

**Does divided government moderate electoral cycles in monetary and fiscal policy?  
Going from annual to quarterly data in Latin America and the OECD**

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**Preliminary - Comments welcome**

**Abstract:** Using annual and quarterly data from 39 Latin American and OECD countries over the 1980-2005 period, we explore whether effective checks and balances, measured by the presence of veto players in countries with high compliance with the law, moderate electoral cycles in fiscal and monetary policy. Once we control for effective checks and balances, the aggregate budget surplus (our fiscal variable) and the rate of change of international reserves (our monetary variable) fall significantly before elections and rise afterwards in both regions.

*JEL classification codes:* D72, D78, H60

*Key words:* electoral cycles, fiscal policy, monetary policy, checks and balances, veto players, rule of law

## **I. Introduction**

As North and Thomas (1973, chapter 1) point out, without an appropriate institutional framework, self-interest may direct actions to areas where private and social returns do not match. In this regard, we study the influence of institutions on electoral cycles in economic policy.

While elections allow voters to select the most competent candidate, under asymmetric information incumbents have a temptation to engineer cycles in fiscal and monetary

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policy to improve their reputation and enhance their probability of reelection (Rogoff and Sibert 1988, Persson and Tabellini 1990). Our conjecture is that each government will exploit the instruments over which it has more discretionary power, so electoral cycles may differ from country to country. The specific institutional remedies for electoral cycles we look into are legislative constraints on executive discretion.

Electoral cycles in monetary and fiscal policy have been widely debated since the pioneering studies by Nordhaus (1975), Tufte (1978), and Frey and Schneider (1978). Though there has recently been a flurry of empirical work using cross-country panels to study electoral cycles in fiscal policy (Shi and Svensson 2006, Brender and Drazen 2006, Alt and Lassen 2006), the focus has been on the impact of asymmetric information. The influence of constraints on executive discretion has been much less explored.

We investigate in particular to what extent the presence of veto players in countries with high rule of law affect cycles. Our proxy for effective checks and balances on executive discretion combines the presence of a legislative veto player, built using the Henisz political constraints index, with the degree of compliance with the law, based on the ICRG law and order index. Both variables are drawn from the Henisz (2005) dataset.

For monetary policy, Lohmann (1998) shows the crucial importance of veto players, represented by representatives of regional governments in the board of the Bundesbank not aligned with the federal government, for the independence of monetary policy in Germany. Keefer and Stasavage (2003) also stress the influence of veto players, and of the polarization between them, on central bank independence and inflation.

For fiscal policy, Schuknecht (1996) conjectures that political budget cycles are stronger in developing countries because of weaker checks and balances. Streb and Torrens (2009) formalize this conjecture, showing that a legislative veto player, in a system where there is compliance with the law, can make a budget rule that prohibits the manipulation of debt credible. Streb, Lema and Torrens (2009) analyze this conjecture econometrically using the Henisz (2002) dataset, but a drawback of this study, as of almost all the literature on fiscal cycles using cross-country panel data, is the use of annual observations. As Akhmedov and Zhuravskaya (2004) stress in their country study of Russia, since the sign of policies is reversed after elections, lower frequency data mask cycles because the effects around elections cancel out.

Our contribution is to analyze how institutional constraints on executive constraints affect electoral cycles in fiscal and monetary policy, using annual and quarterly data from a wide cross-country panel that comprises 39 countries, 19 from Latin America and 20 from the OECD, over the 1980-2005 period. An open question in the literature is whether pre- and post-electoral effects in fiscal policy are concentrated around the quarters closest to elections. We check the behavior of fiscal and monetary variables as one shifts from annual to quarterly frequencies. Higher frequency data allow to uncover the electoral patterns more distinctly, and to identify the electoral period more precisely.

In his review of twenty-five years of literature, Drazen (2001) points out that cycles in fiscal and monetary policy are interrelated, summing up the evidence by saying that active fiscal policy is the main impulse behind electoral cycles, while monetary policy has a passive role of accommodating expansionary fiscal policy. Our aim is to see to what extent there are indeed joint cycles in monetary and fiscal policy.

For electoral cycles in monetary policy, we use the variation in international reserves. International reserves might be a more appropriate indicator of monetary policy in developing countries, where monetary authorities often target exchange rates.<sup>1</sup> International reserves should be affected if central banks try to electorally manipulate exchange rates. We intend to also explore the influence of checks and balances on alternative monetary policy instruments, incorporating interest rates, since interest rates might be a more appropriate indicator of the stance of monetary policy in developed countries. For electoral cycles in fiscal policy, we use an aggregate measure, the budget balance, which is a more sensitive indicator of electoral cycles than either aggregate expenditure or aggregate revenues, because it captures developments on both sides of the budget.

## **II. Data and econometric specification**

### **A. Data set**

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<sup>1</sup> Stein and Streb (2004) find that in Latin America there is a pattern of postponing exchange rate adjustments until after elections, leading us to look into the behavior of international reserves.

Table 1 has the definition and sources of the variables we use in our econometric estimates. The fiscal and monetary variables are from the IMF's *International Financial Statistics*, while the GDP figures are from the World Bank. To construct the ratio of fiscal variables to GDP on a quarterly basis, we interpolated nominal GDP with the quarterly import series, using the Fernández (1981) procedure in MATLAB. We interpolated real GDP as well, to construct quarterly growth figures.

<please see Table 1>

## **B. Empirical proxies for veto players and compliance with the budget law**

The variables on veto players and rule of law are taken from the Henisz (2005) dataset. A measure of effective checks and balances is constructed to capture when the legislature can control the executive through the budget process. To measure the nominal presence of a legislative veto player, the Henisz (2002) political constraints index POLCON3 is used. It is multiplied by the ICRG law and order index, to identify those countries where laws are complied with.

