EXPLAINING BUDGETARY INDISCIPLINE: EVIDENCE FROM SPANISH MUNICIPALITIES (*)

Authors: *Ignacio Lago-Peñas* [a]
Pompeu Frabra University
Santiago Lago-Peñas [b]
University of Vigo

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(a) Pompeu Fabra University. Spain. Email: ignacio.lago@upf.edu.

(b) Postal address: Facultade de Ciencias Empresariais. Campus Universitario. 32004 Ourense. Spain. Email: slagop@uvigo.es.

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ABSTRACT

The search for political support leads ultimately to upward deviations from forecasted public deficits when i) budget procedures are soft, ii) breaking promises made on higher expenditures and the lowering of taxes is costly in political terms, and iii) ex-post control by voters and political opposition is imperfect. This hypothesis is tested using a data set from Spanish municipalities during the period 1985-1995. Econometric estimates demonstrate that single-party majority incumbents are less prone to change forecasted budgets. While their forecasted deficits tend to be higher, they have lower actual deficits, which may be interpreted as the consequence of a higher consistency in the budgetary process. Secondly, upward deviations in deficit tend to rise in election years. While forecasted deficits are not different in election years, actual deficits are. Moreover, elections cause systematic downward deviations in revenues. On the contrary, the incumbent's ideology is not relevant when explaining deviations in deficit.

Key words: Budget deficits, local governments, budget procedures, electoral promises.

JEL Classification: H74.

I. INTRODUCTION

Empirical research on the determinants of public deficits takes actual and not initial or forecasted figures as the endogenous variable. This choice is normally justified for practical reasons: deviations from initial deficits vary in both cross-section and time-series dimensions, distorting econometric estimates. Deviations are then merely perceived as noise. But this strategy conceals some striking questions. What can explain deviations? Why large upward deviations are observed in certain cases but not in others? Moreover, the influence on actual deficits of some political factors such as the electoral cycle, political fragmentation, and ideology may be better understood by treating deviations in deficits as a separate endogenous variable. As will be shown, interactions between the political promises made by the incumbent, budget procedures[1], reputation, and political control significantly help to understand the political economy of public deficits.

Relationships to be tested in this paper are based on three main arguments. Firstly, adhering to both promises and forecasted budgets is a reputation investment for governments, whose benefits depend positively on the degree of *ex post* control done by voters and the political opposition. Conversely, promises breaking will be costly in the future. Therefore, the tighter the control, the higher the incentive for governments to adhere to both promises and forecasted figures. This relationship is rooted in accountability models proposed by Przeworski *et al* (1999). Secondly, a forecasted budget showing a big deficit is politically costly, because it may be interpreted as a signal of fiscal imprudence and the seed of future fiscal adjustments[2]. Hence consistency between forecasted deficits and promises involving higher spending or lower taxes will tend to be challenged when the latter are more generous, which boosts future deviations in the former. Of course, underestimating forecasted deficit does not stop the growth of debt, but just postpones fiscal consolidation to future budgets. However, it can be enough to confuse voters regarding the actual state of public finance and the responsibility for future adjustments (Milesi-Ferreti, 1997; Reviglio, 2001). Thirdly, generosity in promises is positively correlated with the need of political support. Coalitions or sporadic backings to minority cabinets involve

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[1] As Alesina and Perotti (1999) state, both concepts of "budgetary institutions" and "budget procedures" refer to rules and regulations affecting the preparation, approval and implementation of budgets. In this paper, attention is concentrated on the last phase, insofar as we are interested in explaining deviations from initially approved budgets.

[2] According to empirical evidence presented by Alesina *et al* (1998), fiscal adjustments do not seem to involve cabinet turnover or negative judgements in polls. One possible explanation for this result would be the following. The current incumbent is not considered responsible for current levels of deficit and debt, but is viewed as the result of past governments' politics or exogenous shocks. Adjustment is itself presented by the incumbent and interpreted by voters as an unpleasant but necessary fiscal promise. Then adhering to fiscal consolidation will not lead to political cost.

bargaining and concessions in order to persuade the involved political forces. Moreover, promises will also be more generous just before elections to increase incumbent's popularity among voters.

In sum, if i) deviations from initial deficits are possible, ii) breaking fiscal promises is costly, and iii) *ex post* control by voters and political opposition is imperfect, a positive relationship between the quest for political support and upward deviations from forecasted deficits will be found.

Interaction between these mechanisms is tested using data from Spanish municipalities over the period 1985-1995. The choice of this sample is justified for several reasons. Firstly, Spanish municipalities enjoyed a great freedom for getting into debt. Secondly, budget procedures were soft, and significant deviations from initial budgets were possible from a legal standpoint. Thirdly, available empirical studies reveal that *ex post* control on budgets is also non severe.

