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indebtedness”**

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NIPE WP 16/ 2014

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Determinants of Portuguese local governments' indebtedness

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Abstract: Using an extensive dataset covering all Portuguese local governments (308), this paper analyzes the determinants of municipal deficits and debt. The results clearly indicate the existence of a political budget cycle, but there is no evidence that fiscal policy is used strategically to condition the decisions of subsequent governments. Furthermore, local governments that enjoy larger support in the town-hall and for which there is party similarity between the mayor and the prime-minister have larger budget balances. Finally, larger shares of investment and of interest payments in expenditures, and higher unemployment rates increase indebtedness, while higher private sector wages, more construction licenses, and greater percentages of the municipal area assigned to urban use are associated with lower indebtedness.

JEL: D7, H7, P16

Keywords: public debt, budget deficits, local governments, Portugal

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1. Introduction

Due to the accumulation of private and public debt,¹ Portugal was severely affected by the international economic and financial crisis and was, from May 2011 to May 2014, under an economic and financial assistance program negotiated between the Portuguese authorities and officials from the European Commission (EC), the European Central Bank (ECB) and the International Monetary Fund (IMF). Among the structural reforms agreed with the external authorities, is a reorganisation of local government administration to significantly reduce the number of such entities, to enhance service delivery, improve efficiency, and reduce costs.

To the best of our knowledge, there is a gap in the literature regarding Portuguese local governments' indebtedness.² This paper tries to fill this gap by analysing the drivers of municipalities' deficits and debt. Portugal is also an interesting case study because local governments are all subject to the same political and administrative rules and laws, mayors have substantial autonomy to make decisions, and we have gathered a comprehensive dataset on local public finances, electoral results, economic, demographic and social conditions of municipalities, covering the entire country, since 1979.

The average and standard deviation of municipalities' primary budget balances as a percentage of a three-year moving average of revenues without loans, from 1979 to 2011, are presented in Figure 1. Over 33 years, only in seven (1979, 1986, 1987, 1995, 2007, 2011 and 2012) did municipalities have, on average, a budget surplus. There is a clear pattern of electoral budget cycles (Rogoff and Sibert, 1988),³ with a reduction of the average budget balance during electoral

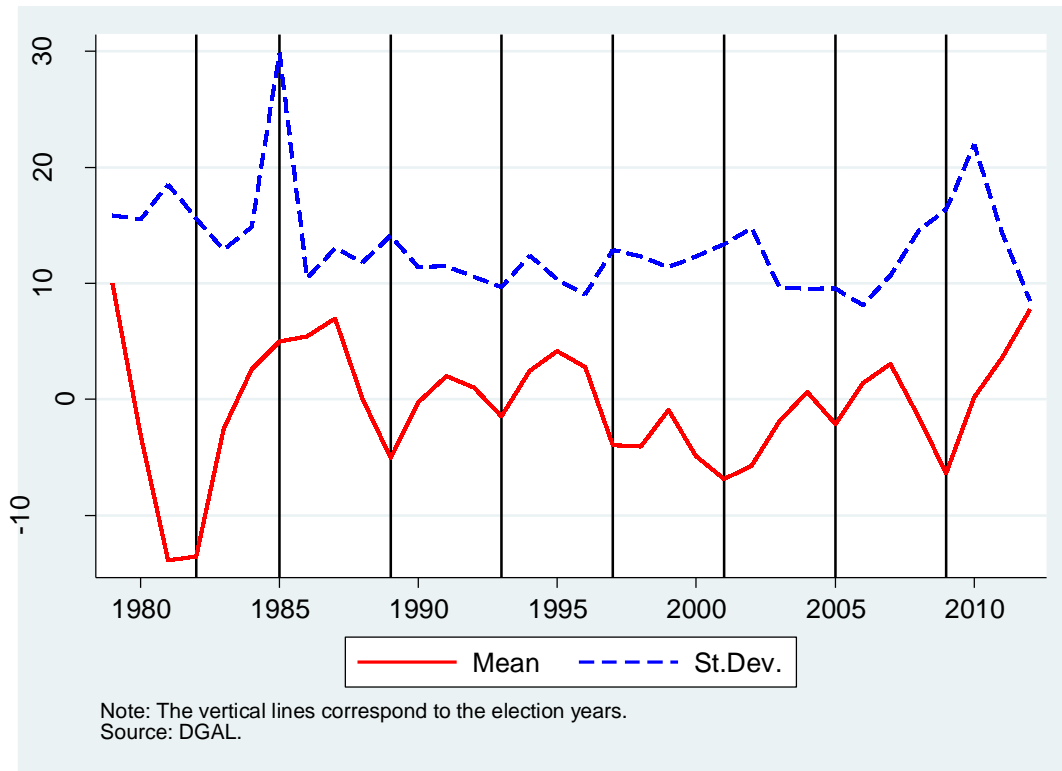
¹ In 2011, private sector debt represented 326% of GDP and public debt 108%.

² Two PhD theses were recently defended on this topic (Ribeiro, 2012; and Lobo, 2013).

³ Since the re-establishment of democracy in 1974, local elections occurred in 1976, 1979, 1982, 1985, 1989, 1993, 1997, 2001, 2005, 2009, and in 2013. They were always held in December, except the last three, which took place in October.

periods, and improvements afterwards. The standard deviation of the budget balance is higher in mid-1980s and in the last years of the sample period.

Figure 1. Municipalities' real budget balance (% of a three-year moving average of real total revenues without loans)

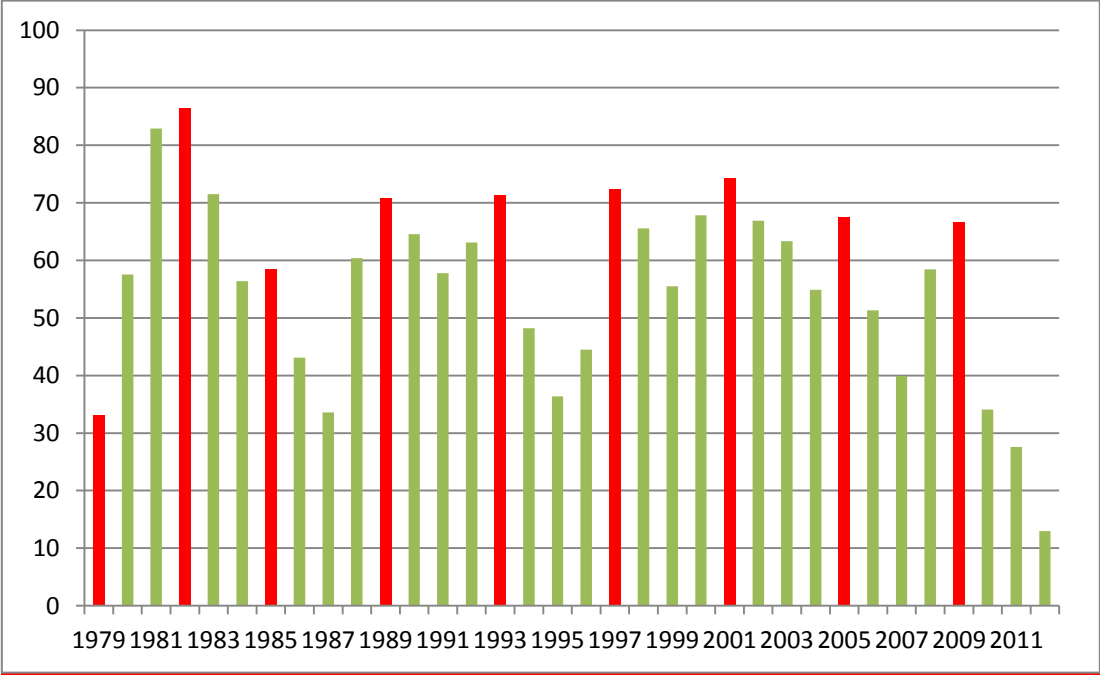


The following graph (Figure 2) shows the percentage of municipalities with deficit in each year.⁴ For most of the years (24), more than half of the municipalities had a deficit. The highest percentage of municipalities with a deficit (more than 80%) was reached in 1981 and 1982. There is a clear pattern of opportunistic management of local public finances, with an increase in the percentage of undisciplined municipalities before elections, reaching a peak during election years,

