.1 for Venezuela in 1993; 0.2 for Ecuador; 0.25 for Uruguay (due to factionalism); and 0.4 for Venezuela in 1988.

To calculate the president's partisan powers, the authors combine the three variables defined above in a nonlinear function that models a sharp disjointedness given, on the one hand, by control of a bit more than 50% of the seats in the lower chamber, and on the other by control of a bit less than 50%. In this way, partisan powers are modeled as an S-curve that slopes steeply upward around the peak of 50% when discipline is high, but becomes nearly flat when discipline is low.

For MAC, the partisan powers variable has no direct relation with a specific outcome, such as level of spending or size of the deficit. The partisan powers of the chief executive can help him attain his objectives, but do not say what these objectives are. Their hypothesis, therefore, requires yet another interaction, between partisan powers and the president's left-right ideological position.

The sample used by MAC includes the following countries and periods: Argentina (1984-1998), Brazil (1986-1998); Chile (1990-1998); Ecuador (1979-1998); Mexico (1983-1998); Uruguay (1985-1998); and Venezuela (1983-1998). There are a total of 111 observations.

The econometric tests performed by MAC indicate that while the interaction

Partisan Powers*Presidential Ideology helps explain the level of spending, it does not have

a significant impact on the primary balance. Budget institutions and the electoral calendar

affect fiscal balance significantly, as does the 1990s variable. MAC interpret the results as

an indication that different institutions have an influence at different stages of the budget

process. The fact that the *Partisan Powers*Presidential Ideology* does not have a

significant impact on the primary balance does not mean there is no effect in terms of the

interaction of surpluses and deficits, but rather that the interaction has an indirect effect.

The resolve of presidents (represented by their ideology) and their capacity (measured by

their partisan powers) are important determinants of spending, which are in turn the clearest

determinant of fiscal balance. Finally, the results of their regression analysis suggest that

the relevant impact of electoral years is not to discourage high public spending, but to

discourage high revenues.

We will now take a critical look at the work of MAC.

The authors are quite right in asserting that a correct understanding of the political

determinants of fiscal behavior in Latin American countries must consider not only

budgetary balance (revenues less spending), but also overall public spending, since the

determinants of revenues are distinct from those for spending, and politics should affect the

latter more than the former. Therefore, in the next section we will also estimate models

both for spending and deficits in the search for the political determinants of fiscal behavior

in Latin America.

Another important point of MAC – that the relevant political variables must have an

interactive specification – is also correct. After all, the power of a president, usually

measured as the legislative size of his party, will also depend on how disciplined this party is. In turn, the impact of the ideological gap between the president and legislature becomes sharper the less weight his party has in that body. And an ideologically polarized party system certainly hinders executive-legislative decision-making even more as the number of parties rises.

However, the discipline score given to Brazilian political parties is the first misstep taken by MAC. Quantitative studies show that the average discipline of Brazilian parties is greater than 0.8 (Limongi and Figueiredo, 1994; Nicolau 2000). Moreover, even if the estimated scores might be correct in the sense of revealing a general tendency to indiscipline, the president's party (for various reasons) may well be much more disciplined than the others. This is now the case in Brazil with President Lula's Workers Party, which is highly disciplined.

Another problematic measure proposed by MAC concerns the ideology of the government. Because the system of government of all Latin American countries is presidential, MAC equate the chief executive's ideology with that of the whole government. This would correct were all Latin American governments single-party administrations. Nevertheless, presidents do not govern alone, especially in countries with fragmented party systems, which just as in Europe, nearly always require forging coalitions to form legislative majorities (Altman 2001; Amorim Neto 1998; Cheibub 2002; Cheibub and Limongi 2002; Deheza 1997). If presidents form multiparty governments, a correct measure of ideology should include the preferences of the parties represented in the cabinet, which MAC do not do.

Additionally, we also have doubts about the variable relating to the possibility that the president will lose the support of his party. The values proposed for Ecuador, Peru and Venezuela appear to us highly subjective and *ad hoc* in nature.

In sum, then, even though MAC have made an extremely valid effort, the variable *Partisan Powers* suffers from serious conceptual and operational problems, casting doubt on the robustness of the econometric results obtained by the authors and leading us to propose new measures.

III. New Measures of the Political Determinants of Fiscal Behavior

Just as in OECD countries, the strength of Latin American governments should also affect fiscal policy. Since all countries in the region have presidential systems, it is natural that the first measure of government strength to consider is the legislative size of the president's party, as MAC do. Yet, we offer a different rationale to justify the use of this variable. Our rationale relates to the fact highlighted in the previous section that Latin American presidents often form coalition governments.