This paper is organized into five sections, this one included. Section two briefly reviews research on budget deficits and the relevant empirical evidence on this topic. Empirical analysis is developed in the next two sections. In section three, the choice of sample is justified and variables and data are presented. Econometric estimates are discussed in section four. Section five concludes.

II. THEORETICAL ARGUMENTS

Fiscal promises of boosting spending programmes, cutting tax rates and incrementing tax deductions increases popularity and political support to incumbents. If, as usual, voters and other political parties are not simultaneously informed of the way of financing them, looking at forecasted budgets is the only way of knowing if promises are consistent from a financial standpoint. In particular, large forecasted deficits may fuel distrust on the capacity of the incumbent to manage public affairs and expectations of unpopular future fiscal adjustments. Therefore, governments may be tempted to make many popular fiscal promises while hiding the financial difficulties of achieving them[3].

Obviously, voters and political parties are not interested in just listening to fiscal promises and regarding forecasted deficits. Both implementation of the former and actual deficits are relevant in maintaining the reputation of cabinets. In this sense, several questions must be asked in order to understand the step from promises and forecasted deficits to performance and actual deficits.

[3] Milesi-Ferreti (1997) makes a similar argument. When talking about promises in general, previous work refers to benefits but also to costs of meeting them (Ferejohn, 1986). For instance, constructing a highway promised to drivers may involve political costs if its ecological impact mobilizes ecology groups. The case of fiscal promises seems simpler. The cost of adhering one fiscal promise may be better proxied by its impact on the budget.

Firstly, elections in democracies do not only serve to hold governments responsible for the results of their past actions (Fiorina, 1981; Kramer, 1971), but also to select policies or policy-bearing politicians. If incumbents anticipate voters will not only pay attention to their past policies, but also to their new promises, they must be also concerned about being seen as credible (Manin, Przeworski and Stokes, 1999). Adhering to promises would then be an investment in reputation.

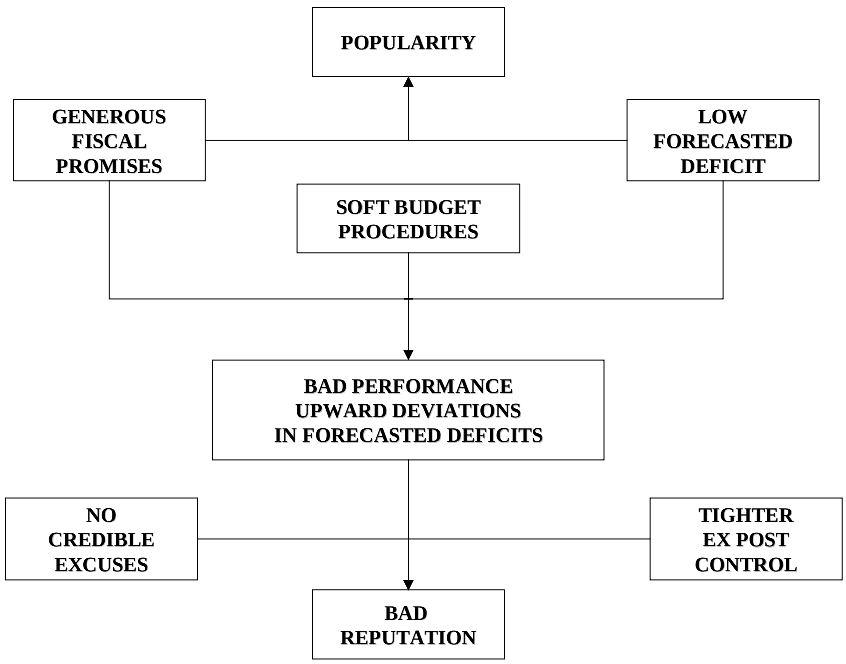
Secondly, while hard budget procedures in the implementation phase lead to inconsistency between promises and budget figures just affecting the meeting of the former, soft budget procedures in the implementation phase will likely lead to a mixed solution of upward deviations in deficit and failures to keep promises.

Thirdly, the probability of deviations from fiscal promises and initial deficit lessens when the degree of *ex post* control made by voters and political opposition rises. In particular, a deficient control would incentive inflated previsions of revenues, by exaggerating the growth of tax bases or the efficiency of tax administration, and underestimated expenditures. In other words, incumbents would not incur in avoidable political costs when planning and passing initial budgets if uncontrolled departures from them are possible (González-Páramo, 2001).

Last but not least, politicians may provide excuses or justifications when they deviate from their promises and forecasted deficits (McGraw, 1990). Exogenous and unforeseen contingencies can be claimed to justify that incumbents could not adhere to them. Among these mitigating circumstances are often included the politics of a previous administration, economic shocks or vetos by other political forces (Barreiro, 1999; Alesina and Perotti, 1999). All these relationships are synthesized in figure 1.