⁴ There are 308 municipalities in Portugal. For 1984 and 1985 data is only available for 172 and 178 municipalities, respectively. Data for municipalities belonging to the autonomous regions of Madeira (11) and Azores (19) are available from 1989 onwards. Three municipalities were created in 1998 (Odivelas, Trofa and Vizela).

and decreasing afterwards. The years with the lowest percentage of municipalities presenting deficits (1979 - 33%, 2011 – 28%, and 2012 – 13%) are associated with the first IMF intervention in the country (1977/79), the start of the recent economic adjustment program in May 2011, and the shortage of external credit since then.

Figure 2. Percentage of municipalities with deficit (1979-2012)



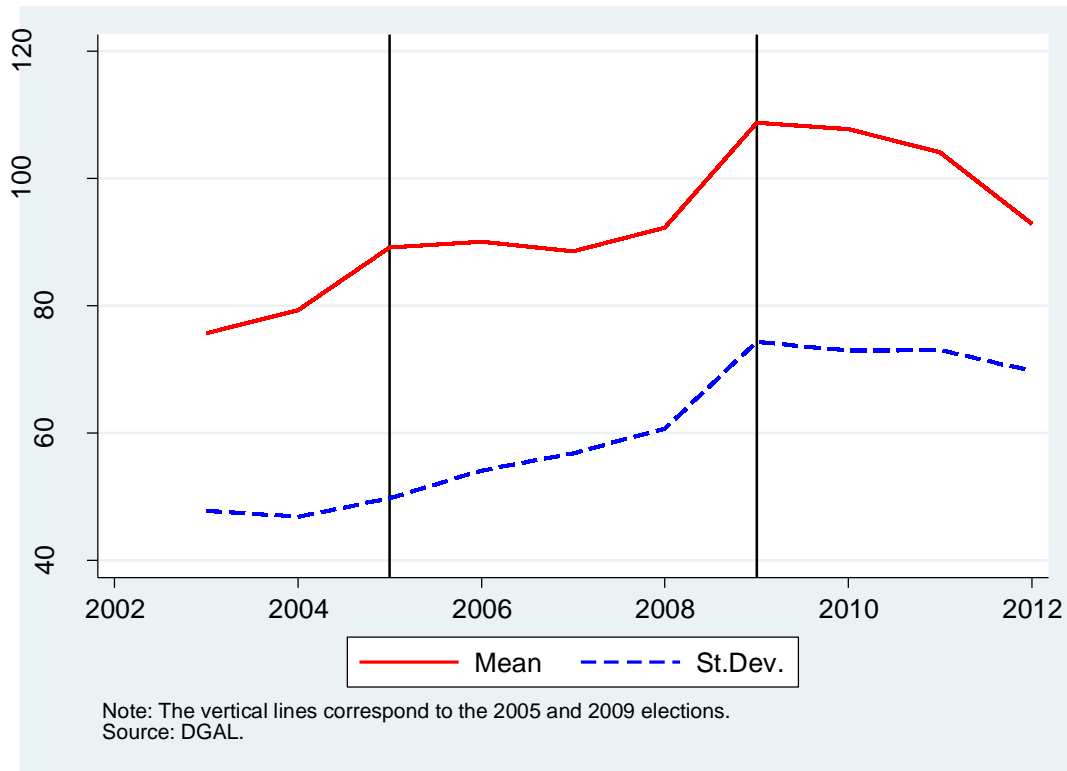
Note: Red bars signal local election years.

The accumulation of deficits over time led to a significant increase in debt. As can be seen from Figure 3, in six years (2003⁵ to 2009), local public debt as a percentage of a three-year moving average of total revenues without loans rose by 33 percentage points, from 76% to 109%. Only in 2011 and 2012 there were substantial reductions of the weight of debt, which corresponded to 93% of total revenues without loans in 2012 (approximately the average in 2008).

⁵ Official data on debt is only available since 2003.

There is also a significant increase in the dispersion (standard deviation) of local governments' behaviour until 2009, and a clear pattern of debt accumulation in election years.

Figure 3. Gross total debt per capita (% of a three-year moving average of real total revenues without loans)



Although at the aggregate level municipal public debt only represents around 5% of GDP,⁶ there is considerable variation in the behavior of local governments, and some are extremely indebted. The lowest value of the weight of debt on total revenue was achieved in Penedono in 2007, a small municipality of 3 322 inhabitants, and the highest (673%) in Povoação in 2009 (7 thousand inhabitants). Recently, several measures were taken and a new local finance law was

⁶ The debt series used in the paper does not include debt accumulated by local public firms because it is not available. If local public firms' debt was taken into account unsustainability problems in some municipalities would be more severe.

approved in September 2013 to correct and prevent unsustainable paths. According to the new local finance law, a municipality has an excessive debt when its gross debt exceeds 150% of the average current revenues over the previous three years. In 2012, 95 municipalities out of 308 exceeded this limit, and 51 (26) had debts over 225% (300%) of current revenues. The sovereign debt crisis created unprecedented challenges to Portuguese local governments which were already facing difficulties to obtain funding. Better knowledge on public finance decision-making by local governments is therefore necessary to prevent future crises.

The rest of the article is organized as follows. Section 2 addresses the reasons for fiscal indiscipline, revising the literature on the subject. Section 3 describes the institutional framework in which Portuguese municipalities operate. Section 4 describes the empirical analysis and section 5 concludes.

2. Reasons for fiscal indiscipline

Several reasons have been presented in the literature to explain fiscal indiscipline. The common pool problem (Tullock, 1959; Weingast, Shepsle and Johnsen, 1981) is one of the most studied. When there is no cooperation among decision makers, and political actors can take the full credit of additional spending, benefiting significant constituencies, but fail to fully internalize the costs that all tax payers must bear, they tend to overspend and to accumulate large and persistent budget deficits. In the case of local governments, if they expect to receive funds from the central government in case of financial distress, local tax collection will be too low and local spending too high. This moral hazard problem in the case of bailout by the central government is known as the soft-budget constraint problem (Kornai, 1979; Kornai, Maskin and Roland, 2003). It has been studied, among others, by Velasco (2000), Djankov and Murell (2002), Rodden *et al.* (2003), Krogstrup and Wyplosz (2010), Petterson-Lindbom (2010) and Hopland (2013).

Pioneering contributions on whether the establishment of fiscal rules is a useful device or not to secure fiscal discipline in US states are Holtz-Eakin (1988), Alt and Lowry (1994), Poterba (1994), and Bohn and Inman (1996). More recently, Milesi-Ferretti (2003), von Hagen, J. and G. Wolff (2006), and Beetsma, Giuliadori, and Wiertz (2009) investigated whether the establishment of fiscal rules encourages or not creative accounting. Hopland (2013) studied fiscal adjustment in Norwegian local governments and the effects of balanced budget regulations.