In their widely read study of the political and economic determinants of the public deficit in OECD countries, Roubini and Sachs (1999) posit that coalition cabinets have a clear tendency to produce greater deficits than do single-party cabinets because the former face a prisoner's dilemma in trying to introduce budget cuts:

> … all of the partners of the coalition may prefer comprehensive budget cuts to a continuation of the large deficits, but each coalition partner may have the incentive to protect its particular part of the budget against the austerity measures. In the absence of strong coordination between members of the coalition to produce the 'cooperative outcome,' the noncooperative solution of no-budget cutting is quite likely to arise (p. 924).

Significantly, the countries that Roubini and Sachs have in mind are mostly European parliamentary democracies. But Latin American countries, however, all have presidential systems. Is the explanation of Roubini and Sachs valid for these countries, then?

From a theoretical standpoint, the problem of coordination faced by coalition governments in parliamentary regimes should be less serious in presidential systems because in the latter all executive power is formally invested in the president. Moreover, in most parliamentary regime, the ministers are politically equals to the prime minister, with their own agenda-setting powers (Laver and Shepsle 1996), while under a presidential system cabinet members are formally mere advisers to the chief executive. As a result, spending decisions taken by cabinet ministers can be overridden by the president at a lower political cost than that borne by a prime minister. Thus, in principle a president can achieve the coordination required for a coalition government to efficiently implement a deficit-reduction program. On this point, Roubini and Sachs show that the change from a parliamentary to a semi-presidential system in France in 1958 helps explain why the country had lower deficits in the 1960s and 70s than in the 50s.

Nevertheless, the capacity of Latin American presidents to coordinate their coalition partners can vary according to the legislative strength of the head of government. For example, President A, whose party holds 20% of the seats in the legislature and forms a coalition with parties that control 40% of the seats will be less able to impose a deficit-cutting policy than President B, whose party commands 45% of the legislative seats and allies with a party controlling only 10%. In other words, the capacity of President A to coordinate his cabinet members so as to enforce fiscal discipline is considerably lower than

that of President B. So, we posit that, *ceteris paribus*, the larger the president's party, the greater his ability to coordinate his cabinet members as regards spending policy, therefore, the lower the level of public spending and the budget deficit.

Underlying the above-mentioned argument regarding the political relations between presidents and cabinet parties is the implicit premise that governing parties are perfectly disciplined. Now, while true for European countries, this assumption cannot be sustained for various Latin American ones. It is well known that Brazilian, Bolivian, Colombian and Peruvian parties are less disciplined than their counterparts in Argentina, Chile, Costa Rica, Mexico and Venezuela (Carey 2002; Mainwaring and Scully 1995). We must assume, then, that countries with less disciplined parties have less stable governments, even if formed by single-party majorities.

Note that the stability of the government has two closely linked dimensions, the legislative and executive. The first involves the mustering of legislative majorities and the degree to which the latter cooperate with the executive. A government is stable whose legislative majority is often composed of the same party(ies) and often willing to support its initiatives. When the governing parties are not sufficiently disciplined, these two conditions do not hold. The absence of the two conditions, in turn, means that the cabinet will have a high turnover, since cabinet appointments will be used as political hay in political horse trading.

Moreover, if cabinet officers are not stable in their positions, the bureaucracy will tend to run loose. We then have a principal-agent problem. The shorter the time cabinet members remain in office, the less will be their ability to direct the different departments of their ministries and to obtain information from their subordinates. Without controls, the

bureaucrats have as many incentives to increase their budgets as they have means to avoid cuts (Huber 1998). Moreover, if cabinet officers know they will only serve for short periods, they will be strongly inclined to spend their budgets quickly and not likely to pursue a tight spending policy should this be the orientation of the president. For all this, governments with greater cabinet stability have more ability to diminish government spending. Therefore, the more disciplined political parties are, the longer the tenure of cabinet ministers, and the lower the level of public spending and the budget deficit.

Finally, generating a balanced budget also depends on the preferences of the executive. As noted above, we differ from MAC in that not only the ideological proclivities of the president's party should be taken into account but also those of all cabinet parties. For example, suppose a center-left president. If for some reason he finds it expedient to form a coalition with parties more to the right by naming members of these parties to key cabinet posts, one should plausibly expect that the ideological leanings of the right-wing ministers to affect the government's fiscal behavior because, after all, they hold some power to make spending decisions. Moreover, the right-wing ministers may be more willing to support fiscal austerity than left-wing ones. Thus, the more to the right is the political inclination of the cabinet, the lower the level of public spending and the budget deficit.

All the three explanatory variables proposed above – the size of the president's party, cabinet stability, and cabinet ideology – are assumed to have an interactive effect on fiscal behavior, as suggested by MAC. Substantively, such interaction simply means that stable, right-leaning governments led by presidents whose party is big enough are the best political formula to lower spending and cut deficits in Latin America.