Figure 1

FISCAL PROMISES AND UPWARD DEVIATIONS IN DEFICITS



In sum, politicians face a dilemma. They may choose less upward deviations in forecasted deficits and the breaking of promises at the price of less generosity in fiscal promises. Or they may choose more generosity in the latter at the price of more upward deviation in deficits and the breaking of promises. The first strategy involves more popularity and political support *ex ante*, but also the risk of a worse reputation *ex post*, provided that performance was controlled and excuses were not completely convincingly. The second one is less popular *ex ante* but yields a better reputation *ex post*.

Focusing on deviations in deficits, what is there to explain differences among governments and across the breadth of time? Six mechanisms are suggested:

1. Flexibility during execution of the budget is a key factor. The higher the flexibility (no cash limits, possibility of transfers between chapters and changes in budget law during execution, carryover of unused funds to the next year) the lower the probability of deviation[4]. In this sense, there are a number of papers demonstrating a negative correlation between flexibility in budget execution and size of actual deficits in European countries (Von Hagen and Harden, 1994; De Haan *et al*, 1999; Hallerberg and Von Hagen, 1999; González-Páramo, 2001). Moreover, using data from the United States, the most effective limitation to deficit arises in those states with budget rules requiring an *ex post* balancing with no carry-forward provisions. Balanced-budget rules applied on *ex ante* figures are therefore clearly less stringent owing to the possibility of deviations (Inman, 1996; Boothe and Reid, 1998).
2. Budget deviations should be negatively correlated with the degree of *ex post* political control on the incumbent's performance. In this sense, several factors should be taken into account. The role played by the political opposition denouncing the break of promises and budget deviations is obviously important. And this task will be favoured by budgetary rules requiring detailed parliamentary control on deviations and actual budgets. Jurisdiction sizes could also be relevant for political control. Although classical literature on fiscal federalism traces a positive relationship between decentralization and accountability, Boadway (2000) points out that empirical evidence does not clearly show that lower levels of government were more accountable to their electorates[5]. Moreover, and given that

[4] Procedures directly aimed at bypass fiscal constraints by reducing recorded expenditures or increasing receipts artificially are set aside in what follows. Reviglio (2001) analyzes this kind of strategies in the Italian case.

[5] This statement may change when the possibility of referenda on fiscal affairs is taken into account. If referenda increases the accountability of policy decisions, as suggested by Feld and Kirchsgassner (1999), and referendas are easier to implement in small jurisdictions, correlation between size and accountability would be actually negative.

the glare of media publicity is more often directed at bigger jurisdictions, the opposite may be argued. Therefore the sign of the relationship is undetermined.

3. Forecasted deficits result from predictions of both revenues and expenditures. According to Feenberg *et al* (1989), an efficient use of available information when predictions are made should drive, at least, correct answers on average[6]. Of course, predictions may be deliberately over- or underestimated. In fact, this is the hypothesis to be tested in this paper. But deviations may be also motivated by involuntarily errors in predictions. With a null expected value (there would be both positive and negative errors), the standard deviation of errors in predictions may depend on factors such as the technical capacities of officials. The higher the technical capacity the lower the standard deviation of errors. Assuming that technical capacity and jurisdiction size are positively correlated, variability in prediction errors will be negative correlated with the latter.
4. Thirdly, fragmentation of the political process may affect policy outcomes. The more players cooperating, the more the logrolling agreements, since individual parties will each veto spending cuts or tax increases that would impinge on their constituencies. And this would be so for both coalition cabinets and minority cabinets. Bargaining would be within cabinets in the first case, and with parliament in the second. Empirical evidence on the effects of fragmentation on deficit is not conclusive. In a seminal paper, Roubini and Sachs (1989) defined an index of power dispersion with four categories and progressively higher scores: one-party majority incumbent, small coalition, large coalition, and minority government. With national data from OECD countries, they found that the variable was significant in deficit regressions, showing that fragmentation was positively correlated with deficit. While this result was confirmed by Grilli *et al* (1991), Edin and Ohlsson (1991) found that the correlation was basically due to minority governments and not coalitions. Moreover, De Haan and Sturm (1994) rejected the idea that minority governments involve higher deficits. Since then, several papers have tried to define and utilize different measures of political fragmentation with no conclusive results. For instance, while Volkerink and De Haan (2000) showed that the number of parties in the cabinet is correlated positively

[6] While Feenberg *et al* (1989) refers just to revenues, their reasoning may be generalized to both sides of budgets. They make a distinction between "strong rationality" and "weak rationality" in forecasts. In the first case, predictions rightly incorporate all relevant information available at the time they are made. In the second, information is not fully utilized, but an efficient forecaster would get the correct answer on average.