The Henisz (2005) political constraints measure takes into account the extent of alignment across the executive and legislative branches of government, and was designed by Henisz (2002) to measure the political constraints facing the executive when implementing a policy. More alignment increases the feasibility of policy change and implies less political constraints for the executive. In the Henisz (2005) POLCON dataset, the political constraints index POLCON3 is derived in a spatial model under the assumption that the status quo policy is uniformly distributed over the policy space  $[0,1]$ . The minimum is a value of 0, which implies no constraints and absolute political discretion for the executive. As the value of POLCON3 increases, more political constraints are implied. With a single legislative chamber, POLCON3 may reach a maximum of  $2/3$ , when the legislature is not aligned with the executive; while with two

chambers the maximum is  $4/5$ , when neither of the chambers is aligned with the executive.<sup>2</sup>

The variable of interest for us is whether a legislative veto player exists or not, given that the status quo for the budget deficit is not random, but rather new debt typically has to be authorized by the legislature (Streb and Torrens 2009). Since POLCON3 equal to  $2/3$  or more implies the executive faces at least one legislative veto player, *vetoplayer* is defined as equal to 1 for those values of POLCON3; values of POLCON3 less than  $2/3$  are divided by  $2/3$ , so *vetoplayer* varies linearly in the  $[0,1]$  interval. However, since the effect of having less than a full vetoplayer may be non-linear, in the robustness checks we consider alternative measures.

There is no direct measure of compliance with the budget law. Instead, the POLCON dataset reports the ICRG index on law and order, which measures the degree of rule of law based on a scale from 0 (low) to 6 (high) characterizing the strength and impartiality of the legal system and the general observance of the law. In earlier years when the law and order index is not available, we use instead the ICRG rule of law index.<sup>3</sup> We create a dummy variable *lawdummy* that takes value 1 if this compliance index is larger than 4 in all years that are reported for a given country, and 0 otherwise.<sup>4</sup> This treatment implies treating compliance with the law as a fixed characteristic. The variable *lawdummy* allows to extend the analysis back to 1960, since data on compliance with the law is only available since 1982. The disadvantage is losing the variation over time, something we consider in the robustness checks.

### C. Econometric specification

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<sup>2</sup> Henisz (2000) also adjusts POLCON3 for the fractionalization of the legislature, which is the probability that two random draws from the legislature are from different parties. High fractionalization within each legislative branch decreases (increases) political constraints for an opposed (aligned) executive branch. The POLCON3 index is measured the 1st of January of each year, so it is a predetermined in relation to elections that year.

<sup>3</sup> When there are overlapping observations, the rule of law index is an unbiased predictor of the law and order index, since the intercept is zero and the coefficient is 1. Therefore, the more recent series on law and order is used, supplementing it with rule of law when the former has missing observations.

<sup>4</sup> Though the cut-off point of 4 is arbitrary, a higher cut-off would lead to eliminate the UK as a country with high rule of law, and a lower one would lead to include Argentina.

Following the previous empirical literature on electoral cycles in fiscal and monetary policy, the relation between a given policy variable  $y$  in country  $i$  and year  $t$  ( $y_{i,t}$ ) and the electoral cycle can be described as follows:

$$y_{i,t} = \sum_{j=1}^k \beta_j y_{i,t-j} + \sum_{j=1}^m \gamma_j x_{j,i,t} + \delta_E E_{i,t} + \lambda z_{i,t} + \eta z_{i,t} E_{i,t} + \phi z_{i,t} y_{i,t-1} + \mu_i + \varepsilon_{i,t} \quad , \quad (1)$$

where  $x_{i,t}$  is a vector of  $m$  controls,  $E_{i,t}$  is a dummy election variable,  $z_{i,t}$  is a proxy variable for effective checks and balances conditioning the electoral policy manipulations,  $\mu_i$  is a specific country effect, and the term  $\varepsilon_{i,t}$  is a random error that is assumed independent and identically distributed.

This specification represents a dynamic panel model, where the dependent variable is a function of its own lagged levels, a set of controls and the electoral timing conditioned by effective checks and balances. Estimates are performed with STATA 10 using fixed effects (FE).

Opportunistic cycles are often linked to expansions in electoral years, captured through the variable  $ele$  equal to 1 in election years and 0 otherwise. We also introduce the lead  $ele(+1)$ , because in the case of fiscal policy Ames (1987) finds that expenditures fall after elections, and Persson and Tabellini (2003) show that post-electoral fiscal contractions are significant. We also measure the electoral cycle with the  $pbc$  variable, which as in Schuknecht (1996) equals 1 in electoral years, -1 in post-electoral years, and 0 otherwise.

Our basic conjecture is that effective checks and balances have a moderating influence on PBCs. We use the variable  $pbc\_checks = pbc * checks$ . The variable  $pbc\_checks$  is different from 0 around elections if both  $vetoplayer > 0$  and  $lawdummy > 0$ . To isolate the discretionary component of cycles, the  $pbc$  variable is multiplied by the measure of discretionary executive power ( $1 - checks$ ). The discretionary component of PBCs,  $pbc_{(1-checks)}$ , has a simple interpretation. At one extreme, if the legislature is perfectly aligned with the executive ( $vetoplayer = 0$ ), or if the observance of rule of law is low ( $lawdummy = 0$ ), the original  $pbc$  variable is unchanged. Since the typical case for non-OECD countries is  $lawdummy = 0$ , the discretionary component of cycles there is  $pbc_{(1-$

$checks)=pbc$ . At the other extreme, if the legislature is not aligned with the executive and constitutes a veto player ( $vetoplayer=1$ ), and there is a high compliance with the law ( $lawdummy=1$ ), an election year would not be counted as such because the electoral cycle would be completely counteracted by legislative checks and balances. Since in OECD countries the typical case is  $lawdummy=1$ , the discretionary component of cycles there is  $pbc_{(1-checks)}=pbc*(1-vetoplayer)$ . Our discretionary component of PBCs is a specific way of representing the more fundamental idea of the moderating influence of legislative checks and balances.