In addition, the nature of institutions and the budgetary process also must be considered as a characteristic that highly affects the fiscal deficit in Latin America. Based on an analysis of the average surplus of the central government in 26 countries in Latin America and the Caribbean between 1989 and 1993, Alesina *et al*. (1999) show that more hierarchical budget processes are associated with lower deficits than a more collegial budget structure. Hierarchical procedures imply *ex ante* restrictions on the ability of the legislature to expand the budget and the deficit and the adoption of "top-down" budget decision methods, giving a central role to one cabinet officer or minister (usually the minister of finance) and restricting the power of the others. On the other hand, collegial procedures establish greater balance among the agents involved in drafting the budget (p. 255). Hence, the more centralized the budget institutions, the lower the level of public spending and the budget deficit.

Finally, a classical variable of fundamental importance for fiscal policy is the electoral cycle. This variable involves the motivation of governments, but is independent of ideological leanings. In election years, any government has strong incentives to boost public spending to improve its chances at the polls. Conversely, in post-electoral years, the government will likely reduce spending to control inflationary tendencies caused by the excessive spending in the previous election year. For this reason, the nearer to an election year is the government, the greater the level of public spending and the budget deficit.

In summary, the hypotheses put forward above seek not only to verify classic propositions in the literature on political-economic cycles – such as the impact of elections and political ideologies on fiscal behavior – but also to resolve two theoretical problems related to the institutional specificity of Latin American democracies. The first of these is to

know if using variables centered on the cabinet (its ideological slant and stability) helps us better to understand fiscal policy in systems in which executive power is constitutionally vested solely in the head of state. The second refers to the hypothesis of MAC regarding the greater explanatory power of models based on interactive terms of the explanatory variables than of models that only include linear combinations of the same variables. The responses are presented in the next section.

IV. Methods and Data

This section describes the operational indicators of the variables included in the statistical models that will be estimated, and presents the main results of the econometric analysis.

In order to map the effect of political variables on the fiscal behavior of Latin American countries, we use public spending as a percentage of GDP and the primary balance as a percentage of GDP as our dependent variables. Public expenditures include ongoing and non-continuous current spending by the central government, and exclude loans and debt service payments. This variable will be abbreviated as *SPEND*. The primary balance excludes debt service payments, thus allowing us to eliminate the effects of prior deficits on the current one. Its abbreviation is *PRIMBAL*. This measure is particularly useful in dealing with the frequent episodes of high inflation in Latin America in the past two decades, since monetary restatement of the public debt occasioned by inflation causes higher interest rates, making the use of the nominal deficit a misleading indicator of fiscal behavior. In other words, it is a measure only of what the government does in the area of fiscal policy in a given year, so we can check, in a valid and reliable manner, how political variables with a yearly basis affect fiscal behavior.

To control for the structural heterogeneity of Latin American countries, we use four variables proposed by Alesina *et al.* (1999): external public debt; the product of the annual variation in the terms of trade with the degree of economic openness, the percentage of the population under the age of 15; the percentage of the population over 65. Besides there four variables, we also include the unemployment rate.

The first variable – external public debt – is a proxy for the total external debt, since data on external private debt are scarce. We will call this simply *DEBT*. The underlying rationale for including this variable is that highly indebted countries have to generate primary surpluses just to meet debt service payments (Alesina *et al*. 1999, p. 265). Therefore, *DEBT* should have a negative sign in the public spending models and a positive one in the primary balance models.

The product of the annual variation in the terms of trade and the degree of economic openness will be called Δ*TRADE*OPEN*. The degree of economic openness is given by the percentage of GDP constituted by imports plus exports. According to Alesina *et al*. (1999), Δ*TRADE*OPEN* is an important control variable for the following reason: "Since in some countries tax revenues are heavily linked to export activities and import tariffs, we expect growth in the terms of trade to be associated with smaller deficits, and these effects to be more important for the case of economies that are more open to international trade" (p. 264-265). Note that Δ*TRADE*OPEN* is, however, a variable that affects a country's tax collections, a variable that is not directly connected with the purposes of this work, but that can come to play an essential role in controlling both the primary balance and spending. Regarding expenditures, the variable relative to trade has an obvious implication, since its rise causes higher tax receipts both on exported and imported products (particularly the

first). Concerning the primary balance, the variable has a more delicate interaction, since higher revenues imply a greater primary surplus as long as spending remains constant. $\Delta TRADE*OPEN$ is expected to have a positive sign in both the spending and primary balance models.

Another important control variable is the real growth in economic output. According to Gavin and Perotti (1997), public expenditures in Latin America are pro-cyclical, that is, they increase with higher output and decrease with lower output. Thus, one would expect growth in output to have a positive impact on spending and the primary balance. The methodology used in constructing this variable derives from the difference in real output, with a base year of 1995. The acronym for this variable is ΔGDP.

On the question of the population above 65 (whose acronym is *POP65*) and under 15 (*POP15*), the greater these groups' weights in the total population, the more the government will have to spend on education, health and social security, thus raising the deficit. Consequently, *POP65* and *POP15* should have a positive sign in the spending models and a negative one in the primary balance models (Alesina *et al*. 1999, p. 265).

