The Effects of Electoral Incentives on Fiscal Policy: Evidence from a Legislative Change at the Local Government Level[☆]

Linda Gonçalves Veiga
Universidade do Minho, Escola de Economia e Gestão & NIPE
linda@eeg.uminho.pt

Francisco José Veiga
Universidade do Minho, Escola de Economia e Gestão & NIPE
fjveiga@eeg.uminho.pt

Abstract

This paper analyzes how electoral incentives shape fiscal policy, focusing on the introduction of mayoral term limits in Portugal. Applying a difference-in-differences approach, we find evidence that when a municipality has a term-limited mayor, it experiences a fall in revenues and expenditures. The effect seems to be driven by lower effort of lame-duck mayors, relative to reelection-eligible ones, to implement new investments and to obtain conditional grants from the central government, especially in election years. Although lame ducks are less opportunistic in general, the results suggest that opportunism may not decrease in municipalities whose term-limited mayors resign before the end of their terms and are replaced by their (eligible) vice-mayors.

Keywords:

Electoral incentives, Term limits, Fiscal policy, Local governments, Legislative change

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1. Introduction

The introduction of term limits for public officials is an unusual event in electoral system change that provides a unique testing ground to study the incentive effects of elections on economic policy choices. By reducing rents from holding office, term limits may increase politicians' incentives to act on behalf of general welfare and not pander to public opinion (Smart and Sturm, 2013). However, they may also reduce reputation-building efforts and the accumulation of experience by incumbent politicians, while diminishing the power of elections to scrutinize competent policymakers (Alt et al., 2011; Besley and Case, 1995; Bonfiglioli and Gancia, 2013). The controversy regarding the impacts of term limits and the focus of most of the existing analyses on the US reality render special importance to the study of how term limits affect electoral incentives and fiscal policy choices in other countries with different institutional, economic and social settings.

This paper studies the effects of electoral incentives on the management of local fiscal policy, focusing on the recent introduction of term limits at the municipal level in Portugal. According to a law approved in 2005, mayors cannot serve for more than three consecutive terms in the same municipality. Despite the fact that 52% of the Portuguese mayors were prevented from running for reelection when the limit became binding in the 2013 local elections, the impact of this institutional change in politicians' behavior is clearly under-researched. The scarcity of legislative changes such as these and the fact that, in the published literature for countries other than the US, the impact of term limits on local politicians' incentives have only been studied for Brazil and Italy renders additional relevance to the analysis of the Portuguese case.

The empirical analysis applies a difference-in-differences (DD) framework to study the effects of the imposition of term limits (through a law approved in the national parliament) on fiscal policy choices at the local level. This framework, in which the treatment group is comprised of municipalities with term-limited (lame-duck) mayors, while those with reelection-eligible mayors are in the control group, is used to check whether differences in politicians' electoral incentives influence fiscal policy choices or not. Concretely, we check if term-limited mayors manage municipal finances differently from reelection-eligible

mayors. Then, extended DD models are used to test the existence of political budget cycles and the hypotheses that term-limited mayors are less opportunistic than reelection-eligible mayors are, and that all lame ducks are not equally opportunistic. We use a comprehensive dataset comprising all 308 Portuguese municipalities over four 4-year terms (from 1998 to 2013). The dataset includes the full public accounts of municipalities and detailed information describing mayors and socio-economic and demographic characteristics of municipalities.

Although our empirical analysis focuses on the Portuguese experience with mayoral term limits, our results are relevant for other countries as well. Term limits change the incentives faced by incumbent mayors which, according to our results, influence their fiscal policy decisions. Although the magnitude of the effects may differ, depending on local circumstances, legislators of other countries contemplating the possibility of introducing binding term limits to local office-holders can extract useful information from our study. Namely, they learn that, while reducing the incentives to implement opportunistic fiscal policies, term limits also induce lower effort by term-limited mayors, especially if they do not run for other positions or leave office prior to the end of the term in favor of their deputy-mayors. The external validity of our study also derives from the fact that we are able to analyze the fiscal policy decisions of various types of term-limited mayors (resigning mayors, candidates to other offices, true lame ducks). We believe that our results may help policymakers of other countries design term-limit laws which lead to greater improvements in fiscal policy management than in the Portuguese case.

2. Literature review

A fundamental question in political economy is whether the possibility of reelection affects policy choices. By making officials accountable, elections induce them to act in the public interest, reducing moral-hazard (Barro, 1973). If incumbents care about reelection prospects, they are keen to develop a reputation that enhances their reelection chances. Additionally, elections allow the electorate to remove from office politicians who do not behave according to the general interest (Ferejohn, 1986), therefore creating an adverse-

selection correction effect. However, the desire to win elections may lead politicians to adopt populist measures to win votes generating an electoral cycle in economic policy.[1] Furthermore, lobbyist capture may increase with additional terms in office (Ehrenhalt, 1991; Fund, 1990).