Lizzeri (1999) proposes a model of redistributive politics, where politicians care about being in office and use deficits to better target promises to voters. For other analyses of the rents appropriated while being in office see Milesi-Ferretti and Spolaore (1994), Battaglini and Coate (2008), and Yared (2010). According to Alt and Lassen (2006), fiscal transparency decreases debt accumulation by reducing the electoral cycle in deficits.

On the effect of political issues on fiscal outcomes, Roubini and Sachs (1989) were the first to suggest that political instability leads to larger deficits.⁷ Persson and Svensson (1989) and Alesina and Tabellini (1990) developed models of the strategic use of debt. According to Persson and Svensson (1989) a conservative (liberal) government accumulates more (less) debt when it knows it will be succeeded by a liberal (conservative) government, in order to force its successor to spend less (more). In the model of Alesina and Tabellini (1990), polarization gives rise to a deficit bias irrespective of the ideology of the party in office. The more likely it is that the current government will be replaced by a government of different ideology, the larger the equilibrium level of debt. Pettersson-Lidbom (2001), using data for Swedish local governments, found evidence in favour of the Persson and Svensson (1989) model. More recently, Hodler (2011) suggested that a conservative government may strategically run a budget deficit not only to

⁷ Others have followed, such as Alesina and Tabellini (1990), Persson and Svensson (1989), Lizzeri (1999), Volkering and Haan (2001), and Perotti and Kentopoulos (2002).

influence the public spending of the left-wing opposition candidate, but also to influence the election outcome. Using data for Spanish local governments, Sollé-Ollé (2006) analyzed the effects of party competition on budget outcomes. He found that when the electoral margin of the incumbent at the preceding election increased, left-wing governments increased the level of spending, own revenues and deficit, while right-wing governments decreased these items.

Recently, Song, Storesletten and Zilibotti (2012) developed a dynamic politico-economic model of government debt where debt is used by governments to shift the fiscal burden to future generations. The larger the political power of the old, the larger the accumulation of debt.

3. Legal and institutional framework

Portugal is a unitary⁸ and centralized country, where local governments' expenditures currently represent around 8% of total public expenditures. There are 308 municipalities in the country (278 of which are in the mainland), all subject to the same legal and institutional framework.

During the first years of democracy, municipalities were highly dependent on transfers from the central government. Over time, there has been a progressive decentralization process with more functions being attributed to local governments, but also more own revenues.⁹ Currently, municipalities have responsibilities in the following areas (Law 159/99): rural and urban equipment; energy; transports and communications; education; heritage, culture and science; leisure and sport; health; social action; housing; civil protection; environment and sanitation;

⁸ Administrative regions were established only in the archipelagos of Azores and Madeira. Local governments include municipalities and parishes (*freguesias*), but the latter have very limited functions and resources.

⁹ Own revenues are obtained by subtracting transfers and loans from total revenues. In 1979, the first year for which local fiscal data is available, own revenues represented 8.5% of total revenues while in 2011 they represented 34.5%.

consumer protection; promotion of development; spatial planning and urban design; municipal police; foreign cooperation.

Three local finance laws (Law 1/79, Law 42/98 and Law 2/2007) regulated the financial system of municipalities during the period under analysis (1979-2011). Taking into account the whole sample, the main item of municipalities' expenditures is the acquisition of capital goods (representing, on average, 41.9% of total expenditures), followed by costs with personnel (25.3%), acquisition of goods and services (15.9%), current and capital transfers (9.5%), loans (3.2%), interest and other financial expenditures (2.3%), and others (1.6%). Municipal revenues consist of: direct taxes that include property taxes, property transfer taxes, vehicle taxes, and business taxes (14.0%); indirect taxes (1.4%); fees, fines and other penalties (2.1%); property revenues (1.7%); capital and current transfers (66.0%); revenues from sales of goods and services (7.4%); revenues from sales of capital goods (1.6%); revenues on financial assets (0.2%); and loans (6.2%).

The first rules regarding municipalities' ability to contract debt were established by decree law 258/79. Since then, several changes occurred, as summarized in Table 1.¹⁰ Previous rules have been criticized by several authors, namely Cabo (2009) and Lobo (2013). They disagree that the limits only applied to the amount and purpose of short term loans, and to expenditures on mortgage and interest of medium and long term loans. Therefore, the rules did not take into account additional indebtedness or the stock of debt. Furthermore, the limits were set according to investment and transfers from the central government, not taking into account the net capacity or necessity of funding of the municipality. This has several disadvantages: (1) a decrease in the market interest rate or an expansion in the time for paying the loans increases the legal indebtedness limits even without an improvement of the economic situation of the municipality;

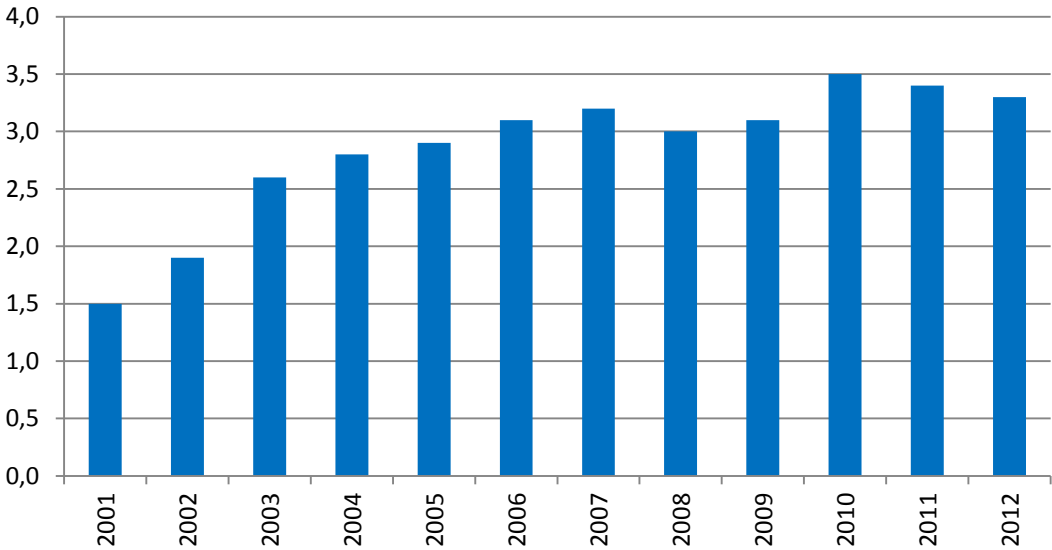
¹⁰ A new local finance law was published in September 2013 (Law 73/2013), which came into force in January 2014. Since it does not apply to our sample period, it is not described in Table 1.

(2) a reduction in transfers from the central government to municipalities may lead to excessive indebtedness, even if the municipality does not contract additional loans; (3) debts to suppliers or leasing contracts are not considered; (4) the higher the investment the larger the debt limit.

[Insert Table 1 about here]

The signature of the Stability and Growth Pact, and the need to have an overall national public deficit below 3% and debt below 60%, increased concerns about local governments' fiscal accounts and indebtedness. However, as can be seen from Figure 4, in 2001 local governments indebtedness according to the excessive deficit procedure represented 1,5% of GDP and it continuously grew until 2007 (3,2%), reaching a peak of 3,5% in 2010. In 2012 it still represented 3,3% of GDP.

Figure 4. Local governments' debt (EDP) - % of GDP



Source: Bank of Portugal

4. Empirical analysis

The main objective of the present paper is to analyze the determinants of Portuguese local governments' indebtedness. The panel dataset is composed of annual data on fiscal, economic, political and social variables for all 308 Portuguese municipalities, from 1979 to 2012. Data on municipal debt were kindly provided by DGAL (*Direção Geral das Autarquias Locais*) and the remaining local fiscal data were collected from DGAL's annual publication *Municipal Finances (Finanças Municipais)*. Political data was obtained from the National Elections Commission (CNE), employment data from the Institute of Employment and Professional Training (IEFP) and from the Ministry of Labor and Social Solidarity (MTSS), economic and demographic data from the National Statistics Institute (INE), and socio-economic indicators from the Marktest's *Sales Index* database. Descriptive statistics are presented in Table 2.