### **III. Electoral cycles in fiscal policy: the behavior of the budget surplus**

Previous cross-country panel studies of aggregate fiscal cycles in developing and developed countries use annual data to analyze the behavior of the budget surplus. This is the case of Persson and Tabellini (2003), Brender and Drazen (2005), Shi and Svensson (2006), and Streb, Lema and Torrens (2008).

As a preliminary measure of electoral cycles in fiscal policy, in Figure 1 we present an average of the budget balance around electoral years (which are year zero).

<please see Figure 1>

We now present yearly data from our dataset of 39 countries from Latin America and the OECD. While there are cycles in the whole sample, this is due to Latin American countries. However, once we control for effective checks and balances, we find significant fiscal cycles in the OECD (Streb, Lema and Torrens 2008 have somewhat similar results using another sample, the Brender and Drazen dataset).

<please see Table 2>

Table 3 presents the results with quarterly data. There is a significant electoral cycle not only in Latin American countries, but also in OECD countries (at the 5% level). Fiscal cycles are stronger in Latin America, something consistent with the previous

literature that points to stronger cycles in developing countries (Schuknecht 1996, Shi and Svensson 2006). However, once we control for effective checks and balances, cycles are as significant in both regions.

<please see Table 3>

#### **IV. Electoral cycle in monetary variables: the behavior of international reserves**

Stein and Streb (2004), using monthly data on exchange rates, found that in Latin American countries the rate of devaluation typically rises after elections, and more specifically one month after government changes. If governments are putting their foot on the rate of nominal devaluation during electoral periods, there is an obvious variable to look at: international reserves. Central Banks have to be willing to lose reserves in order to stabilize the exchange rate around elections.

Figure 2 shows that there are clear electoral cycles in the growth of international reserves in Latin America, but not in the OECD.

<please see Figure 2>

Table 4 looks at annual data on the rate of change of real reserves. In the total sample (column 1), the growth rate of reserves falls in the election year and recovers afterwards. This is determined by Latin American countries, whereas in OECD countries there is no evidence whatsoever of a cycle. Even after controlling for checks and balances, there is no cycle in the OECD.

<Please see Table 4>

Moving to quarterly data in Table 5, again, there is no evidence of cycles in OECD countries. However, once we introduce checks and balances, we find cycles in the OECD.

<Please see Table 5>



## V. Final words

Our study has implications for the consensus that has developed on electoral cycles in fiscal policy being a developing country phenomena (Shi and Svensson 2006), or a phase experienced by countries while they are young democracies (Brender and Drazen 2005). Akhmedov and Zhuravskaya (2004) voice this consensus when they concentrate on Russia because it is a young democracy in an emerging economy.<sup>5</sup>

This consensus has been explained with the rationale that voters in developed countries are fiscal conservatives that punish deficit spending (Peltzman 1992). However, even in developed countries, if voters have problems of asymmetric information about fiscal policy, incumbents may be tempted to use debt for electoral purposes. Indeed, conditional on the existence of low fiscal transparency, Alt and Lassen (2006) find fiscal cycles in OECD countries.

The evidence we present is preliminary, but as it shows that institutional constraints on executive discretion matter. Furthermore, our results show that temporal aggregation matters too. The fiscal evidence with yearly data is similar to most previous studies: we find significant cycles in the total sample, but the results are driven by what has been described as a developing region with young democracies, Latin America. There are no cycles in OECD countries. However, once we move to quarterly data, our sample of OECD countries allows to uncover a significant electoral cycle when we introduce effective checks and balances. Moreover, quarterly data reveal that the effects of a fall in the surplus before elections, and a surge afterwards, are almost perfectly symmetric.

We also turn to the behavior of a variable that we have not seen studied in the literature, international reserves. The data also show that in Latin American countries, where countries try to manage their pegs before elections, there is a clear cycle where international reserves grow more slowly before elections, recovering afterwards. In OECD countries we are only able to uncover a cycle once we introduce our variable on effective checks and balances.

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<sup>5</sup> However, Persson and Tabellini (2003) find significant electoral cycles in fiscal policy in all types of democracies. Streb, Lema and Torrens (2008) also find cycles in OECD countries.

The fact that we found fiscal expansions before elections should in principle point under managed exchange rates to a gain in reserves, rather than a loss, before elections. The pattern of a loss of reserves under executive discretion may point to unsustainable fiscal policies, where a devaluation after elections can be used to eliminate the increase of real government expenditure before elections.