The distortionary influence of the vote motive on public policy gave rise to an extensive literature on the so called political budget cycle (PBC).[2] Based on the hypothesis that the incumbent's level of competency is private information, Rogoff and Sibert (1988) and Rogoff (1990) developed rational expectations models in which opportunistic incumbents use fiscal policy to signal their competency prior to elections. This is done by increasing seignorage tax in order to signal that less revenue is needed to provide a given level of government services (Rogoff and Sibert, 1988),[3] or by increasing government consumption spending and/or reducing taxes that are immediately visible by the electorate, while reducing government investment (Rogoff, 1990). In these models, more competent politicians distort public policy by more than less competent ones to separate themselves, and increase their chances of re-election. More recently, political budget cycles models of career concerns where developed (Shi and Svensson, 2006; Alt and Lassen, 2006), in which all politicians, regardless of their competency levels, have an incentive to increase the supply of public goods prior to elections to boost their re-election prospects. The strength of the incentives depend on the rents that can be extracted while in office, and on fiscal policy transparency. Regardless of the theoretical approach followed, binding term limits reduce the incentive to generate PBCs.

The rise in public debt levels and the sovereign debt crisis faced by several countries increased interest in studying the effects of constitutional design on public finance. Bonfiglioli and Gancia (2013) present a rational model of electoral accountability to study the determinants of political myopia. Despite the political myopia resulting from reelection concerns, they find that ruling out the possibility of reelection reduces politicians' effort and removes the possibility of retaining the best performing officials. They conclude that holding elections is better than having a one-term limit, unless rents from office are very large and differences in ability are low. Similarly, Smart and Sturm (2013) developed a

political agency model to show that, despite the accountability effect of elections, term limits can be in the interest of the electorate. By reducing the value of office, term limits induce incumbents to implement policies that are closer to voters' preferences, enabling them to reelect higher quality agents.

Empirical studies analyzing the effects of term limits are relatively scarce, and most of them focus on American states. For US state governors, most studies found systematic differences in state fiscal policies depending on whether governors are subject to a binding term limitation or allowed to stand for reelection. Taxes and expenditures tend to be higher, while income growth tends to be lower, in states imposing term limits, because lame ducks care less about building political reputation (Alt et al., 2011; Besley and Case, 1995, 2003). Furthermore, accountability and competence effects of elections on governors' performance are different: Economic growth is higher and taxes, spending and borrowing costs are lower under reelection-eligible incumbents than under lame ducks (accountability effect), and under reelected incumbents than under first-term incumbents (competence effect), all else equal. The two effects are of similar magnitude, and in the case of two-term limits, they can cancel each other out (Alt et al., 2011).[4]

Also for the US states, several studies investigated whether term limits reduce electoral manipulations of fiscal variables and pork-barrel policies. For general expenditure, gubernatorial term limits do not appear to significantly affect the magnitude of the political business cycles (Rose, 2006). This finding suggests that governors care for their reputation, probably because they intend to run for higher offices or want to help their party's candidate. However, for environmental policy, when the electorate is pro-environment, lame ducks seem to spend less on the environment than reelection-eligible incumbents (List and Sturm, 2006). Finally, there is evidence that legislators bring less pork provision (fiscal transfers) to their districts if they cannot run for another term (Aidt and Shvets, 2012; Bernhardt et al., 2004).

Studies focusing on term limits at the local government level are scarce. To the best of our knowledge, only the Brazilian, Italian and Portuguese cases have been studied. For Brazilian municipalities, the empirical evidence suggests that mayors that can run for

another term are less corrupt than those that cannot (Ferraz and Finan, 2011), but adopt more opportunistic policies (Klein and Sakurai, 2015). Additionally, the co-existance of term limits and of weak attachment of Brazilian mayors to parties, compromises accountability and influences the incentives and careers of politicians, increasing political volatility and hindering the legitimacy of parties and elections (Klasnja and Titiunik, 2017). In Italian municipalities, term-limited mayors set lower property tax rates than reelection-eligible incumbents during the term, but a higher rate before the elections (Padovano and Petrarca, 2014). For Portugal, preliminary research suggests that mayors who cannot stand for another term in office choose lower current expenditures and property tax rates relative to reelection-eligible incumbents (Lopes da Fonseca, 2016).[5]