[Insert Table 2 about here]

The following two sections present our preliminary results regarding the main determinants of Portuguese local government's indebtedness. The estimations for budget balances will use the entire sample, as there is data available for the period 1979-2012. Official (DGAL) data on municipal debt is available only from 2003 onwards.

4.1 Budget Balances

The dependent variable in our empirical model for budget balances is the primary budget balance¹¹ as a percentage of a 3-year moving average of real total revenues excluding loans of municipality i at year t (PBB_{it}). Sets of financial, political, and socio-economic variables are included as regressors. Financial variables consist of the first lag of the share of investment expenditures on total expenditures ($Share_Inv_{it-1}$), the share of interest payments on debt on total expenditures ($Share_Interest_{it-1}$), and the share of own revenues on total revenues without loans ($Share_Own_Rev_{it-1}$). Given that investments generate medium and long term benefits, it is likely that municipalities that have a larger share of investment on total expenditures choose to delay some of the outlays to the future by having deficits. Own revenues include, among others, local taxes and fees charged by local governments, which are more easily perceived by voters than those associated with transfers from the central government. Therefore, a positive coefficient is expected for the estimated coefficient associated with this variable. Assuming that more indebted municipalities want to avoid insolvency, the share of real interest payments on real total expenditures is likely to improve the budget balance.

To capture political issues, the following variables were included:

- *Election Year_{it}*, *Before_EY_{it}* and *After_EY_{it}*: represent, respectively, the election year, and the years before and after the election year.
- *Left_{it}*: is a dummy for left-wing mayors. According to Persson and Svensson (1989), left-wing governments are less willing to incur debt than right-wing ones. Alt and Lassen (2006) also find support for this hypothesis. We also include a dummy variable for mayors not affiliated with any party (*Independent_{it}*), so that the only partisan dummy left out is that for right-wing mayors.

¹¹ Local finance data is reported in a cash basis. Thus, the overall balance is obtained by excluding the transactions in financial assets and liabilities from the totals of revenues and expenditures. The primary balance is then obtained also excluding interest payments from current expenditure.

- *Tenure_{it}*: number of years the mayor has been in office.
- *%Seats_{it}*: Percentage of seats held by the mayor's party in the town hall.
- *Coalition_{it}*: dummy variable for coalition governments.
- *Recand_{it}*: is a dummy variable equal to one during the entire term when the mayor runs for re-election, and zero otherwise.
- *Same_party_{it}*: dummy variable that assumes the value of one when the mayor and the prime-minister belong to the same party.

Two demographic variables are also included in the baseline model:

- *%65_{it}*: percentage of the population over 65 years old.
- *Density_{it}*: population density measures the number of inhabitants by squared kilometer.

Socio-economic variables that may also influence the budget balance are taken into account. They are included in the regressions, one at a time. These variables are:

- *Lic_new_construction_{it}*: Number of licenses for new constructions per inhabitant.
- *Tourism_{it}*: Number of touristic facilities per inhabitant.
- *Unemp_{it}*: Unemployment rate in the municipality. Higher unemployment rates are expected to lead to higher expenditures by the local government, namely on social aspects, and to lower revenues.
- *%Area_urban_{it}*: Percentage of the municipal area assigned to urban use. Since municipal revenues during the sample period were strongly influenced by the amount of construction, the increases in the area assigned to urban use are expected to have a positive effect on municipal revenues.¹²
- *Earning_{it}*: Real monthly earnings per capita of individuals working in private firms.

¹² Data for *%Area_urban_{it}* is not available for the 30 municipalities of the islands of Azores and Madeira.

In order to control for the passage of time, we included dummies for each mandate since 1979 (m1 to m9). The empirical model can be summarized as follows:

$$y_{it} = \sum_{j=1}^p \alpha_j y_{i,t-j} + \mathbf{X}'_{i,t} \boldsymbol{\beta} + v_i + \phi_m + \varepsilon_{it} \quad i = 1, \dots, N \quad t = 1, \dots, T_i \quad (1)$$

where y_{it} is the dependent variable and p is its number of lags included in the model, $\mathbf{X}'_{i,t}$ is a vector of explanatory variables, $\boldsymbol{\beta}$ is a vector of parameters to be estimated, v_i is the individual effect of municipality i , ϕ_m is the effect of mandate (term) m , and ε_{it} is the error term.

Since in this dynamic panel data model the lagged value of the dependent variable is correlated with the error term, ε_{it} , even if the latter is not serially correlated, OLS, fixed or random effects estimates will be inconsistent. As the time dimension of the panel increases, the bias reduces but Judson and Owen (1999) found that the bias of the least squares dummy variable (LSDV) approach can be significant, even when the number of periods is as large as 30. Although the dataset used in the paper covers a 33-year period, the panel is unbalanced, and the average number of observations per municipality in most regressions is around 25. Therefore, in the sample, there is a clear dominance of cross sections ($N=308$) over time periods and the fixed effects model may still suffer from dynamic panel bias.

Arellano and Bond (1991) developed a Generalized Method of Moments (GMM) estimator that solves the problems noted above. First differencing (1) removes the individual effects (v_i) and produces an equation that is estimable by instrumental variables:

$$\Delta y_{it} = \Delta \sum_{j=1}^p \alpha_j y_{i,t-j} + \Delta \mathbf{X}'_{i,t} \boldsymbol{\beta} + \Delta \phi_m + \Delta \varepsilon_{it} \quad i = 1, \dots, N \quad t = 1, \dots, T_i \quad (2)$$

The valid instruments are: levels of the dependent variable, lagged two or more periods ($y_{it-1}, \dots, y_{it-2}$); levels of the endogenous variables, lagged two or more periods ($x_{it-1}, \dots, x_{it-2}$); levels of the pre-determined variables, lagged one or more periods ($x_{it-1}, \dots, x_{it-1}$); and the levels of the exogenous variables, current or lagged (x_{it}, \dots, x_{it}) or, simply, the first differences of the exogenous variables (Δx_{it}). More moment conditions are available if we assume that the explanatory variables (x_{it}) are uncorrelated with the individual effects (ν_i). In this case, the first lags of these variables (x_{it-1}) can be used as instruments in the levels equation. The estimation then combines the set of moment conditions available for the first-differenced equations with the additional moment conditions implied for the levels equations. Arellano and Bover, 1995 and Blundell and Bond (1998) show that this extended GMM estimator is preferable to that of Arellano and Bond (1991) when the dependent variable and/or the independent variables are persistent.¹³

The results of fixed effects estimations are reported in Table 3. As expected, greater shares of investment expenditure in total expenditures are associated with lower budget balances, and greater shares of interest payments have the opposite effect. That is, municipalities which invest relatively more run lower balances, or larger deficits, and those that face higher interest payments tend to solve the problem by running primary surpluses. Somewhat surprisingly, the share of own revenues is not statistically significant. Thus, the share of own revenues does not seem to affect the local governments' primary budget balances.

[Insert Table 3 about here]

¹³ Difference-in-Hansen tests indicate that, for our data, the system-GMM is preferable to the difference-GMM, which only includes the first-differenced equations.