with higher deficits, Feld and Kirchgässner (1999) found no correlation for a sample of Swiss municipalities and using public debt per taxpayer as the explained variable. And it was the same in the case of Kontopoulos and Perotti (1999), using data on deficits from OECD countries. On the contrary, they found that "executive fragmentation", proxied by the number of spending ministers, is highly significant. Things become more complex if elements of direct democracy come into play, as shown by Feld and Kischgässner (1999). In those jurisdictions where voters participate in the budgetary process by means of referenda on budget deficits, the level of debt tends to be lower. According to the authors, it is a consequence of a reduction in the problem of a "fiscal commons"[7], and it shows that voters care more about fiscal discipline than politicians. What should be then the expected effect of political fragmentation on deviations in initial deficit? With respect to one-party majority cabinets, both minority cabinets and the main party in coalition cabinets must make more promises as the price to pay for temporary or permanent backings. Therefore, promises and forecasted deficit would be more consistent in the case of the former, which involves lower budgetary deviations. Deviations would be influenced by direct democracy only if it involves more consistency between promises and forecasted deficits.

5. According to the literature on political business cycles, incumbents may have incentives to behave differently in election years. As remarked by Blais and Nadeau (1992), political-induced cycles are consistent with rational forward-looking behavior under different provisos: asymmetric information between voters and the incumbent, rational ignorance among voters or uncertainty over the outcome of a ballot. Moreover, Baleiras and Da Silva (2003) show that political business cycles may be explained using an equilibrium perfect-foresight model, which totally dispenses with any form of irrationality on the part of voters, but is focused on the incumbent's concern for his own welfare in cases of victory and defeat. Seminal paper by Nordhaus (1975) on the political business cycle and most of empirical works with national data concentrate on government actions to manipulate macroeconomic outcomes such as unemployment, inflation, and economic growth (Frey, 1997). On the contrary, Blais and Nadeu (1992) focused on electoral cycles in government budgets. They argue that it is easier to manipulate budgets than macroeconomic performance. In our paper attention is paid to deviations from forecasted figures due to electoral cycles. The hypothesis to be tested is

[7] "The problem of a fiscal commons consists in the fact that each of the *n* agents uses the whole stock of resources and not one-*n*th of it as a basis for consumption or spending decisions" (Feld and Kirchgässner, 1999).

that promises and forecasted deficit would be more consistent in non-election years, involving lower upward deviations in deficits.

6. Ideology could also make a difference for deviations in forecasted deficits. While there exists a number of empirical works showing that leftist cabinets are more prone to high spending and taxes, evidence on the relationship between ideology and the size of actual deficit is not conclusive (Hahm *et al*, 1995; Tavares, 2004; Castells *et al*, 2004). However, Mulas (2003) finds that leftist incumbents are more reluctant to cut public investment and employment, which may be relevant to the aim of this paper. If changing tax legislation during the fiscal year were difficult, an unforeseen expansive shock on one expenditure function would have asymmetric effects on deficit deviations. For leftist cabinets, the shock would be translated less into expenditure cuts in other functions and more into an upward deviation in deficit. Deviation to be compensated in proximate budget years if uncorrelation between ideology and deficit size wants to be held. On the other hand, voters might judge rightist and leftist governments differently. According to empirical evidence provided by Lowry *et al* (1998: 759): "Republican gubernatorial candidates lose votes if their party is responsible for unanticipated increases in the size of the state budget; Democrats do not and indeed they may be rewarded for small increases".

III. SAMPLE AND DATA

De Haan *et al* (1999) show a number of indicators on budgetary institutions for all UE-12 countries at the beginning of the 1990s. Some of them are reproduced in table 1[8]. Spain was the European country with the lowest total score (A_{tot}), which means the softest budgetary institutions. In particular, flexibility in execution of budget (A5) is very high and the autonomy of Spanish subcentral governments in terms of planning and balanced-budget requirements (A5) is one of the highest. The sum of A5 and A6 drives Spain to last place.

The real use of potential flexibility by Spanish governments has been highly significant. The case study carried out by Barea (1998) regarding expenditures made by the central government during the period 1983-1995 reveals significant

[8] Items are defined in the following way. A5 refers to presence of cash limits, transfers between chapters, changes in budget law during execution, and carryover of unused funds to the next year. A6 is the score on two items: whether subcentral governments face some kind of balanced-budget requirement, and the degree of planning autonomy of subcentral authorities. The higher the autonomy the lower the score in A6. A_{tot} is the sum of variables A1 to A6, where A1 to A4 refers to other aspects of the budgetary process (position of minister of finance, transparency of the budget, and so on).

deviations from initial budgets. According to estimates by González-Páramo (2001), departures from forecasted expenditures were on average +12.3% (1985-1989), +8.5% (1990-1995), and +6.4% (1996-2000)[9]. Regional and local governments were subject to similar budgetary rules and deviations were also significant (Valiño, 1999; De Pablos and Valiño, 2000).