In sum, the introduction of term limits provides a unique opportunity to analyze the effects of electoral incentives on fiscal policy choices. We believe that our research on the Portuguese case can move forward the literature on the topic in several ways. First, the effects of term limits have been studied mainly at the state level for the US. Other countries' experiences with term limits, especially at the local/municipal level, are under-researched and may provide useful insights for countries with similar institutional systems. While in the US, states decide on the adoption of term limits, and term-limit laws vary from state to state, in Portugal the institutional reform was approved by the national parliament (exogenously imposed), and the same law applies to all local governments, rendering the estimation of the term-limit treatment effect less problematic. Second, unlike most previous research, we take into account the effects of incumbents' experience on fiscal policy choices. Third, we have built an extensive dataset on local public finances that goes beyond major aggregates, and includes the socio-economic characteristics of municipalities, and detailed information on mayors, therefore allowing for a thorough study of the effects of term limits on municipal fiscal variables. Finally, we are able to disentangle various types of term-limited mayors (resigning mayors, candidates to other offices, true lame ducks) which provides an opportunity to analyze how differences in electoral incentives may lead to heterogeneous local fiscal policy management among term-limited mayors in election years.

3. Institutional setting and testable hypotheses

This section starts by describing the institutional setting in which Portuguese municipalities operate. Then, building on the literature surveyed in section 2, and taking the specific incentives of Portuguese mayors into account, testable hypotheses regarding the effects of binding term limits on the management of municipal finances are derived.

3.1. Institutional setting

Portugal is a unitary state,[6] with 308 municipalities (278 of which are in the mainland), all subject to the same legal and institutional framework. Municipalities have a deliberative branch (the Municipal Assembly) and an executive branch (the Town Council). More than half of the Municipal Assembly's members are elected directly by voters, and the remaining members are the presidents of the councils of the parishes that belong to the municipality (who are also elected directly by voters). The mayor is the president of the Town Council and has a prominent role in the executive branch. All members of the Town Council are elected directly by voters, who vote on party or independent closed lists. The first candidate of the list receiving most votes becomes the mayor. Elections for the Municipal Assembly and the Town Council were always held on the same day, and took place in December until 2001, and subsequently in October. The first elections after the reestablishment of democracy in 1974 were held in December 1976. Terms were three years long until 1985, when they were extended to four years.

Given the greater proximity between politicians and voters at the local level, the candidates frequently matter more than their parties for how people vote. In fact, several mayors who had problems with their initial supporting parties, ran in the lists of different parties (or as independent) in the subsequent elections, and managed to win again.[7] Additionally, Portuguese mayors enjoy considerable personal incumbency advantage,[8] as Aidt, Veiga, and Veiga (2011) show that the winning margin of the mayor's party over the main opposition party is about 8 percentage points higher when the mayor runs for reelection than when her party has a new candidate. This result was confirmed by Lopes da Fonseca (2017), who concluded that returns to incumbency in Portuguese local elections are positive and statistically significant, and that the incumbency advantage

is personal rather than partisan. Thus, the parties' national directions seldom confront well-established mayors.[9]

Until the 2013 local elections, there were no limits on the number of consecutive terms a mayor could serve. Although article n. 118 of the Portuguese Constitution establishes the principle of the renewal of elected executives, the interpretation was that regular elections were enough to guarantee it, and previous proposals for the imposition of term limits were rejected with the argument that they violated the constitutional rights of those who could not stand for reelection. But, in practice, most mayors were reelected, and many spent long periods in power.[10] Very long tenures of mayors generated the feeling that regular elections were not enough to guarantee turnover, and the 2004 constitutional revision established the possibility of introducing term limits to elected executive officials. Then, after March 2005, proposals for a law introducing term limits were presented by the government and by the main opposition parties. Following some negotiation, Law n. 46/2005 was approved in July 2005, imposing a three-term limit to mayors and parish presidents.[11]

The law came into effect in January 2006, but a transitory provision allowed all mayors to run for reelection in 2009. Thus, the law only became binding in the 2013 elections, forbidding 160 mayors from running for reelection in the same municipality. Of these, 82 belonged to the center-right Social Democratic Party (PPD-PSD) or a coalition of PPD-PSD with the Popular Party, 59 to the Socialist Party, 13 to the Communist Party, one to the Left Block, and five were independent.[12] Of the 148 reelection-eligible mayors, 87 were in their first term, and 61 were in the second.

Although many term-limited mayors remained in office until the end of their terms and did not run for further offices in 2013 (the 61 mayors henceforth referred to as true lame ducks), more than half behaved differently. Twenty-six mayors resigned before the end of their terms, being replaced by their vice-mayors, most of whom ran for mayor in the next elections.[13] Seventy-five mayors, including seven of the resigning mayors, ran for president of the Municipal Assembly. Finally, ten term-limited mayors ran for mayor in a different municipality, six of whom were elected.