The empirical results clearly indicate the presence of a political budget cycle. Not only do budget balances tend to be lower in the election year than in any other year of the electoral cycle, but also they are lower in year before the elections than in the remaining two years. These results are consistent with those of Veiga and Veiga (2007) who found that municipal investment expenditures considerably increased in the electoral year and in the year before elections. Regarding the remaining political variables, there is some support for the hypotheses that left-wing mayors (columns 3 to 5), as well as those belonging to the prime-minister's party (columns 1, 2 and 6), run more positive budget balances, while the remaining variables do not seem to influence budget balances. Regarding, demographic variables, a greater percentage of elderly people seems to lead to better budget balances (columns 3 to 5), while population density may not matter (it is statistically significant only in column 3). Finally, issuing more licenses for new constructions (column 2) is associated with higher budget balances. Surprisingly, the assignment of a larger percentage of the municipal territory to urban use worsen budget balances (column 5). The other socio-economic variables do not seem to affect budget balances.

The results for the estimation of the previous models using System-GMM are reported in Table 4. Two-step results using robust standard errors corrected for finite samples are reported. T-statistics are in parenthesis, and the p-values of the autocorrelation and Hansen tests are shown at the bottom of the table. Since the absence of second order autocorrelation and the validity of the instrument matrix are never rejected, our estimations are valid.¹⁴ Most of the variables that were statistically significant in the fixed-effects estimations continue to be relevant determinants of the budget-balance with the System-GMM estimations. The main difference is that the dummy

¹⁴ Taking into account that the level of indebtedness of the municipality may influence the structure of expenditures and revenues, the three fiscal variables included as explanatory variables (the share of investment expenditures on total expenditures, the share of interest payments on debt on total expenditures, and the share of own revenues on total revenues without loans) were treated as endogenous. In order to avoid an excessive number of instruments, only lags 2 and 3 were used as instruments for the endogenous variables.

signaling left-wing mayors is no longer statistically significant. Additionally, there is robust evidence that municipalities where the mayor's party has a larger representation in the town-hall and dominates the national government have higher budget balances. The demographic variables suggest, again, a positive effect of percentages of the population above 65 on the budget balance and practically no robust effects of population density. Finally, a larger number of licenses for new constructions (column 2) and a lower unemployment rate (column 4) improve the fiscal situation of the municipality.

[Insert Table 4 about here]

The political determinants of primary budget balances were further investigated in the estimations whose results are reported in Table 5. As in the previous table, there is robust evidence of a political budget cycle, as the election year dummy is always statistically significant and negatively signed. Results also show that municipalities where mayors enjoy a larger support in the Town Hall and belong to the party in the central government have larger budget balances. In column 1, we analyzed whether mayors who run again for office would be more or less opportunistic than those who do not, by including an interaction between the election year dummy and the dummy *Recand*. Although the estimated coefficient for this interaction is positive, suggesting that mayors running for office again internalize the future costs of running deficits in electoral years, it is not statistically significant. Column 2 reveals that obtaining a larger margin of victory at municipal elections improves the budget balances, but the reverse is true for left-wing governments. Sollé-Olé (2006) reported a similar result for Spanish local governments. In the following columns, we tested for differences in electoral year budget balances based on strategic deficit management: when the local government party changes (column 4), when the mayor

changes (column 5), when the new local government has a different ideology than its predecessor (column 6). The dummy variable $New_party(mayor)_it$ equals one in municipal election years, when a new party (politician) wins the election. According to Allesina and Tabellini (1990) incumbents anticipating that they will lose the next election may increase the budget deficit in order to constrain the options of their successors. To check the validity of Persson and Svensson's (1989) hypothesis that fiscal policy is used strategically only when a change in ideology is expected by the incumbent mayor, a dummy variable equal to one in municipal election years when the Town Hall changes from left to right was introduced in the model ($Left*New_party_{it}$). None of these variables was statistically significant, suggesting that the budget balance is not used strategically by incumbent politicians. Finally, we tested if the fragmentation of the Town-Hall, measured by the number of effective parties, influences the budget balance. As can be seen in column 6, there is no evidence of such an effect.

[Insert Table 5 about here]

4.2. Debt

The dependent variable in the empirical model for municipal debt is the real gross debt as a percentage of the three-year moving average of total effective revenues (without loans) of municipality i at year t ($Debt_{it}$). As explained above, official debt data is available from 2003 to 2012. The baseline model includes the same set of financial, political, and socio-economic variables used in the estimations for the primary budget balance. Given the short time dimension of the sample (10 years), year dummies are included instead of the electoral dummies and the dummies for the mandates. Since debt is a persistent variable, the empirical model includes lags of the dependent variable in the right hand-side. Because in this sample there is a clear dominance of

cross sections over time periods (N=308 and T=10), only results for the System-GMM¹⁵ estimator are reported, as fixed-effects results would clearly be biased.

As can be seen from Table 6,¹⁶ larger shares of interest payments on debt on total expenditures increase gross debt. Surprisingly, there is some indication (columns 2, 4 and 5) that a larger share of own revenues has a similar effect. Regarding political variables, municipalities run by the party that dominates the national government tend to accumulate less debt. This may be due to the fact that governments often try to distribute more grants to municipalities run by their party (Veiga and Veiga, 2013). As happened in the previous tables, there is clear evidence of political budget cycles. The dummies signaling municipal electoral years (2005 and 2009) are highly statistically significant and positively signed, indicating an increase of more than 10 percentage points in debt over the three-year moving average of revenues in these years. It should be noted that 2005 and 2009 were also legislative election years, probably intensifying the electoral effects captured by the dummy variables. Additionally, left-wing local governments seem to accumulate less debt, while the remaining political variables did not show up as statistically significant. Regarding demographic variables, the percentage of elderly does not seem to affect municipal debt, while greater population density seems to be associated with lower indebtedness. Finally, a higher number of construction licenses issued, a greater percentage of the municipal area assigned to urban use, and higher average wages in the private sector firms in the municipality are associated with lower indebtedness, while higher unemployment rates have the opposite effect.

¹⁵ Difference-in-Hansen tests indicate that, for our data, the System-GMM is preferable to the Difference-GMM, which only includes the first-differenced equations.

¹⁶ Two-step results using robust standard errors corrected for finite samples are reported. T-statistics are in parenthesis, and the p-values of the autocorrelation and Hansen tests are shown at the bottom of the table. Since the absence of second order autocorrelation and the validity of the instrument matrix are never rejected, our estimations are valid.

The political determinants of municipal debt were further investigated using models similar to those of Table 5 for primary budget balances. As happened for primary budget balances, there is no evidence of strategic debt management or that mayors running for re-election increase debt more in electoral years than those not running for r-election.¹⁷

[Insert Table 6 about here]

5. Conclusions

Results of estimations for municipal primary budget balances and gross debt clearly indicate the presence of political budget cycles. In accordance with the rational opportunistic cycles of Rogoff and Sibert (1988), mayors manipulate economic local public finances before elections in a manner that could signal greater competence. Our results reveal that budget deficits and debt increase in the electoral year and, by a smaller amount, in the previous.

Local government that enjoy greater support in the town hall tend to have higher budget balances, and there is also weak evidence that left-wing mayors generate lower levels of debt than right-wing ones and independents. No evidence was found for strategic deficit or debt management, tenure of mayors, or running again for office. Municipalities where there is party similarity between the mayor and the national government tend to have higher budget balances and lower debt, which suggests some favoring of these municipalities in the allocation of intergovernmental transfers.

The structure of expenditures and revenues also affects municipal budget balances and debt. Higher shares of investment expenditure are associated with lower budget balances, while higher shares of interest payments have the opposite effect and increase debt. Regarding the

¹⁷ Although not reported in the paper, the results are available from the authors upon request.

effects of socio-economic variables, higher unemployment rates generate higher deficits and debt, while issuing more construction licenses seems to generate higher budget balances and lower debt. The assignment of a larger percentage of the municipal territory to land use and higher average wages in the private firms located in the municipality are also associated with lower indebtedness.