Finally, the higher the unemployment rate, the more incentives the government has to increase public spending and the fiscal deficit so as to increase employment (*UNEMPLOY*). This variable, thus, is expected to have a positive effect on public spending and a negative one on the primary balance.

Table 1 below details the sources and operational indicators of all the socioeconomic variables.

[Table 1 about here]

The operational indicators of the political variables are as follows:

Size of the president's party (*PRESPAR*): This is given by the percentage of seats held by the president's party in the lower or only house (in unicameral systems).

Ministerial Stability (*MINSTB*): This is the average time, in days, spent in office for all cabinet officers in a given year, divided by 365. In other words, *MINSTB* varies between 0.003 (= 1/365; a situation in which each minister lasts only one day in office) and 1 (all ministers last the full year). For example, if a government has ten ministries and each of them has only one head for the entire year, the average duration is 365 days and *MINSTB* is 365/365 = 1. However, if the following year five ministries have two heads, each one serving for six months, then the average duration in the position is 3650/15 = 243.3 days, and *MINSTB* = 243.3/365 = 0.67.

Ideology of the Cabinet (*CABIDEO*): This is an interval variable generated by the weighted mean of the ideology of the parties that make up the president's cabinet. The weighting is done as per the size of the party in the lower only chamber. Party ideology is based on the classification devised by Coppedge (1997).

Budget Institutions Index (*BUDINS*): This is the index devised by Alesina *et al*. (1999), which ranges from 0 to 100. This index measures whether a country has: (1) *ex ante* restrictions on the ability of the legislature to expand the budget and the deficit; (2) top-down budget decision methods, in which one minister alone (generally the finance minister) plays the central role within the government, reducing the role of the other (spending) ministers; and (3) budget transparency and control. Alesina *et al*. calculate the values of this index only for the period 1980-1992. As these values change little over time, we have extended them to 1998. Note that as the index of budget institutions does not vary

over time, it will not included in our panel data analysis. We will use a different technique

to check its impact on fiscal behavior.

Electoral Cycle *(CYCLE)*: This is a variable that takes on the value of zero in the first year

of the president's term and increases linearly to one in his last year in office. The election

year is defined as that in which a presidential election occurs in the second half of the year.

For elections taking place from January through June, the previous year is considered the

election year.

Table 2 below summarizes the sources and definitions of the political variables.

[Table 2 about here]

To estimate the influence of political variables on the fiscal behavior of Latin

American countries, we use cross-section–time-series data. Originally, our sample included

11 Latin American countries classified as democratic or semi-democratic by Mainwaring,

Brinks and Pérez-Liñán (2001) for which we managed to obtain the necessary political and

socioeconomic data. However, the data on Brazil's yearly spending and deficits provided

by the World Bank do not seem to be reliable, leading us to drop this country.[4] Thus, the

countries and time periods covered are: Argentina (1984-1997), Bolivia (1983-1997), Chile

(1990-1997), Colombia (1980-1998), Costa Rica (1980-1997), Ecuador (1980-1996),

Mexico (1988-1997), Peru (1980-1991), Uruguay (1985-1998), and Venezuela (1980-

1998). There is a total of 131 observations in the models of public spending and 132 in the

models of primary balance.

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[4] For example, according to this source, Brazil's primary operating balance in 1989 was no less than –14.9% of GDP, a non-credible figure. This probable mistake was certainly due to the mess wrought in the country's public accounts by super-inflation in the late 1980s and early 1990s.

Besides the variables already described, the equations include dummy variables for each country, the intent being to capture the effect of omitted variables that are specific for each country and that supposedly are constant over time. However, for reasons of space, the so-called fixed effects will not be reported in the tables.

We use the GLS econometric method, with the standard errors corrected for panel data analysis through the technique developed by Beck and Katz (1995), available in the STATA program. The models include, on the right-hand side of the equation, the first-order lag of the dependent variables. The inclusion of the lag helps to control for auto-correlation problems in the residuals (Beck and Katz 1995; Beck 2001).

The basic regression model used to analyze the political determinants of public spending has the following form:

$$SPEND = \alpha + \beta_1 SPEND_{t-1} + \beta_2 DEBT + \beta_3 \Delta GDP + \beta_4 \Delta TRADE * OPEN +$$
$$+ \beta_5 POP15 + \beta_6 POP65 + \beta_7 UNEMPLOY + \beta_8 CYCLE +$$
$$\beta_9 PRESPAR * MINSTB * CABIDEO + CONTROLS + \varepsilon$$

The basic model used for the primary balance is similar to the spending model, the only differences being the inclusion of the lag of the primary balance ($PRIMBAL_{t-1}$).

Table 3 below presents the results of the regressions on the determinants of public spending and Table 4 the same for the primary balance.