## References

- Akhmedov, Akhmed, and Ekaterina Zhuravskaya (2004). Opportunistic political cycles: Test in a young democracy setting, *Quarterly Journal of Economics* 119: 1301-1338.
- Alt, James E., and David D. Lassen (2006). Transparency, political polarization, and political budget cycles in OECD countries, *American Journal of Political Science* 50: 530-550.
- Brender, Adi and Allan Drazen (2005). Political budget cycles in new versus established democracies, *Journal of Monetary Economics* 52: 1271-1295.
- Drazen, Allan (2001). Twenty-five years of political business cycles, *NBER Macroeconomics Annual*, Cambridge, MA: NBER.
- Fernández, Roque B. (1981). A methodological note on the estimation of time series, *Review of Economics and Statistics* 63: 471-476.
- Frey, Bruno S., and Friedrich Schneider (1978). A politico-economic model of the United Kingdom, *Economic Journal* 88: 243-253.
- Henisz, Witold J. (2002). The institutional environment for infrastructure investment, *Industrial and Corporate Change* 11: 355-89.
- Henisz, Witold J. (2005). POLCON 2005 codebook. Manuscript, University of Pennsylvania.
- Keefer, Philip, and David Stasavage (2003). The limits of delegation: Veto players, central bank independence, and the credibility of monetary policy, *American Political Science Review* 97: 407-423.
- Lohmann, Susanne (1998). Federalism and central bank independence: The politics of German monetary policy, 1957-1992, *World Politics*. 50: 401-446

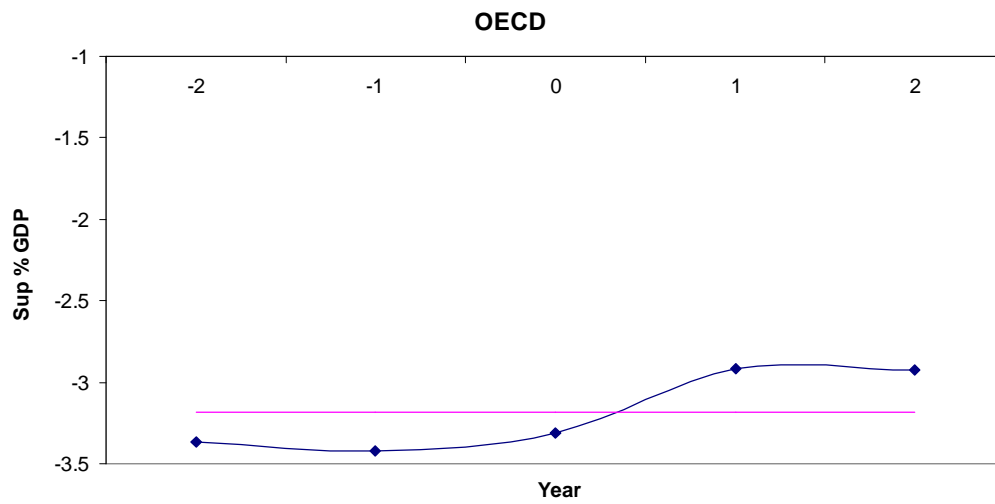
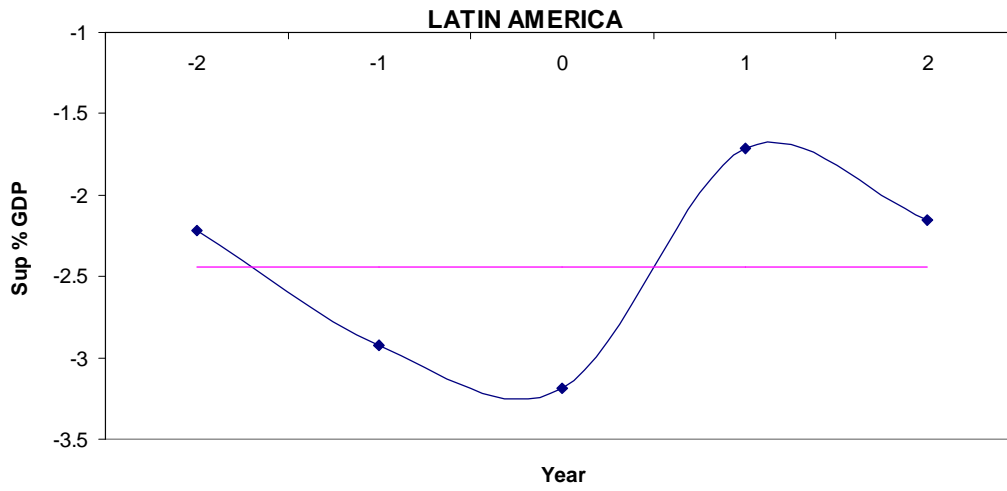
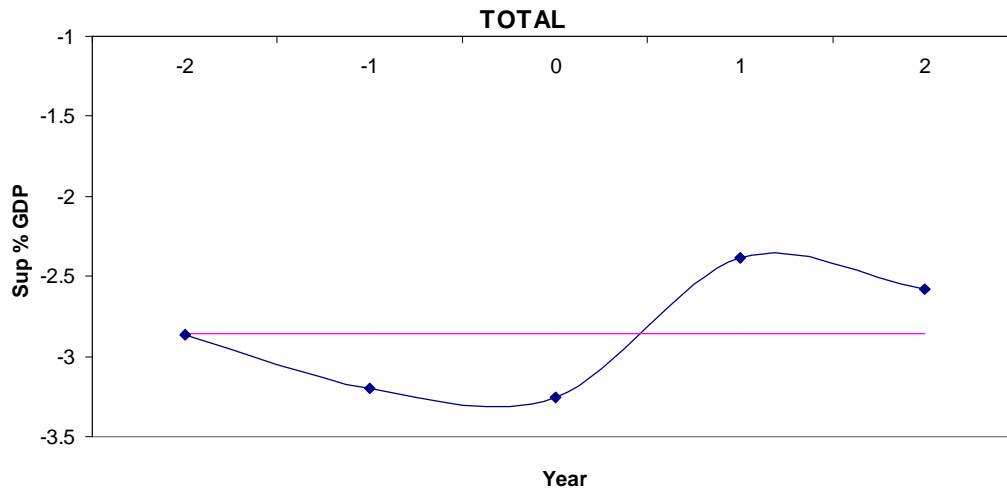
- Nordhaus, William (1975). The political business cycle, *Review of Economic Studies* 42: 169-190.
- North, Douglass, and Robert Thomas (1973). *The rise of the Western world: A new economic history*, Cambridge: University Press.
- Peltzman, Sam (1992). Voters as fiscal conservatives, *Quarterly Journal of Economics*. 107: 327-361.
- Persson, Torsten, and Guido Tabellini (1990). *Macroeconomic policy, credibility and politics*, London: Harwood Academic Publishers.
- Persson, Torsten, and Guido Tabellini (2003). *The economic effect of constitutions*, Cambridge, MA: MIT Press.
- Rogoff, Kenneth and Anne Sibert (1988). Elections and macroeconomic policy cycles, *Review of Economic Studies*. 55: 1-16.
- Schuknecht, Ludger (1996). Political business cycles in developing countries, *Kyklos* 49: 155-70.
- Shi, Min, and Jakob Svensson (2006). Political budget cycles: Do they differ across countries and why?, *Journal of Public Economics* 90: 1367-89.
- Stein, E. H., and Jorge M. Streb (2004). Elections and the timing of devaluations, *Journal of International Economics* 63: 119-145.
- Streb, Jorge M., Daniel Lema, and Gustavo Torrens (2009). Checks and balances on political budget cycles: Cross-country evidence, *Kyklos*, forthcoming.
- Streb, Jorge M., and Gustavo Torrens (2009), Making rules credible: Divided government and political budget cycles, Documento de Trabajo 395, Universidad del Cema.
- Tufte, Edward R. (1978). *Political control of the economy*, Princeton, NJ: Princeton University Press.