When comparing the electoral effect in the budget deficit and debt it is notable that the former is much smaller than the latter, which suggests that extra-budgetary items not included in the deficit are reflected in the debt. Preliminary research reveals a substantial difference between changes in debt and the deficit that cannot be explained by net expenditures associated with financial assets. This is a topic that we intend to explore in the near future. Additionally, we would also like to investigate the determinants of different types of debt, namely of financial debt (short-term and medium and long-term) and non-financial debt.

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Table 1. Descriptive statistics

Variable	Observations	Mean	Std. Dev	Minimum	Maximum
Real Primary Budget	9797	-0,683	14,388	-261,512	354,133
Balance % 3-y revenues					
Real Debt % 3-y revenues	8549	176,393	283,007	0,000	673,377
Share_Inv	9730	40,839	17,525	0,000	121,570
Share_Interest	9797	2,425	2,938	0,000	51,481
Share_Own_Rev	9797	26,302	19,110	0,249	124,746
Election Year	9797	0,260	0,439	0,000	1,000
Before_EY	9797	0,259	0,438	0,000	1,000
After_EY	9797	0,267	0,442	0,000	1,000
Left	9797	0,549	0,498	0,000	1,000
Independent	9797	0,006	0,079	0,000	1,000
Tenure	9790	7,357	5,757	0,000	36,000
%Seats	9787	60,220	12,124	28,571	100,000
Coalition	9797	0,056	0,231	0,000	1,000
Recand	9349	0,537	0,499	0,000	1,000
Same_party	9797	0,386	0,487	0,000	1,000
%P65	9796	18,736	6,342	5,300	44,183
Density	9797	0,029	0,087	0,000	1,128
Lic_new_construction	6933	5,240	3,349	0,000	51,106
Tourism	6416	0,232	0,402	0,000	5,213
Unemployment rate	4680	6,202	2,633	0,590	17,399
% Area Urban	4379	9,990	11,851	0,334	68,772
Earnings (average)	7529	775,838	167,771	407,994	1904,367
Margin of victory	9787	19,986	14,750	0,018	87,926
New mayor	9790	0,058	0,233	0,000	1,000
New party	9790	0,094	0,292	0,000	1,000
Effective number parties	9787	2,069	0,454	1,000	4,455

Sources: DGAL, CNE, IEF, MTSS, INE and Markttest.

Note: Sample restricted to the 9797 observations for which there is data on the real primary budget.

Table 2. Limits to indebtedness over time

<i>Law</i>	<i>Target</i>	<i>Limit</i>	<i>Exception</i>
Decree-law 258/79	Medium and long term loans	Only for reproductive investments on social or cultural activities, and for rescuing municipalities in financial distress. Could not exceed 1/12 of the investment expenditures approved in the municipal budget for that year. Annual expenditures on mortgage and interests could not exceed 20% of the approved annual expenditure on investment.	
Decree-law 98/84	Short term loans	Could not exceed 5% of the Financial Equilibrium Fund. ¹⁸ Annual expenditures with mortgage and interest associated with long and medium term loans could not exceed the highest value of 20% of the FEF or of 20% of last year investment expenditure.	Loans for the construction of houses and for the rehabilitation of buildings
Law n.º 1/87	Short term loans	Could not exceed 10% of the Financial Equilibrium Fund. Annual expenditures with mortgage and interest associated with long and medium term loans could not exceed the highest limit of 3/12 of the FEF or of 20% of last year investment expenditure.	
Law n.º 42/98	Medium and long term loans	Annual expenditures with mortgage and interest associated with long and medium term loans could not exceed the highest value of 3/12 of the sum of the Municipal Base Fund and the Municipal General Fund or of 20% of last year investment expenditure.	
Decree-law n.º 94/01	Short term loans	Could not exceed 10% of the sum of the Municipal Base Fund, the Municipal General Fund and the Municipal Cohesion Fund.	

¹⁸ The financial equilibrium fund was the main transfer received by municipalities from the central government, until the local finance law n. 42/98.

Law n.º 16-A/2002	Loans	Could not contract new loans that implied an increase in net debt during the budgetary year.	Loans for social housing programs, construction and rehabilitation of infrastructures related to the EURO 2004, and for projects co-funded with EU funds.
Law n.º 2/2002		In each year, national budgetary laws could establish limits to municipalities' debt lower than those defined in the Local Finance Law.	
National budget laws for 2003 to 2006	Debt	Net debt (endividamento líquido) could not exceed the level in 31 st December, 2002. Annual expenditures with mortgage and interests on medium and long term loans could not exceed 1/8 of the Municipal Base Fund, the Municipal General Fund, and the Municipal Cohesion Fund, or 10% of last year's investment expenditures.	Loans for social housing programs, construction and rehabilitation of infrastructures related to the EURO 2004, and for projects co-funded with EU funds.
Local Finance Law: n.º 2/2007	Debt	Total net debt at the end of the year cannot exceed 125% of last year municipalities' main revenues. Total debt associated with long and medium term loans could not exceed, at the end of the year, the sum of last year's revenues eligible to calculate the legal limit of net public debt. Debt associated with short term loans cannot exceed 10% of the amount of total revenues eligible to calculate the limit of net public debt. Municipalities that do not comply with the limits are subject to sanctions, namely a reduction of transfers from the central government.	
National Budget Law of 2011	Debt	Total net debt cannot exceed the existing value in September 30 th , 2010. Additional restrictions on medium and long term loans.	

Table 3. Determinants of the primary budget balance (Fixed Effects)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
PBB _{it-1}	0.055*** (3.714)	0.039* (1.805)	0.030 (1.247)	0.001 (0.047)	0.016 (0.456)	0.030 (1.547)
Share_Inv _{t-1}	-0.072*** (-4.771)	-0.060*** (-3.620)	-0.067*** (-3.705)	-0.099*** (-3.951)	-0.089*** (-3.397)	-0.071*** (-4.282)
Share_Interest _{t-1}	0.920*** (10.293)	0.951*** (8.426)	0.955*** (7.134)	0.809** (2.512)	0.833** (2.478)	0.788*** (6.169)
Share_Own_Rev _{t-1}	0.022 (1.078)	0.038 (1.499)	0.027 (0.868)	-0.025 (-0.637)	-0.014 (-0.342)	0.019 (0.743)
Election Year	-6.139*** (-13.476)	-5.553*** (-11.026)	-5.845*** (-11.103)	-5.462*** (-8.952)	-5.685*** (-9.266)	-6.548*** (-12.434)
Before_EY	-2.622*** (-7.087)	-1.465*** (-3.893)	-1.712*** (-4.314)	-1.418*** (-2.923)	-1.520*** (-3.078)	-2.365*** (-5.631)
After_EY	-1.633*** (-4.275)	-2.162*** (-5.382)	-2.276*** (-5.128)	-2.504*** (-4.928)	-2.352*** (-4.464)	-1.986*** (-5.241)
Left	0.536 (1.173)	0.901* (1.717)	1.500*** (2.741)	1.768** (2.272)	1.391* (1.797)	0.650 (1.305)
Independent	0.873 (0.527)	1.150 (0.591)	1.687 (0.895)	0.770 (0.355)	-0.524 (-0.252)	1.358 (0.692)
Tenure	0.034 (1.092)	-0.001 (-0.016)	-0.009 (-0.223)	-0.029 (-0.494)	-0.026 (-0.441)	0.015 (0.424)
%Seats	-0.004 (-0.300)	0.004 (0.235)	0.013 (0.732)	0.024 (0.908)	0.026 (0.967)	0.008 (0.543)
Coalition	0.289 (0.358)	-0.668 (-0.516)	0.031 (0.023)	0.316 (0.197)	0.371 (0.211)	-0.908 (-0.788)
Recand	-0.568 (-1.361)	-0.598 (-1.072)	-0.505 (-0.803)	-0.214 (-0.245)	-0.443 (-0.454)	-0.578 (-1.266)
Same_party	0.741** (2.291)	0.744** (2.164)	0.564 (1.569)	0.286 (0.671)	0.535 (1.238)	0.656* (1.909)
%P65	0.153 (1.306)	0.256 (1.637)	0.340* (1.893)	0.630** (2.345)	0.692** (2.545)	0.289 (1.572)
Density	11.780 (1.127)	-28.112 (-1.494)	-49.185** (-2.456)	-34.538 (-0.934)		6.660 (0.769)
Lic_new_construction		0.133* (1.807)				
Tourism			-0.561 (-0.585)			
Unemp				0.156 (0.920)		
% Area Urban					-0.674** (-2.119)	
Earnings						0.000 (0.141)
Observations	8,797	6,434	5,925	4,279	3,992	6,986
Municipalities	308	308	308	308	278	308
Adjusted R2	0.138	0.100	0.097	0.068	0.076	0.091