[Table 3 about here]

Public Spending Models
In the first spending model, we included only two types of explanatory variables: economic (lagged spending, debt, economic opening and percent variation of GDP), and socioeconomic (population under 15, population over 65, and unemployment). Note the

high significance of lagged spending in explaining the level of current spending. This means that current expenditures have considerable inertia. The coefficient on lagged spending is approximately 0.5. This finding is repeated in the subsequent models. A possible explanation is that increasing public spending in a given year elevates it the next year by nearly half its current value. In the second year after the increase, the jump will be approximately one-fourth of the initial increase, and so on. One observes, according to this explanation, that spending increases are persistent but tend to lose steam. Another possible explanation is that a boost in public expenditures is maintained in subsequent years. In this case, the increment should reflect this inertial characteristic. In the following year, the spending rise will be the amount of the previous increase plus approximately half of its value, and so on. At the end of a five-year term, for example, the incremental value of expenditures will reach nearly two and a half times the initial increase. It is worth noting that 2.5 is the value to which the series converges, since the estimated parameter is approximately 0.5.

The variable relative to debt is highly significant and has a negative sign, as expected, indicating that an increase in the foreign debt is associated with lower public spending. However, the low magnitude of the coefficient reveals a weak incidence of this variable on the spending level.

In the following models, we excluded the economic and socioeconomic variables that were not significant in repeated tests. ΔGDP and economic openness, as well as the variables identifying the economically inactive population, were not statistically significant in any of the various tests conducted, only three of which are reported in Table 3. Note also that we do not report the country dummies for reasons of space. The lack of significance of

ΔGDP indicates that public spending in Latin American countries was not pro-cyclical in the period analyzed, unlike the position sustained by Gavin and Perotti (1997).

In Model 2 the variable tapping the interaction of the size of the president's party, ministerial stability and cabinet ideology came with the right sign, and was found significant at the 0.05 level. Its coefficient of -0.03 indicates that, all else constant, if one switches from the moderately strong single-party majority center-left government of Alan Garcia in Peru in 1986 to the strong single-party majority center-right government of Salinas de Gortari in Mexico in 1989, public spending will fall by approximately 1.5% of GDP. Concerning the electoral cycle, its lack of statistical significance in explaining current public spending coincides with the conclusion of MAC. The fiscal difficulties encountered in election years are not due to increased spending, but rather to the difficulty of raising tax collection, or even to the strong incentive to cut taxes.

To check the robustness of the finding on the effect of the interactive term, model 3 includes size of the president's party, ministerial stability, and cabinet ideology as linear terms, along with electoral cycle and lagged spending and debt. Besides lagged spending and debt, only size of the president's party turned out significant. However, it is not clear what the sign of this variable means. On the one hand, one could expect that the more legislators there are from the president's party, the fewer side payments he will have to make in piecing together a legislative majority. Since such payments usually take the form of transfer of public resources to the electoral constituents of parties, less need for such transfers should favor lower spending. By this logic, the sign of size of the president's party should be negative. On the other, one could posit that the larger the size of the president's party, the easier it will be to increase spending. Yet, as the variable does not tap the chief

executive's spending goals, this proposition is not directly tested by size of the president's party. All told, the sign of the latter variable observed in model 3 yields ambiguous, therefore non-robust, results. Moreover, the variable is significant only at the 0.1 level. This means that model 2 is clearly the best.

In summary, the level of public spending in Latin American democracies in the period analyzed is affected by the interaction of the legislative strength of the president and the stability and ideological leaning of governments, and is strongly determined by the spending level in past periods (indicating the presence of a strong inertial component in the public spending of the region's countries) and, to a lesser extent, by the level of debt.

Primary Balance Models

Following the proposal of MAC, in our analysis of the determinants of the primary balance we included expenditures on the right side of the equation. To control for self-correlation in the residuals, we also added $PRIMBAL_{t-1}$.

The first model in Table 4 includes only socioeconomic variables. Like the results of MAC, spending turned out to be statistically significant at the 0.01 level. Lagged primary balance and trade openness were also found significant and came with the right sign. Note, though, that while the latter is significant at only the 0.05 level, the former is significant at 0.01.

In model 5, the political variables are included (cycle, and the interactive term). The variable *CYCLE* is statistically significant at the 0.05 level and has a negative sign, confirming the hypothesis regarding the electoral opportunism of governments. Surprisingly, the interactive term came with the right sign but turned out insignificant.

Model 6 includes only a linear combination of the political variables, along with lagged balance, spending, and trade openness. Interestingly enough, all political variables were found significant, with cycle and cabinet ideology significant at the 0.01 level, ministerial stability at 0.05, and size of the president's party at 0.10. Clearly, model 6 is better than model 5. The magnitude of the coefficient on *CYCLE* indicates that over a presidential term, the fiscal result deteriorates on average by 1.1 percentage points. This result highlights the relevance of elections in explaining the evolution of the primary balance in Latin America. The positive sign of *MINSTB* confirms theoretical predictions that better fiscal results should come from increasing ministerial stability. The coefficient of approximately 2.1 indicates a strong effect of ministerial stability in obtaining positive results in the public accounts. More specifically, a cabinet whose members remain in their positions for a full year adds 2.1% to the primary surplus in relation to a government whose cabinet members remain in office an average of only six months.