**Table 1. Definition of variables**

Variable	Description	Source
<i>exp</i>	Total government expenditure (year/quarter)	IFS
<i>rev</i>	Total government revenue and grants (year/quarter)	IFS
<i>bal</i>	Fiscal balance (year/quarter), equals <i>rev-exp</i>	IFS
<i>exp_gdp</i>	Total government expenditure as a percentage of GDP	A.C.
<i>rev_gdp</i>	Total government revenue and grants as a percentage of GDP	A.C.
<i>bal_gdp</i>	Fiscal balance as a percentage of GDP, equals <i>rev_gdp-exp_gdp</i>	A.C.
<i>y(-t)</i>	Dependent variable lagged <i>t</i> periods	A.C.
<i>lngdp_pc</i>	Natural log of GDP per capita in constant 2003 dollars (year/quarter)	World Bank and A.C.
<i>gdpr</i>	Growth rate of real GDP (year/quarter)	World Bank and A.C.
<i>ln(reserves_r)</i>	International reserves in constant 2005 dollars, deflated by the US CPI index	IFS
$\Delta \ln(\text{reserves}_r)$	The log difference of real international reserves	IFS
<i>quinqueni1</i>	Dummy that takes value 1 in period 1980 to 1984	A.C.
<i>quinqueni2</i>	Dummy that takes value 1 in period 1985 to 1989	A.C.
<i>quinqueni3</i>	Dummy that takes value 1 in period 1990 to 1994	A.C.
<i>quinqueni4</i>	Dummy that takes value 1 in period 1995 to 1999	A.C.
<i>quarterN</i>	Dummy that takes value 1 in quarter N and 0 otherwise, where N=1, 2, 3.	A.C.
<i>polcon3</i>	Political constraints index	H 2005
<i>vetoplayer</i>	Takes value 1 if <i>polcon3</i> $\geq 2/3$ , and $3/2 * polcon3$ otherwise	A.C.
<i>law</i>	Law and Order index, combined with the ICRG Rule of Law index in the early years when the former is not available, divided by 6	H 2005 and ICRG
<i>lawd</i>	Dummy, takes value 1 for country if <i>law</i> $\geq 4$ always, 0 otherwise	A.C.
<i>checks</i>	Effective veto player, given by <i>vetoplayer*lawd</i>	A.C.
<i>ele</i>	Takes value 1 in election year/quarter, 0 otherwise	A.C.
<i>ele(-t)</i>	Takes value 1 <i>t</i> periods before election, 0 otherwise	A.C.
<i>ele(t)</i>	Takes value 1 <i>t</i> periods after election, 0 otherwise	A.C.
<i>pb</i>	<i>ele</i> minus its lead <i>ele(+1)</i> ; with annual data it takes value 1 in election year, -1 in the following year, and 0 otherwise; with quarterly data, it takes value 1 in three quarters up to election, -1 in the three quarters after elections, and 0 otherwise.	A.C.
<i>pb_checks</i>	Influence of <i>checks</i> on PBCs, given by <i>pb*checks</i>	A.C.
<i>pb_dis</i>	Discretionary component of cycle, given by <i>pb*(1-checks)</i>	A.C.

Notes: IFS refers to the IMF *International Financial Statistics*; H 2005 to the Henisz (2005) database, ICRG to International Country Risk Guide, A.C. to variables that are the authors' construction.