Sources: DGAL, CNE, IEF, MTSS, INE and Markttest.

Notes: Fixed effects estimations including dummy variables for mandates. The dependent variable is the primary budget balance as a percentage of the 3-year moving average of effective revenues (without loans). T-statistics are between parentheses. Significance level for which the null hypothesis is rejected: ***, 1%, **, 5%, and *, 10%..

Table 4. Determinants of the primary budget balance (System-GMM)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
PBB _{it-1}	0.128*** (6.198)	0.110*** (5.267)	0.107*** (4.781)	0.082*** (2.826)	0.097*** (2.860)	0.083*** (4.241)
Share_Inv _{it}	-0.274*** (-6.726)	-0.218*** (-5.447)	-0.196*** (-4.964)	-0.236*** (-5.451)	-0.210*** (-5.246)	-0.302*** (-8.036)
Share_Interest _{it}	0.960*** (11.790)	1.005*** (11.962)	0.997*** (10.423)	0.383** (2.106)	0.486*** (2.763)	0.864*** (7.977)
Share_Own_Rev _{it}	0.013 (0.375)	0.083** (2.313)	0.087* (1.910)	0.072 (1.443)	0.061 (1.416)	0.040 (1.200)
Election Year	-5.680*** (-13.223)	-4.399*** (-9.807)	-4.747*** (-10.064)	-4.713*** (-8.604)	-5.132*** (-9.222)	-5.902*** (-13.356)
Before_EY	-2.624*** (-7.264)	-1.259*** (-3.609)	-1.494*** (-4.149)	-1.416*** (-2.950)	-1.609*** (-3.362)	-2.235*** (-5.977)
After_EY	-1.227*** (-3.425)	-1.362*** (-3.792)	-1.379*** (-3.232)	-1.388*** (-2.803)	-1.464*** (-2.681)	-1.427*** (-3.780)
Left	-0.703 (-1.566)	-0.571 (-1.378)	-0.461 (-1.026)	-0.171 (-0.341)	-0.328 (-0.740)	-0.341 (-0.831)
Independent	1.684 (0.682)	0.451 (0.213)	0.548 (0.262)	0.812 (0.347)	-0.389 (-0.170)	1.072 (0.439)
Tenure	0.028 (0.913)	0.003 (0.106)	0.001 (0.025)	0.011 (0.316)	-0.001 (-0.017)	0.045 (1.412)
%Seats	0.041*** (2.687)	0.041** (2.494)	0.038** (2.186)	0.024 (1.197)	0.029 (1.454)	0.030* (1.910)
Coalition	-0.459 (-0.534)	-1.389 (-1.137)	-1.249 (-0.991)	-0.879 (-0.639)	-1.537 (-1.241)	-1.700 (-1.544)
Recand	-0.094 (-0.215)	0.105 (0.201)	0.247 (0.431)	1.348 (1.581)	1.039 (1.125)	0.605 (1.345)
Same_party	0.805** (2.426)	0.925*** (2.825)	0.862** (2.537)	0.843** (2.030)	0.711* (1.720)	0.596* (1.779)
%P65	0.154*** (2.795)	0.203*** (3.804)	0.213*** (3.448)	0.203** (2.422)	0.162** (2.491)	0.207*** (3.593)
Density	-1.840 (-0.680)	-7.075 (-1.529)	-9.368* (-1.735)	-6.662 (-1.393)		-2.863 (-1.129)
Lic_new_construction		0.193*** (3.380)				
Tourism			0.359 (0.661)			
Unemp				-0.155* (-1.683)		
% Area Urban					-0.034 (-1.098)	
Earnings						-0.003 (-1.542)
Observations	8,796	6,434	5,925	4,279	3,992	7,017
N. municipalities	308	308	308	308	278	308
N. instruments	277	287	263	262	261	311
Arellano-Bond AR(1), p-value	0.000	3.69e-10	2.39e-09	4.79e-06	2.23e-05	0.000
Arellano-Bond AR(2), p-value	0.627	0.282	0.326	0.222	0.173	0.638
Hansen, p-value	0.166	0.341	0.244	0.190	0.317	0.360
Diff Hansen_1, p-value	1.000	0.992	0.995	0.999	0.996	0.996
Diff Hansen_2, p-value	0.993	0.793	0.774	0.665	0.965	0.558

Sources: DGAL, CNE, IEPF, MTSS, INE and Marktest.

Notes: System-GMM estimations for dynamic panel-data models, including dummies for mandates. Sample period: 1979-2011. The dependent variable is the primary budget balance as a percentage of the 3-year moving average of effective revenues (without loans). Two-step results using robust standard errors corrected for finite samples. T-statistics are in parenthesis. Significance level at which the null hypothesis is rejected: ***, 1%; **, 5%, and *, 10%.