The positive sign of *CABIDEO* confirms the hypothesis that governments more to the right tend to have, on average, better fiscal results than governments more to the left. The magnitude of this variable's coefficient (0.01) suggests that, all else constant, if one switches from a center-left government to a center-right one, the primary balance will increase by approximately 1.0% of GDP.

Finally, the sign of *PRESPAR* indicates that the larger the size of the president's party, the higher the primary balance. The variable's coefficient suggests that, all else constant, if one switches from a president whose party commands 10% of seats to a chief executive whose party holds 50% of seats, the primary balance will increase by approximately 1.0% of GDP. Recall that in model 3 on Table 3, *PRESPAR* had a positive

effect on spending. As *PRESPAR* also has a positive impact on primary balance, this can only mean that the larger the president's legislative contingent, the abler he is to increase revenue through increased taxation.

In short, the electoral cycle, the size of the president's party, cabinet ideology, and ministerial stability are the political determinants of the primary balance. A linear combination of a president supported by a strong party, a stable team of ministers, and ones more to the right on the political spectrum, had a favorable impact on fiscal balance in Latin American countries between 1980 and 1998. Nevertheless, the positive effect of these political characteristics is counterbalanced by the negative effect of electoral opportunism.

The Effect of Budget Institutions

Recall that the index of budget institutions was the only political variable not included in our panel data analysis. To check the impact of centralization of budget decisions on public spending and the primary balance, we analyzed it through correlations between the coefficients on the country dummies observed in the best models of public spending and primary balance (models 2 and 6) and the values of *BUDINS*. The reason for this procedure is *BUDINS*'s lack of variation over time. In other words, *BUDINS* only varies cross-nationally. Note that the coefficient on the country dummies constitutes the mean either of the public spending and the primary balance of each country and also the variance in fiscal behavior not explained by the other independent variables.

The correlations between the coefficients on the country dummies generated in models 2 and 6 were -0.1 and 0.5, respectively, thus indicating no significant effect of *BUDINS* on public spending and primary balance. The first correlation even came with the wrong sign. These negative results are probably explained by the small number of countries

included in the sample. Note that *BUDINS* also turned out insignificant or came with the wrong sign in panel-data models not reported in the paper.

V. Discussion

The tenor of our tests indicates that political variables do have explanatory power regarding the level of public expenditures and the level of the primary balance. However, some questions emerge from the complex scenario described above.

In the first place, one must ask why the term interacting size of the president's, ministerial stability, and cabinet ideology explains public spending but a linear combination of these same variables determines the level of the primary balance. That the interactive term is negatively associated with the level of public expenditures means that a government has to be really strong and well motivated to cut public outlays. This is because cutting expenditures implies the imposition of concentrated costs. So the government has to put together all its resolve and strength to face the intense opposition of those who will bear such costs.

That the linear combination of the political variables significantly affects the primary balance indicates that each variable (size of the president's, ministerial stability, and cabinet ideology) alone is sufficient to enable the government to raise taxes. Raising taxes are politically easier than cutting spending because the former tends to generate diffuse costs, while the latter concentrates them, as said above.

Second, it would also be good to get a better understanding of how the electoral cycle affects level of the deficit, but not the level of spending. This is because the effect of the elapsing of the president's term is mainly through revenues, as asserted by MAC, leading them to fall as the presidential election year approaches.

Third, it should be asked why *POP15*, *POP65*, and *UNEMPLOY* did not have a significant impact on fiscal behavior. As pointed out in CEPAL (1998, chapter 4, section D), even though data are somewhat lacking on the subject, the budgets in Latin American countries tend to be excessively rigid due to the existence of a set of constitutionally and/or legally mandated expenditures (entitlements) and because of highly detailed budget laws. Brazil is an excellent example of such budgetary inflexibility, with only 8.6% of the federal budget open to annual discretionary management. This figure falls as low as 3.1% in Guatemala. Just for the sake of comparison, a study of the European Union shows that the governments of 11 of the 15 member countries have ample discretionary power over their annual budgets (Hallerberg et al, 2001).[6] Obviously, budget rigidity in Latin American countries considerably diminishes the capacity of their governments to efficiently respond to increases in unemployment and the dependent population. This may help explain the lack of statistical significance of *POP15*, *POP65*, and *UNEMPLOY* in the spending and public deficit models.

In addition, why did the ideology of Latin American governments affect the fiscal behavior of their countries in the period between 1980 and 1998, when we know from Alesina *et al*. (1997) that this type of political variable did not have an impact on public spending and deficits in Europe from 1985 to 1993? A probable explanation for this difference is that in Latin America most left-wing parties have only recently accepted the need for macroeconomic responsibility, unlike their European counterparts. This is well illustrated in Brazil's Workers Party (PT), now in power and showing fiscal restraint. So, in

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[6] The exceptions are Spain, Finland, Holland and Sweden.

the period analyzed here, there was still a high probability that political ideology would be a prominent factor in fiscal policy.