Figure 1. Budget balance around election years



**Table 2. Electoral cycles in ratio of budget surplus to GDP, *bal*, annual data 1980-2005**

	Total			Latin America					OECD			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>bal(-1)</i>	0.5932*** (0.0488)	0.5874*** (0.0493)	0.5949*** (0.0515)	0.5944*** (0.0514)	0.4562*** (0.0815)	0.4460*** (0.0797)	0.4497*** (0.0771)	0.4496*** (0.0770)	0.7701*** (0.0367)	0.7699*** (0.0355)	0.7917*** (0.0313)	0.7900*** (0.0321)
<i>lngdp_pc</i>	0.0001** (0.0000)	0.0001** (0.0000)	0.0001** (0.0000)	0.0001** (0.0000)	-0.0010 (0.0006)	-0.0010 (0.0006)	-0.0012* (0.0006)	-0.0012* (0.0006)	0.0001 (0.0001)	0.0001 (0.0001)	0.0000 (0.0000)	0.0000 (0.0000)
<i>gdpr</i>	0.1037*** (0.0335)	0.1053*** (0.0346)	0.1106*** (0.0365)	0.1102*** (0.0365)	0.1102** (0.0412)	0.1085** (0.0418)	0.1062** (0.0422)	0.1064** (0.0418)	0.1597** (0.0602)	0.1601** (0.0613)	0.1673** (0.0643)	0.1681** (0.0647)
<i>ele</i>	-0.2150 (0.1696)				-0.4555 (0.2630)				-0.1892 (0.2131)			
<i>ele(+1)</i>	0.7882*** (0.2766)				1.2941** (0.5100)				0.1904 (0.2564)			
<i>pbcb</i>		-0.4939*** (0.1620)	-1.0141*** (0.3439)			-0.8746** (0.3185)	-1.0180** (0.4331)			-0.1763 (0.1350)	-0.8643*** (0.1798)	
<i>pbcb_checks</i>			1.3001** (0.4887)				0.9428 (0.6858)				1.1483*** (0.2997)	
<i>pbcb_dis</i>				-0.9586*** (0.3199)				-1.0199** (0.4275)				-0.6620*** (0.2239)
<i>Constant</i>	-3.5432*** (0.9681)	-3.4196*** (1.0016)	-3.2319*** (0.9820)	-3.2306*** (0.9803)	1.0865 (2.0071)	1.4259 (2.1156)	1.4661 (1.7890)	1.4687 (1.7794)	-2.2363 (2.0325)	-2.2408 (2.0308)	-0.6328 (1.1376)	-0.6787 (1.1494)
<i>Observations</i>	789	789	736	736	359	359	325	325	430	430	411	411
<i>R-squared</i>	0.470	0.468	0.482	0.481	0.320	0.317	0.325	0.325	0.730	0.730	0.743	0.742
<i>Number of id</i>	39	39	38	38	19	19	18	18	20	20	20	20

Notes: robust standard errors in parentheses below coefficients. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. We control for time effects using four quinquennial dummies (the first takes value 1 in the years 1980 to 1984 and 0 otherwise; the other dummies cover the periods 1985-1989, 1990-1994 and 1995-1999).

**Table 3. Electoral cycles in ratio of budget surplus to GDP, *bal*, quarterly data 1980:I-2005:IV**

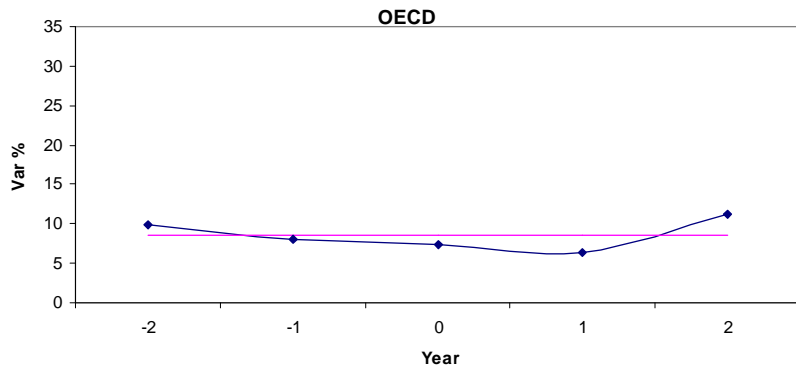
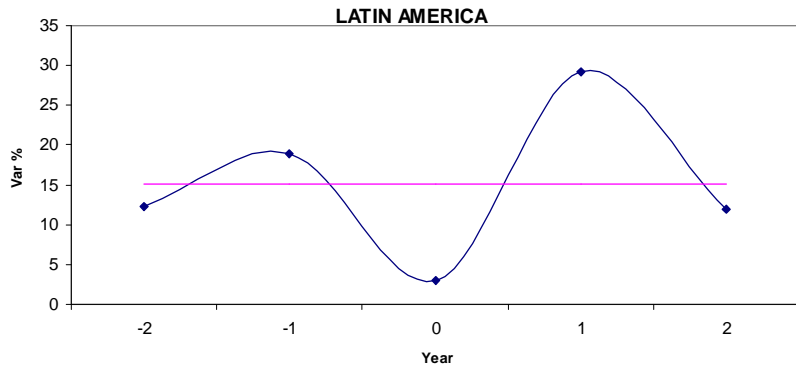
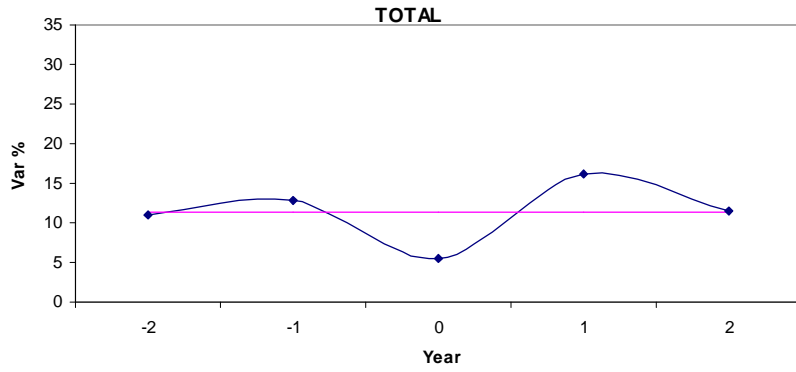
	Total				Latin America						OECD				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<i>lngdp_pc</i>	1.0393 (1.0906)	1.0228 (1.0942)	1.0093 (1.0931)	0.9417 (1.1395)	0.9239 (1.1385)	-2.7796** (1.2719)	-2.8615** (1.2706)	-2.8509** (1.2714)	-2.8451** (1.2767)	-2.8549** (1.2770)	3.4945* (1.9582)	3.4317* (1.9573)	3.4141* (1.9538)	3.0563 (1.9851)	3.0352 (1.9827)
<i>gdpr</i>	0.1031** (0.0462)	0.1047** (0.0465)	0.1049** (0.0464)	0.1095** (0.0498)	0.1086** (0.0498)	0.1564*** (0.0573)	0.1596*** (0.0580)	0.1608*** (0.0581)	0.1455** (0.0657)	0.1438** (0.0660)	0.0528 (0.0663)	0.0591 (0.0658)	0.0612 (0.0662)	0.0735 (0.0670)	0.0704 (0.0670)
<i>ele(-2)</i>						-0.6731** (0.3245)					0.4154 (0.3672)				
<i>ele(-1)</i>						-0.2610 (0.3965)					-0.4154 (0.5816)				
<i>ele(0)</i>						-1.2048*** (0.3368)					-1.4105*** (0.4563)				
<i>ele(+1)</i>						-0.0092 (0.3942)					-0.7782 (0.7377)				
<i>ele(+2)</i>						1.4158*** (0.2904)					1.7494*** (0.4242)				
<i>ele(+3)</i>						0.2953 (0.2680)					0.6254* (0.3427)				
<i>collapse(-1)</i>											-0.5696*** (0.1922)				
<i>collapse(+1)</i>											0.5732*** (0.2015)				
<i>pbcr</i>															
<i>pbcr_checks</i>															
<i>pbcr_dis</i>															
<i>Constant</i>															