Table 1

ASPECTS OF BUDGETARY INSTITUTIONS AT THE BEGINNING OF THE 1990S

Indicator	A5	A6	A5 + A6	A_{tot}
Belgium	1.80	1.33	3.13	7.18
Denmark	2.60	2.67	5.27	15.08
France	3.13	3.33	6.46	20.23
Germany	2.82	2.00	4.82	15.26
Greece	2.90	2.67	5.57	9.88
Ireland	3.00	0.00	3.00	8.35
Italy	0.25	1.33	1.58	7.03
Luxemburg	2.67	0.67	3.34	13.06
Netherlands	0.33	2.00	2.33	14.38
Portugal	2.67	0.00	2.67	8.38
Spain	**1.53**	**0.00**	**1.53**	**6.33**
United Kingdom	2.93	2.66	5.59	17.24

Source: De Haan *et al* (1999).

Both forecasted and actual deficits were possible for local governments during the eighties and nineties in Spain[10]. With no access to issue money, the instrument to finance unbalances is borrowing. As pointed out by Monasterio and Suárez-Pandiello (2002), limiting indebtedness involves then limiting the size of the possible deficit[11]. Besides, the strategy of keeping spending and deficit off budget has been also implemented as in the rest of fiscal tiers. As a consequence, off-budgeting debt of local governments has grown steadily. From 2.9% of total in 1985, to 9.0% in 1995, and 9.4% in 1998 (Monasterio and Suárez-Pandiello, 2002).

Regarding the *ex post* control on local budgets, both forecasted and actual budgets must be discussed and passed by the council, and voters may directly ex-

9 In terms of Spanish GDP: 2.5%, 1.9%, and 1.4%, respectively.

10 Things have significantly change since 2002, with a much more stringent regulation on public deficit, affecting to all fiscal tiers. See González-Páramo (2001).

11 Monasterio and Suárez-Pandiello (2002) and Vallés *et al* (2003) analyze regulation of local borrowing in Spain.

press reservations through legal channels. With some exceptions established by law, deviations on initial budgets during the budget year should also be previously passed by the council. Additionally, actual budgets must be sent to the Spanish public audit office (*Tribunal de Cuentas*) after being passed by the council[12]. However, some clues show that the *ex post* control of budgets is clearly imperfect.

According to the analysis by De Pablos and Valiño (2000) over the period 1986-1992, Spanish local governments made extensive use of gimmicks to escape from controls on budget modifications carried out during budget year. Secondly, around 25% of municipalities on average did not sent actual budgets to be audited. Thirdly, there were lags of several years (more than five, sometimes) between the end of a budget year and the publication of corresponding public audit reports. Fourthly, failures to comply with legislation are significantly higher in small municipalities (under 5,000 inhabitants), seemingly because of deficient human and material resources. Lastly, those characteristics apply for municipalities in all Spanish regions.

In sum, Spanish municipalities met the conditions identified in the introduction and therefore they are suitable to test relationships pointed out in section two.

The sample used in econometric estimates corresponds to all Galician municipalities observed from 1985 to 1995. While heterogeneity concerning budget procedures or control practices is clearly reduced when attention is paid to just one country, using information from just one region should be justified. Firstly, available information at the local level is not homogeneous between regions. Difficulties in building a wide and accurate database significantly increase when municipalities from several regions want to be taken into account. Secondly, homogeneity between municipalities in terms of legal requirements on actual budgets is guaranteed[13]. Panel data is unbalanced due to the lack of information on both initial and actual budgets in a number of cases and votes of censures. According to data gathered by Márquez (2004), 53 observations have been be dropped due to changes of incumbents during the term of office. Data Source of financial data is the Galician regional government (*Xunta de Galicia*). Data source of political data is the *Ministerio del Interior* (www.mir.es). Variables used in empirical work are defined in table 2. All endogenous variables are weighted by forecasted non-financial expenditures and expressed in percentage. Using non-financial forecasted revenues instead of expenditures did not change econometric results. Table 3 synthesizes the distribution of the endogenous variable *DEVD* and table 4 reports descriptive statistics of regressors.

[12] In some Spanish regions, local governments must send actual budgets to corresponding regional government and regional audit office. In all cases, fiscal year starts on 1 January.

[13] Galicia is one of the Spanish regions where legislation compels municipalities to send actual budgets to regional government and the regional audit office since 1985.