Finally, what do our findings say about the relative importance of the presidential variable (size of the president's party) and those referring to cabinets (ministerial stability and cabinet ideology)? We have seen that the latter are more relevant in determining variation in the primary balance. In other words, the tests indicate that regarding fiscal discipline, the cabinet is a more relevant political force than the president, even though all Latin American governments have presidential systems. This reinforces the idea that the use of cabinet posts to cement political agreements and build legislative majorities is a fundamental mechanism of governance in the region, a mechanism that gives rise to key consequences on macroeconomic performance.

VI. Conclusion

Our conclusion is that political characteristics of Latin American governments do have a significant influence on the fiscal behavior of governments. Our findings systematically corroborate the classic ideas that elections cause deterioration in fiscal performance and that the political capacity of governments permits better administration of spending and the public deficit. Substantively, stable, right-leaning governments led by presidents backed by strong parties are more likely to generate fiscal equilibrium.

All in all, there is still much research to be done to get a good grasp of the complex interactions between the economy and politics in the Latin America that arose from the legacy of the former politically authoritarian regimes and the *developmentalist* economic model. Future studies should not only try to refine the measures and tests proposed by us and MAC, but also attempt to operationalize and analyze through bigger samples than ours

the consequences of new explanatory variables, such as fiscal (de)centralization and the role of labor unions.

As for the impact of fiscal decentralization, recent studies show that there are costs associated with the loss of control of macroeconomic policy by the central government to the benefit of sub-national governments, a loss that limits the capacity of the former to implement stabilization policies and macroeconomic adjustments (Fukasaku and Mello, 1999; Poterba and von Hagen, 1999; Prud'homme, 1995; Shah, 1998; Ter-Minassian, 1997; Wibbels, 2000). We would like to have included in our spending and deficit models a measure of the degree of fiscal (de)centralization in the countries, which would be the percentage of all public sector revenues appropriated by the central government. Unfortunately, besides being incomplete, the data made available on the subject by the World Bank, IDB, CEPAL, and IMF are not that reliable, which argued for their exclusion in our econometric tests. So, we can only hope that more reliable indicators of fiscal (de)centralization will shortly become available.

Regarding the role of labor unions, Murillo (2001; 2003) argues that governing parties with strong links with centralized labor unions had a comparative advantage in terms of implementing market-oriented reforms and macroeconomic stabilization plans in Latin America in the 1980s and 90s. This hypothesis also needs to be econometrically tested in future works. However, it will be difficult to do so because reliable data on union density and centralization are difficult to find (Murillo 2003, p. 107).

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Table 1- Sources and Definitions of Socio-Economic Variables

Variable	Sources	Definition
Public Expenditures (*SPEND*)	World Development Indicators (World Bank) - CD-ROM – 1999 and 2001 (code: GB.XPD.TOTL.GD.ZS).	Central government non-financial expenditures as a percent of GDP.
Primary Balance (*PRIMBAL*)	World Development Indicators (World Bank) - CD-ROM – 1999 and 2001 (code: GB.REV.CTOT.GD.ZS).	Central government non-financial revenues minus central government non-financial expenditures as a percent of GDP.
External Public Debt (*DEBT*)	World Development Indicators (World Bank) - CD-ROM – 2001. (code: DT.DOD.DPPG.CD).	It is the so-called sovereign debt, which is the external public debt plus the publicly guaranteed debt.
ΔGDP	World Development Indicators (World Bank) - CD-ROM – 2001. (code: NY.GDP.MKTP.CD).	Annual variation in GDP.
Population under 15 years (*POP15*)	World Development Indicators (World Bank) - CD-ROM – 2001 (code: SP.POP.0014.TO).	Population between 0 and 14-year-old over total population.
Population older than 65 years (*POP65*)	World Development Indicators (World Bank) - CD-ROM – 2001 (code: SP.POP.65UP.TO).	Population older than 65 over total population.
*ΔTRADE*OPENNESS*		Product of variation in terms of trade with economic openness.
Economic Openness (*OPENNESS*)	World Development Indicators (World Bank) - CD-ROM – 1999 and 2001. (code: NE.TRD.GNFS.ZS).	Sum of exports and imports of goods and services measured as a share of GDP.
ΔTerms of Trade (*TRADE*)	Global Development Finance & World Development Indicators (World Bank) - http://www.ciesin.org/IC/wbank/wtables.html.	The variation in the terms of trade is the natural logarithm of terms of trade minus the natural logarithm of the lagged terms of trade. Terms of trade are the ratio of prices of exports to prices of imports.
Unemployment (*UNEMPLOY*)	Inter-American Development Bank (IDB); Costa Rica: MIDEPLAN (Secretariat of National Plan and Economic Policy); Venezuela: OCEI (Central Office of Statistics).	Unemployed population over total economically active population.