	(8.3845)	(8.4125)	(8.4071)	(8.7552)	(8.7480)	(8.2075)	(8.2078)	(8.2151)	(8.1300)	(8.1324)	(17.5676)	(17.5560)	(17.5352)	(17.7953)	(17.7751)
<i>Observations</i>	2723	2723	2723	2556	2556	1372	1372	1372	1237	1237	1351	1351	1351	1319	1319
<i>R-squared</i>	0.432	0.428	0.428	0.438	0.438	0.363	0.353	0.353	0.370	0.370	0.528	0.525	0.525	0.525	0.525
<i>Number of countries</i>	39	39	39	38	38	19	19	19	18	18	20	20	20	20	20
<i>test ele(-2)+ele(-1)+ele(0) -ele(+1)-ele(+2)-ele(+3)=0</i>	19.85	0.000146				12.61	0.325				5.343	0.206			
<i>pP-value ()</i>	(8.70e-06)	(0.990)				(0.000398)	(0.569)				(0.0210)	(0.650)			
<i>test pbc - pbc_checks = 0</i>				1.385					1.114					1.140	
<i>p-value ()</i>				(0.239)					(0.291)					(0.286)	

Notes: robust standard errors in parentheses below coefficients. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. We control for time effects using four quinquennial dummies, the first of which takes the value 1 in the years 1980 to 1984 and 0 otherwise, while the others cover the periods 1985-1989, 1990-1994 and 1995-1999. We control for seasonal effects using quarterly dummies for the first, second and third quarters. Four lags of the dependent variable are used.



**Figure 2. Annual rate of variation of international reserves around election years**



**Table 4. Electoral cycles in growth rate of international reserves,  $\Delta \ln(\text{reserves})$ , annual data 1980-2005**

	Total			Latin America				OECD				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$\Delta \ln(\text{reserves})$ (-1)	-0.0965*	-0.0598	-0.0929*	-0.0958*	-0.1477**	-0.1425**	-0.1625**	-0.1630**	-0.0626	-0.0633	-0.0655	-0.0674
	(0.0529)	(0.0561)	(0.0547)	(0.0551)	(0.0550)	(0.0536)	(0.0588)	(0.0585)	(0.0703)	(0.0697)	(0.0706)	(0.0710)
$\ln \text{gdp}_{pc}$	-0.0000**	-0.0000***	-0.0000*	-0.0000*	-0.0002***	-0.0002***	-0.0002***	-0.0002***	-0.0000	-0.0000	-0.0000	-0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0001)	(0.0001)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
$\text{gdpr}$	0.0067	0.0037	0.0073	0.0073	0.0090	0.0089	0.0085	0.0087	0.0020	0.0022	0.0030	0.0029
	(0.0057)	(0.0059)	(0.0058)	(0.0058)	(0.0073)	(0.0072)	(0.0076)	(0.0076)	(0.0079)	(0.0078)	(0.0077)	(0.0078)
$\text{ele}$	-0.0497				-0.1212**				0.0128			
	(0.0299)				(0.0476)				(0.0300)			
$\text{ele}(+1)$	0.0603**				0.0982**				0.0050			
	(0.0280)				(0.0430)				(0.0375)			
$\text{pbc}$		-0.0481**	-0.1250***			-0.1139***	-0.1148***			0.0057	-0.0895	
		(0.0205)	(0.0300)			(0.0306)	(0.0328)			(0.0210)	(0.0655)	
$\text{pbc\_checks}$			0.1765***				0.0222				0.1429	
			(0.0439)				(0.0514)				(0.0856)	
$\text{pbc\_dis}$				-0.1154***				-0.1169***				-0.0516
				(0.0292)				(0.0325)				(0.0601)
<i>Constant</i>	0.2197**	0.3335***	0.1680*	0.1687*	0.5887***	0.5818***	0.6529***	0.6552***	0.1450	0.1446	0.1170	0.1131
	(0.0839)	(0.0698)	(0.0899)	(0.0899)	(0.1571)	(0.1531)	(0.1784)	(0.1775)	(0.2096)	(0.2119)	(0.2150)	(0.2142)
<i>Observations</i>	860	928	801	801	416	416	377	377	444	444	424	424
<i>R-squared</i>	0.045	0.054	0.065	0.062	0.131	0.133	0.146	0.145	0.063	0.063	0.071	0.064
<i>Number of id</i>	39	39	38	38	19	19	18	18	20	20	20	20

Notes: robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. We control for time effects using four quinquennial dummies (the first takes value 1 in the years 1980 to 1984 and 0 otherwise; the other dummies cover the periods 1985-1989, 1990-1994 and 1995-1999).