Table 2

DEFINITION OF VARIABLES AND DATA SOURCES

Name	Definition	Data source
E_A	Actual non-financial expenditures	Xunta de Galicia (www.xunta.es)
E_F	Forecasted non-financial expenditures	Xunta de Galicia
R_A	Actual non-financial revenues	Xunta de Galicia
R_F	Forecasted non-financial revenues	Xunta de Galicia
$D_A = E_A - R_A$	Actual deficit	Xunta de Galicia
$D_F = E_F - R_F$	Forecasted deficit	Xunta de Galicia
DEVD	$\frac{D_A - D_F}{E_F} \cdot 100$	Xunta de Galicia
DEVE	$\frac{E_A - E_F}{E_F} \cdot 100$	Xunta de Galicia
DEVR	$\frac{R_A - R_F}{E_F} \cdot 100$	Xunta de Galicia
MI	It values 0 in the case of one-party majority incumbents and 1 otherwise	Ministerio del Interior (www.elecciones.mir.es)
P	Population expressed in thousands of inhabitants	INE (www.ine.es)
CY	It values 1 in elections years (1987, 1991, and 1995) and 0 otherwise (*)	—
LEFT	It values 1 for leftist cabinets and 0 otherwise	Ministerio del Interior
ST	N-N (*) where N is the number of seats of the main incumbent party and N (*) is the threshold for absolute majority	Ministerio del Interior

(*) According to Spanish electoral law, local elections are held on the last Sunday of May. Budget year starts on 1 January. Incumbents must present forecasted budgets to the council before 15 October.

Table 3

DISTRIBUTION OF DEVD

Deviation in deficit	Number of observations	%
DEVD < -50%	23	0.8%
-50% < DEVD ≤ -25%	144	4.8%

(*Keep.*)

(*Continuation*.)

Deviation in deficit	Number of observations	%
-25% < DEVD ≤ -10%	526	17.6%
-10% < DEVD ≤ -5%	409	13.7%
-5% < DEVD < 0%	568	19.0%
DEVD = 0%	5	0.2%
0% < DEVD ≤ 5%	535	17.9%
5% < DEVD ≤ 10%	309	10.3%
10% < DEVD ≤ 25%	337	11.3%
25% < DEVD ≤ 50%	95	3.2%
DEVD > 50%	35	1.2%
TOTAL OBSERVATIONS	**2986**	**100.0%**
TOTAL DEVD < 0%	**1670**	**55.9%**
TOTAL DEVD > 0%	**1311**	**43.9%**
MEAN DEVD	**-1.22%**	

Table 4

DESCRIPTIVE STATISTICS OF REGRESSORS

Regressor	Mean	Standard deviation
MI	0.32	DUMMY (0/1)
CY	0.25	DUMMY (0/1)
LEFT	0.23	DUMMY (0/1)
MI*ST	-0.73	1.34
P	9.55	24.75

IV. ECONOMETRIC ESTIMATES

The basic econometric specification is the following:

$$DEVD_{it} = \beta_{0i} + \beta_1 \cdot MI_{it} + \beta_2 \cdot CY_t + \beta_3 \cdot LEFT_{it} + \varepsilon_{it} \qquad [1]$$

Total effects of explicative variables on *DEVD* may be decomposed two-foldly, by using as endogenous variable actual and forecasted deficits or, alternately, deviations in expenditures and revenues. All of them are weighted by initial expenditures and expressed in percentage:

$$DEVD = \left(\frac{D_A}{E_F} \cdot 100 \right) - \left(\frac{D_F}{E_F} \cdot 100 \right) = \left(\frac{(E_A - E_F)}{E_F} \cdot 100 \right) - \left(\frac{(R_A - R_F)}{E_F} \cdot 100 \right) = DEVE - DEVR$$

Estimates of [1] are displayed in table 5. A Wald test on the need of individual effects was carried on. The hypothesis of homogeneity of intercepts has to be rejected (p-value = 0.000).

Multicollinearity and serial autocorrelation are not a problem. Multiple correlations among regressors in row 1 are relatively low. On the other hand, assuming a common AR(1) process with the same ρ_i and using OLS residuals (e_i), the following consistent estimator for panel data was estimated: $\hat{\rho} = \frac{\sum_{i=1}^{n} \sum_{i=2}^{t} e_{it} \cdot e_{it-1}}{\sum_{i=1}^{n} \sum_{i=2}^{t} e_{it}^2} = -0.15$. The hypothesis of common autocorrelation coefficients was verified by using a Wald test. Clearly, stationarity of residuals may not be rejected.

On the contrary, the White test and the Brown-Forsythe test of equal variances in each subgroup of OLS residuals detected general heterocedasticity and cross-section heterocedasticity, respectively (p-value = 0.00 in both cases). Moreover, two additional tests were carried on: the Breusch and Pagan´s test of cross-section dependence[14], and the simple alternative proposed by Pesaran (2004) for panels with a large cross section dimension[15]. Both revealed the presence of contemporaneous correlations (p-value = 0.00). It was not removed when time fixed effects were included into regressions.