Table 2- Sources and Definitions of Political Variables

Variable	*Sources*	*Definition*
Electoral Cycle (*CYCLE*)	Bank and Muller (1998), Coppedge (1997), Deheza (1997), Mainwaring and Scully (1995), Parline Database, Inter-Parliamentary Union: http://www.ipu.org, and Nohlen (1993).	Zero in the first year of the president's term and increases linearly to one in his last year in office. The election year is defined as that in which a presidential election occurs in the second half of the year. For elections taking place from January through June, the previous year is considered the election year.
Legislative Strength of the President's Party (*PRESPAR)*	Bank and Muller (1998), Coppedge (1997), Mainwaring and Scully (1995), Parline Database, Inter-Parliamentary Union: http://www.ipu.org, and Nohlen (1993).	Percentage of seats held by the president's party in the lower or only house (in unicameral systems).
Cabinet Appointment Data (*MINSTB*)	Argentina: Molinelli *et al.* (1999); *Keesing's Record of World Events On Line*; and data provided by Ana Maria Mustapic. Bolivia: Mesa Gisbert (1990); *Keesing's Record of World Events On Line*; and data provided by Carlos D. Mesa Gisbert. Chile: *Keesing's Record of World Events On Line*; and data provided by David Altman, John Carey, and Daniel Kaufman. Colombia: Blanco Bugand *et al.* (1991); Gonzales Dias (1982); and *Keesing's Record of World Events On Line*. Costa Rica: *Keesing's Record of World Events On Line*; and data provided by John Carey, Judith Schultz, and Michelle Taylor. Ecuador: Proyecto Gobernabilidad CORDES (2002). Mexico: Aguayo Quezada (2000); and data provided by Antonio Ortiz Mena. Peru: Tuesta Soldevilla (1994); *Keesing's Record of World Events On Line*; and data provided by Barbara Geddes. Uruguay: *Keesing's Record of World Events On Line*; and data provided by David Altman. Venezuela: Olmos (N.d.); *Keesing's Record of World Events On Line*; and data provided by Valia Pereira.	The average time, in days, spent in office for all cabinet officers in a given year, divided by 365.
Ideology of Cabinet (*CABIDEO*)	Alcántara Sáez and Freidenberg (2001), and Coppedge (1997).	Party ideology is based on the classification devised by Coppedge (1997). The weighting is done as per the size of the party in the lower only chamber

Table 3 – The Determinants of Public Spending

	Model 1	Model 2	Model 3
	coefficient (standard error)	coefficient (standard error)	coefficient (standard error)
$SPEND_{t-1}$	0.494 *** (0.060)	0.537 *** (0.057)	0.542 *** (0.058)
$DEBT$	-0.042 *** (0.011)	-0.057 *** (0.010)	-0.053 *** (0.010)
ΔGDP	0.048 (0.036)		
$\Delta TRADE*OPENNESS$	-0.015 (0.026)		
$POP15$	-0.057 (0.188)		
$POP65$	0.796 (0.881)		
$UNEMPLOY$	-0.109 (0.069)		
$CYCLE$		-0.113 (0.403)	-0.263 (0.431)
$PRESPAR$			0.028 * (0.016)
$CABIDEO$			-0.002 (0.004)
$MINSTB$			0.545 (0.956)
$PRESPAR*CABIDEO*MINSTB$		-0.032 ** (0.014)	
N	131	131	131
adjusted-R^2	0.908	0.908	0.906

*** $\rho < 0.01$; ** $\rho < 0.05$; * $\rho < 0.1$.

Table 4 – The Determinants of the Primary Balance

	Model 4	Model 5	Model 6
	coefficient (standard error)	coefficient (standard error)	coefficient (standard error)
$PRIMBAL_{t-1}$	0.422 *** (0.065)	0.474 *** (0.064)	0.441 *** (0.063)
SPEND	-0.257 *** (0.064)	-0.268 *** (0.054)	-0.292 *** (0.052)
DEBT	0.014 (0.011)		
ΔGDP	0.056 (0.035)		
$\Delta TRADE*OPENNESS$	0.061 ** (0.025)	0.047 * (0.025)	0.044 * (0.024)
POP15	0.069 (0.167)		
POP65	-0.445 (0.807)		
UNEMPLOY	0.016 (0.063)		
CYCLE		-0.788 ** (0.381)	-1.149 *** (0.389)
PRESPAR			0.024 * (0.014)
CABIDEO			0.009 *** (0.003)
MINSTB			2.087 ** (0.831)
PRESPAR*CABIDEO*MINSTB		0.013 (0.012)	
N	132	132	132
adjusted-R^2	0.619	0.630	0.660

*** $\rho < 0.01$; ** $\rho < 0.05$; * $\rho < 0.1$.