**Table 5. Electoral cycles in growth rate of international reserves,  $\Delta \ln(\text{reserves})$ , quarterly data 1980:I-2005:IV**

	LATINOAMERICA					OECD					TOTAL				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
$\Delta \ln(\text{reserves}_r)(-1)$	-0.0656**	-0.0640**	-0.0626**	-0.0618*	-0.0618*	-0.0796*	-0.0747*	-0.0701*	-0.0696	-0.0696	-0.0640*	-0.0659*	-0.0659*	-0.0666*	-0.0664*
	(0.0312)	(0.0313)	(0.0314)	(0.0324)	(0.0324)	(0.0414)	(0.0417)	(0.0419)	(0.0438)	(0.0438)	(0.0358)	(0.0359)	(0.0359)	(0.0364)	(0.0364)
$\ln \text{gdp}_{pc}$	-0.1514***	-0.1520***	-0.1520***	-0.1498***	-0.1503***	-0.2053***	-0.2069***	-0.2006***	-0.2074***	-0.2076***	-0.0711	-0.0705	-0.0700	-0.0698	-0.0710
	(0.0416)	(0.0416)	(0.0415)	(0.0438)	(0.0438)	(0.0706)	(0.0707)	(0.0706)	(0.0755)	(0.0755)	(0.0517)	(0.0519)	(0.0520)	(0.0531)	(0.0533)
$\text{gdp}_r$	0.0002	0.0002	0.0003	0.0010	0.0009	0.0028	0.0029	0.0032	0.0045	0.0045	-0.0018	-0.0019	-0.0019	-0.0017	-0.0017
	(0.0018)	(0.0018)	(0.0018)	(0.0019)	(0.0019)	(0.0028)	(0.0028)	(0.0028)	(0.0031)	(0.0031)	(0.0024)	(0.0024)	(0.0024)	(0.0024)	(0.0024)
$\text{ele}(-2)$						-0.0229					-0.0219**				
	(0.0104)					(0.0183)					(0.0104)				
$\text{ele}(-1)$						-0.0573**					0.0116				
	(0.0136)					(0.0231)					(0.0140)				
$\text{ele}(0)$						-0.0886***					-0.0007				
	(0.0127)					(0.0204)					(0.0152)				
$\text{ele}(+1)$						-0.0467					0.0171				
	(0.0166)					(0.0311)					(0.0157)				
$\text{ele}(+2)$						0.0379					-0.0004				
	(0.0151)					(0.0268)					(0.0142)				
$\text{ele}(+3)$						0.0015					0.0162				
	(0.0133)					(0.0222)					(0.0155)				
$\text{collapse}(-1)$		-0.0292***						-0.0568***				-0.0035			
		(0.0078)						(0.0130)				(0.0086)			
$\text{collapse}(+1)$		0.0048						-0.0017				0.0106			
		(0.0092)						(0.0162)				(0.0094)			
$\text{pbc}$			-0.0166***	-0.0319***				-0.0275***	-0.0330***				-0.0065	-0.0315*	
			(0.0055)	(0.0096)				(0.0097)	(0.0113)				(0.0055)	(0.0161)	
$\text{pbc\_checks}$				0.0412***					0.0482					0.0421*	

				(0.0149)					(0.0307)					(0.0228)	
<i>pbcs_dis</i>					-0.0303***					-0.0327***					-0.0245*
					(0.0091)					(0.0112)					(0.0135)
<i>Constant</i>	1.2091***	1.2141***	1.2101***	1.1900***	1.1933***	1.3916***	1.4051***	1.3549***	1.3746***	1.3756***	0.6599	0.6530	0.6505	0.6516	0.6623
	(0.3210)	(0.3207)	(0.3199)	(0.3381)	(0.3380)	(0.4582)	(0.4594)	(0.4582)	(0.4829)	(0.4828)	(0.4628)	(0.4643)	(0.4652)	(0.4745)	(0.4764)
<i>Observations</i>	3291	3291	3291	3108	3108	1647	1647	1647	1497	1497	1644	1644	1644	1611	1611
<i>R-squared</i>	39	39	39	38	38	19	19	19	18	18	20	20	20	20	20
<i>Number of countries</i>	0.027	0.026	0.025	0.028	0.027	0.054	0.046	0.042	0.045	0.045	0.029	0.027	0.027	0.029	0.028
<i>test ele(-2)+ele(-1)+ele(0) - ele(+1)-ele(+2)-ele(+3) = 0</i>	9.806	3.452				7.904	6.965				1.809	0.253			
<i>p-value ()</i>	(0.00176)	(0.0633)				(0.00499)	(0.00839)				(0.179)	(0.615)			
<i>test pbc - pbc_checks = 0</i>				1.342					0.333					1.299	
<i>p-value ()</i>				(0.247)					(0.564)					(0.255)	

Notes: robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. We control for time effects using four quinquennial dummies, the first of which takes the value 1 in the years 1980 to 1984 and 0 otherwise, while the others cover the periods 1985-1989, 1990-1994 and 1995-1999. We control for seasonal effects using quarterly dummies for the first, second and third quarters.