The variance estimator proposed by White (1980) deals with ordinary not panel heteroskedasticity, and it does not account for contemporaneous cross-section correlations. On the other hand, there are a number of pitfalls associated with the application of SUR weighted least squares (sometimes referred to as the Parks estimator) with a small number of time periods as in this case (Beck *et al*, 1993; Beck and Katz, 1995; Beck, 2001). As a practical solution, those authors suggest retainig OLS parameter estimates (still consistent), replacing standard e-

14 $\lambda_{LM} = T \sum_{i=2}^{n} \sum_{j=1}^{i-1} r_{ij}^2$ where r_{ij} is the sample estimate of the pair-wise correlation of the residuals. See Breusch and Pagan (1980). Both correlations among OLS residuals and FGLS residuals were alternatively used. Because the panel is unbalanced, the number of individual observations (T) is proxied by the average. Serial correlation holds when using a balanced panel of municipalities with full information.

15 $CD = \sqrt{\frac{2T}{n(n-1)}} \left(\sum_{i=2}^{n} \sum_{j=1}^{i-1} r_{ij} \right)$.

rrors by panel-corrected standard errors (PCSE). The new covariance matrix is the following, where covariances σ_{ij} are calculated by using OLS residuals[16]:

$$\mathrm{Var}\left(\hat{\beta}\right)=\left(\sum_{i=1}^{n} X_i' X_i\right)^{-1}\left(\sum_{i=1}^{n}\sum_{j=1}^{n}\sigma_{ij} X_i' X_j\right)\left(\sum_{i=1}^{n} X_i' X_i\right)^{-1} \quad [2]$$

Table 5

ECONOMETRIC ESTIMATES OF EQUATION [1]

Dependent variable	DEVD	DEVD	DEVD (*)	$\frac{D_A}{E_F}\cdot 100$	$\frac{D_F}{E_F}\cdot 100$	DEVE	DEVR
MI	1.96 [0.087]	1.48 [0.167]		0.97 [0.355]	-0.99 [0.093]	-0.78 [0.548]	-2.74 [0.022]
CY	3.47 [0.176]	1.28 [0.054]	3.39 [0.114]	4.01 [0.085]	0.54 [0.672]	0.85 [0.678]	-2.62 [0.224]
LEFT	-0.57 [0.712]	0.01 [0.995]	-1.65 [0.357]	0.96 [0.415]	1.53 [0.145]	4.79 [0.003]	5.36 [0.000]
MI*ST			0.12 [0.768]				
D1986		-1.61 [0.014]					
D1988		2.24 [0.004]					
D1989		0.83 [0.262]					
D1990		-5.44 [0.000]					
D1992		-11.45 [0.000]					
D1993		-0.71 [0.372]					
D1994		-0.55 [0.558]					
R^2	0.172	0.207	0.209	0.140	0.220	0.359	0.366
Sample Size	2986	2986	944	2986	2986	2986	2986

Notes: Individual fixed effects are included in all cases. Equations are estimated by OLS. Below coefficients appear p-values corresponding to robust t-statistics calculated using equation [2]. R^2 is the coefficient of determination.

(*) Using subsample defined by the condition $MI = 1$.

[16] In the case of no common time periods between panels, σ_{ij} is assumed to be 0.

With the aim of checking the robustness of results, several possibilities have been explored. In rows 1, 2, and 4 to 7 of table 6 estimates of table 5 are replicated excluding observations involving deviations in deficit over 50% in absolute value. The aim of this change is testing the sensibility of results to extreme values. The sample size is reduced by 2%. Moreover, using a much more stringent criteria, observations involving deviations in deficit over 10% in absolute value are excluded in row 3, which means a cut of 39% in the sample size. Secondly, time fixed-effects are included in row 2 of tables 5 and 6 to deal with exogenous common shocks affecting revenues or expenditures[17]. In order to avoid perfect multicollinearity, four dummies were dropped (D1985, and those corresponding to elections years: D1997, D1991, and D1995).

Results shown in rows 1 to 5 in tables 5 and 6 may be synthesized as follows:

1. Deviations in deficit are higher in the case of minority and fragmented incumbents. This result is supported by all estimates.
2. Deviations are higher in elections years. While *CY* is only marginally significant in rows 1 and 3 of table 5, it is highly significant when extreme values are set aside and time fixed effects are included (row 2 of table 5 and rows 1 to 3 of table 6). Moreover, being 1985 the reference year, all significant time dummies in row 2 –except D1988 in table 5– present negative coefficients.
3. Incumbent's ideology (*LEFT*) is not relevant to explain deviations in deficit. Corresponding p-values are very high in all estimates of tables 5 and 6.
4. Distances with respect to majority thresholds are not statistically significant. To test this hypothesis, interaction *MI**ST* is used. To avoid multicollinearity between *MI* and the interaction, in row 3 of table 5 the former is excluded and observations meeting the condition $MI = 0$ are set aside[18]. The corresponding coefficient is scarcely significant (p-value = 0.768).
5. Population has been excluded from estimates because it varies very little over time and is then highly correlated with individual fixed effects. Hence its influence on the explained variable was estimated very imprecisely. In order to cast any light on this relationship, in row 1 of table 5 individual fixed effects were replaced by variable *P*. Its coefficient was negative and significant at 5% level[19]. Moreover, estimated fixed effects were regressed on population averages over time. Again, the corresponding coefficient was negative, although only marginally significant. On the other hand, population size was negatively correlated to the size of OLS residuals from

[17] For this purpose a set of dummy variables are defined: D19XX values 1 in 19XX and 0 otherwise.