Table 5. Additional political determinants of the primary budget balance (System-GMM)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
PBB _{it-1}	0.123*** (6.206)	0.123*** (6.208)	0.123*** (6.199)	0.123*** (6.197)	0.123*** (6.231)	0.123*** (6.174)
Share_Inv _{it}	-0.283*** (-6.761)	-0.281*** (-6.707)	-0.277*** (-6.733)	-0.277*** (-6.696)	-0.278*** (-6.722)	-0.276*** (-6.639)
Share_Interest _{it}	0.952*** (11.403)	0.954*** (11.501)	0.958*** (11.624)	0.958*** (11.612)	0.957*** (11.616)	0.962*** (11.528)
Share_Own_Rev _t	-0.011 (-0.327)	-0.011 (-0.321)	-0.010 (-0.281)	-0.009 (-0.264)	-0.010 (-0.303)	-0.009 (-0.276)
Election Year	-4.760*** (-8.507)	-4.285*** (-11.360)	-4.243*** (-10.542)	-4.274*** (-9.658)	-4.232*** (-10.541)	-4.275*** (-11.310)
Left	-0.585 (-1.325)	0.216 (0.404)	-0.602 (-1.366)	-0.598 (-1.359)	-0.500 (-1.100)	-0.580 (-1.312)
Independent	1.867 (0.750)	1.737 (0.689)	1.830 (0.732)	1.819 (0.729)	1.821 (0.728)	1.577 (0.620)
Tenure	0.014 (0.465)	0.011 (0.347)	0.012 (0.394)	0.010 (0.332)	0.012 (0.422)	0.009 (0.307)
%Seats	0.038** (2.480)	0.020 (0.848)	0.037** (2.364)	0.037** (2.414)	0.037** (2.361)	0.076** (2.525)
Coalition	-0.464 (-0.531)	-0.532 (-0.608)	-0.490 (-0.561)	-0.491 (-0.561)	-0.486 (-0.554)	-0.405 (-0.463)
Recand	-0.397 (-0.837)	-0.225 (-0.506)	-0.185 (-0.421)	-0.168 (-0.365)	-0.179 (-0.408)	-0.179 (-0.405)
Same_party	0.820** (2.435)	0.802** (2.386)	0.839** (2.481)	0.833** (2.467)	0.842** (2.485)	0.828** (2.465)
%P65	0.117** (2.128)	0.123** (2.236)	0.120** (2.177)	0.121** (2.192)	0.119** (2.161)	0.124** (2.280)
Density	-0.694 (-0.258)	-0.778 (-0.299)	-0.612 (-0.229)	-0.621 (-0.234)	-0.594 (-0.223)	-1.023 (-0.392)
Election Year * Recand	0.841 (1.234)					
Margin of Victory		0.037* (1.839)				
Left * Margin of Victory		-0.043* (-1.903)				
New party			-0.122 (-0.158)		0.171 (0.167)	
New Mayor				0.015 (0.020)		
Left * New Party					-0.624 (-0.429)	
Number of effective parties						1.171 (1.453)
Observations	8,796	8,796	8,796	8,796	8,796	8,796
Municipalities	308	308	308	308	308	308
No. of instruments	276	277	276	276	277	276
AR(1), p-value	0.000	0.000	0.000	0.000	0.000	0.000
AR(2), p-value	0.485	0.465	0.469	0.467	0.467	0.468
Hansen, p-value	0.155	0.147	0.153	0.151	0.153	0.148
Diff Hansen_1, p-value	1.000	1.000	1.000	1.000	1.000	1.000
Diff Hansen_2, p-value	1.000	1.000	1.000	1.000	1.000	1.000

Sources: DGAL, CNE, IEPF, MTSS, INE and Markttest.

Notes: System-GMM estimations for dynamic panel-data models, including dummies for mandates. Sample period: 1979-2011. The dependent variable is the primary budget balance as a percentage of the 3-year moving average of effective revenues (without loans). Two-step results using robust standard errors corrected for finite samples. T-statistics are in parenthesis. Significance level at which the null hypothesis is rejected: ***, 1%, **, 5%, and *, 10%.

Table 6. Determinants of gross municipal debt (System-GMM)

VARIABLES	(1)	(2)	(3)	(4)	(5)	
Debt _{it-1}	0.931*** (16.142)	0.933*** (15.560)	0.930*** (15.886)	0.912*** (16.371)	0.864*** (15.247)	0.910*** (14.305)
Share_Inv _{it}	-0.062 (-0.588)	-0.076 (-0.712)	-0.013 (-0.156)	-0.076 (-0.696)	0.018 (0.240)	-0.051 (-0.460)
Share_Interest _{it}	3.511** (2.198)	3.374** (2.048)	3.726** (2.339)	3.812** (2.356)	4.914** (2.379)	4.500** (2.432)
Share_Own_Rev _{it}	0.160 (1.594)	0.168* (1.664)	0.136 (1.202)	0.168* (1.801)	0.276*** (2.994)	0.169 (1.617)
Year 2004	3.656*** (2.918)	3.298*** (2.741)	4.204*** (3.776)	3.231*** (2.652)	4.880*** (4.293)	4.161*** (3.600)
Year 2005	10.060*** (7.853)	9.440*** (7.744)	10.914*** (9.407)	9.412*** (7.144)	10.401*** (9.045)	10.761*** (8.936)
Year 2006	-0.582 (-0.295)	-1.233 (-0.656)	0.315 (0.185)	-1.043 (-0.544)	0.463 (0.269)	-0.246 (-0.130)
Year 2007	-5.543*** (-2.688)	-6.338*** (-2.913)	-4.435** (-2.388)	-5.832*** (-2.906)	-6.022*** (-3.006)	-5.816*** (-2.903)
Year 2008	-1.498 (-0.555)	-2.548 (-0.889)	-0.896 (-0.350)	-2.194 (-0.791)	-3.965 (-1.342)	-2.140 (-0.763)
Year 2009	13.365*** (6.571)	11.987*** (5.360)	14.387*** (6.775)	12.201*** (6.189)	11.594*** (6.005)	14.213*** (7.002)
Year 2010	1.752 (0.526)	0.094 (0.029)	3.145 (1.096)	0.804 (0.258)	4.653* (1.882)	3.817 (1.144)
Year 2011	-2.468 (-0.946)	-4.079 (-1.590)	-1.155 (-0.525)	-6.338** (-2.476)	-2.112 (-1.221)	-1.062 (-0.403)
Left	-10.844*** (-4.005)	-12.731*** (-4.792)	-9.550*** (-4.278)	-14.716*** (-4.891)	-10.173*** (-4.936)	
Tenure	-1.739* (-1.827)	-1.908* (-1.890)	-1.153 (-1.213)	-2.139** (-1.991)	-1.264 (-1.163)	-1.443* (-1.662)
%Seats	-0.108 (-1.454)	-0.104 (-1.392)	-0.108 (-1.533)	-0.101 (-1.443)	-0.097 (-1.240)	-0.111 (-1.543)
Coalition	0.019 (0.443)	0.028 (0.635)	0.008 (0.193)	0.041 (1.005)	0.024 (0.589)	0.000 (0.011)
Recand	-1.598 (-0.801)	-2.044 (-1.015)	-1.489 (-0.802)	-2.335 (-1.172)	-0.997 (-0.536)	-1.733 (-0.852)
Same_party	3.497 (0.975)	4.108 (1.093)	2.117 (0.649)	6.237 (1.613)	-3.507 (-0.453)	4.441 (1.231)
%P65	-1.587* (-1.931)	-1.612* (-1.918)	-1.551* (-1.883)	-1.899** (-2.249)	-1.191 (-1.475)	-1.827** (-2.136)
Density	0.094 (0.599)	0.117 (0.701)	0.032 (0.186)	0.181 (1.090)	0.168 (1.202)	0.059 (0.385)
Lic_new_construction		-0.351** (-2.236)				
Tourism			1.529 (1.054)			
Unemp				0.693** (2.447)		
% Area Urban					-0.188** (-2.356)	
Earnings						-0.011** (-2.097)

Observations	2,631	2,623	2,631	2,598	2,367	2,470
Municipalities	308	308	308	308	278	308
No. of instruments	298	299	269	299	258	306
AR(1), p-value	0.000118	0.000126	0.000119	0.000110	0.000700	0.000204
AR(2), p-value	0.780	0.796	0.772	0.152	0.100	0.743
Hansen, p-value	0.312	0.288	0.150	0.294	0.243	0.365
Diff Hansen_1, p-value	0.979	0.971	0.992	0.841	0.748	0.997
Diff Hansen_2, p-value	0.945	0.944	0.770	0.961	0.493	0.764

Sources: DGAL, CNE, IEPF, MTSS, INE and Markttest.

Notes: System-GMM estimations for dynamic panel-data models, including dummies for mandates. Sample period: 1979-2011. The dependent variable is the primary budget balance as a percentage of the 3-year moving average of effective revenues (without loans). Two-step results using robust standard errors corrected for finite samples. T-statistics are in parenthesis. Significance level at which the null hypothesis is rejected: ***, 1%; **, 5%, and *, 10%.

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