[18] Regressing one variable on the other yields a R^2 around 0.8.

[19] 10% in the case of row 1 in table 6.

row 1 of table 5 expressed in absolute values, which would explain the existence of cross-section heterocedasticity.

Table 6

ECONOMETRIC ESTIMATES OF EQUATION [1]. LIMITED SAMPLES

Explained variable	DEVD	DEVD	DEVD (*)	$\frac{D_A}{E_F}\cdot 100$	$\frac{D_F}{E_F}\cdot 100$	DEVE	DEVR
MI	1.83 [0.034]	1.58 [0.033]	1.16 [0.000]	1.35 [0.145]	-0.48 [0.300]	-0.70 [0.576]	-2.53 [0.017]
CY	3.99 [0.065]	1.56 [0.007]	1.66 [0.000]	3.71 [0.076]	-0.28 [0.672]	1.04 [0.560]	-2.95 [0.191]
LEFT	0.20 [0.839]	0.55 [0.600]	-0.63 [0.299]	-0.21 [0.805]	0.01 [0.990]	5.60 [0.000]	5.40 [0.000]
D1986		-0.99 [0.105]					
D1988		0.14 [0.657]					
D1989		-1.36 [0.050]					
D1990		-7.18 [0.000]					
D1992		-9.75 [0.000]					
D1993		-0.32 [0.562]					
D1994		0.61 [0.327]					
R^2	0.138	0.191	0.197	0.146	0.240	0.362	0.389
Sample Size	2928	2928	1826	2928	2928	2928	2928

Notes: Individual fixed effects are included in all cases. Equations are estimated by OLS. Below coefficients appear p-values corresponding to robust t-statistics calculated using equation [2]. R^2 is the coefficient of determination. Estimates exlude observations involving deviations in deficit over 50% in absolute value.

(*) Excluding observations involving deviations in deficit over 10% in absolute value.

Estimates shown in rows 4 to 7 in tables 5 and 6 try to cast additional light on the mechanisms explaining deviations. The endogenous variable is replaced by actual and forecasted deficit (rows 4 and 5), and deviations in expenditures and revenues (rows 6 and 7). Results show that:

1. Lower deviations in deficit in the case of single-party majority incumbents are explained by the combination of higher forecasted deficits and lower

actual deficits. On the other hand, upward deviations in forecasted revenues are higher in the case of single-party majority incumbents, which might be interpreted as a signal of more prudence in revenue forecasts.

2. The electoral cycle does not affect forecasted deficit or deviations in expenditures. On the contrary, it increases actual deficits and boosts downward deviations in revenues.
3. Ideology does not seem to be related to the size of both forecasted and actual deficit. On the contrary, leftist incumbents are more prone to upward deviations in both expenditures and revenues. This fact may be interpreted as a more active role of leftist incumbents in the budget implementation phase.

In sum, upward deviations in deficits are higher in the case of single-party majority cabinets, elections years, and smaller municipalities. Moreover, variability of deviations –downward and upward– is negatively correlated to population size. On the contrary, the effect of ideology and the fragmentation of ruling coalitions on deviations in deficit is scarcely relevant according to our estimates.

V. CONCLUSIONS

Flexibility in execution of public budgets is a necessary condition for deviations in forecasted deficits. But as an explanation it is not sufficient. In fact, significant differences between governments subject to the same budget procedures may be observed. The main conclusion of this paper is that politics matter when explaining those differences. In particular, we have shown the relevance of the incumbent's political strength and the electoral cycle.

Upward deviations in forecasted deficits are lower in the case of single-party majority incumbents and higher in elections years, and smaller municipalities. Moreover, variability of deviations –both negative and positive– is negatively correlated to population size. This result might be explained by the technical capacity of officials assuming it rises with jurisdiction size. On the contrary, the effect of ideology and the fragmentation of ruling coalitions on deviations in deficit is scarcely relevant according to our estimates.

Therefore, the positive relationship between flexibility in budget procedures and actual budgets found in empirical papers on the determinants of public deficits also depends on political factors. As it has been suggested in those works, restraining flexibility in execution of a budget would then be a way to reduce systematic upward deviations. But it might be not enough, due to the imagination shown by many governments finding out gimmicks to escape from controls on budget modifications. While there is empirical evidence supporting that direct democracy reduces observed actual deficits, some of the results shown in our paper suggest that reinforcing *ex post* control on budgets may be another way towards fiscal consolidation.

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