Given that 52% of all mayors could not run for reelection in 2013, this legislative reform led to a significant turnover of mayors, and may have had a strong impact on local fiscal policy choices. Mayors are the key figures of the Town Councils. They decide to which councilors they delegate executive competencies, and have managerial autonomy in matters such as human resource management, project approval, and the awarding of construction contracts. Usually, only councilors of the mayor's party have delegated competencies. Although the Municipal Assembly monitors the activity of the Town Council, when the same party dominates both chambers, the mayor's proposals are almost automatically approved. In our sample, this happens in 78% of the observations. Therefore, mayors have extensive decision-making autonomy in the allocation of resources. Municipalities intervene in several areas, namely in water treatment and distribution, sewage, urban transportation, housing, healthcare, education, heritage, culture, leisure and sports, spatial planning and urban design, defense of the environment, and protection of the civilian population.

The capacity of municipalities to generate own revenues has been increasing over time, but transfers from the central government and the European Union still represented 43.3% of total revenues in 2013, being above 50% for 210 of the 308 municipalities. Therefore, most Portuguese municipalities are highly dependent on funds transfered from the central government. More than half of these transfers are unconditional (formula-determined). But, conditional grants, which involve submitting projects and lobbying for their approval, still account for almost 20% of total municipal revenues (excluding loans). Thus, lobbying for transfers is an important activity for most mayors and transfers can be used strategically by the central government to win elections.[14] Municipalities generate own revenues mainly from local taxes and fees, and from the sale of goods and services. Local tax rates are proposed by the Town Council to the Municipal Assembly on a yearly basis, and are subject to the boundaries imposed by the tax law. Municipalities can also obtain loans, according to limits established by the local public finance law and other regulations.

3.2. Testable hypotheses

A critical issue regarding the effects of binding term limits on the management of municipal finances is how those limits change mayors' incentives. Not being able to stand for reelection, term-limited mayors are less accountable to voters, which may induce lower effort and, consequently, worse performance, as predicted in the model of Bonfiglioli and Gancia (2013) and as shown in several empirical results focusing on US state governors (Alt et al., 2011; Besley and Case, 1995). Although several Portuguese term-limited mayors ran for other local offices in the 2013 elections, being still accountable to voters, many were true lame ducks, simply going away in the end of their mandates. Thus, on average, accountability concerns were lower for term-limited mayors, possibly inducing them to exert lower effort (become lazy) over the entire mandate. This leads to our first testable hypothesis:

Hypothesis 1: Term-limited mayors behave differently from reelection-eligible mayors, namely by exerting lower effort.

Not being worried with reelection, term-limited mayors are also expected to resort less to opportunistic policies, as shown by Klein and Sakurai (2015) for Brazil. Although a term-limited mayor may run for other offices or be worried with her party's result, Veiga and Veiga (2007) show that Portuguese mayors behave more opportunistically when they run for reelection than when they do not. Thus, we expect that the pre-electoral manipulation of local finances (through higher expenditures or lower local taxes),[15] is smaller when the mayor cannot run for reelection. Thus, the second hypothesis is:

Hypothesis 2: Term-limited mayors are less opportunistic than reelection-eligible ones.

As shown by Besley and Case (1995), term-limited policymakers are not all alike, as some may run for other offices, and political parties do not cease to exist. This implies that political reputation may still be important for some lame ducks, originating differences in behavior among them. Heterogeneous behavior is more likely shortly before elections, due to differences in electoral incentives among term-limited mayors. In the concrete case of the 2013 Portuguese municipal elections, and as explained above, there were essentially

three different types of term-limited mayors: the true lame ducks, the resigning mayors, and those that ran for further offices. The resigning mayors were replaced by their deputy-mayors, most of whom ran for mayor in the 2013 elections. Being less known to voters than the mayors they replaced, and having a short period to enjoy incumbency advantage, they may have felt greater need to manipulate fiscal policy to boost their election chances.[16] Furthermore, mayors who ran for other offices also had greater incentives to implement electoral policies than the true lame ducks. This leads to our third hypothesis:

Hypothesis 3: Term-limited mayors are not all alike; true lame ducks are the least opportunistic.

4. Data and Econometric models

To study the effects of binding term limits on local fiscal policy, a large and detailed panel dataset was built, composed of annual data on fiscal, economic, political and socio-economic variables for all 308 Portuguese municipalities, from 1998 to 2013. Data on local finances were collected from the Directorate General of Local Authorities (DGAL)'s annual publication Municipal Finances (*Finanças Municipais*) and from DGAL's website (www.portalautarquico.pt). Data on election results and on mayors' characteristics and terms in office was provided by the Ministry of Internal Affairs, economic and demographic data was obtained from the National Statistics Institute (INE), and socio-economic indicators from the *Pordata* database and the Marktest's *Sales Index* database. Descriptive statistics are presented in Table A.2 in the Online Appendix.

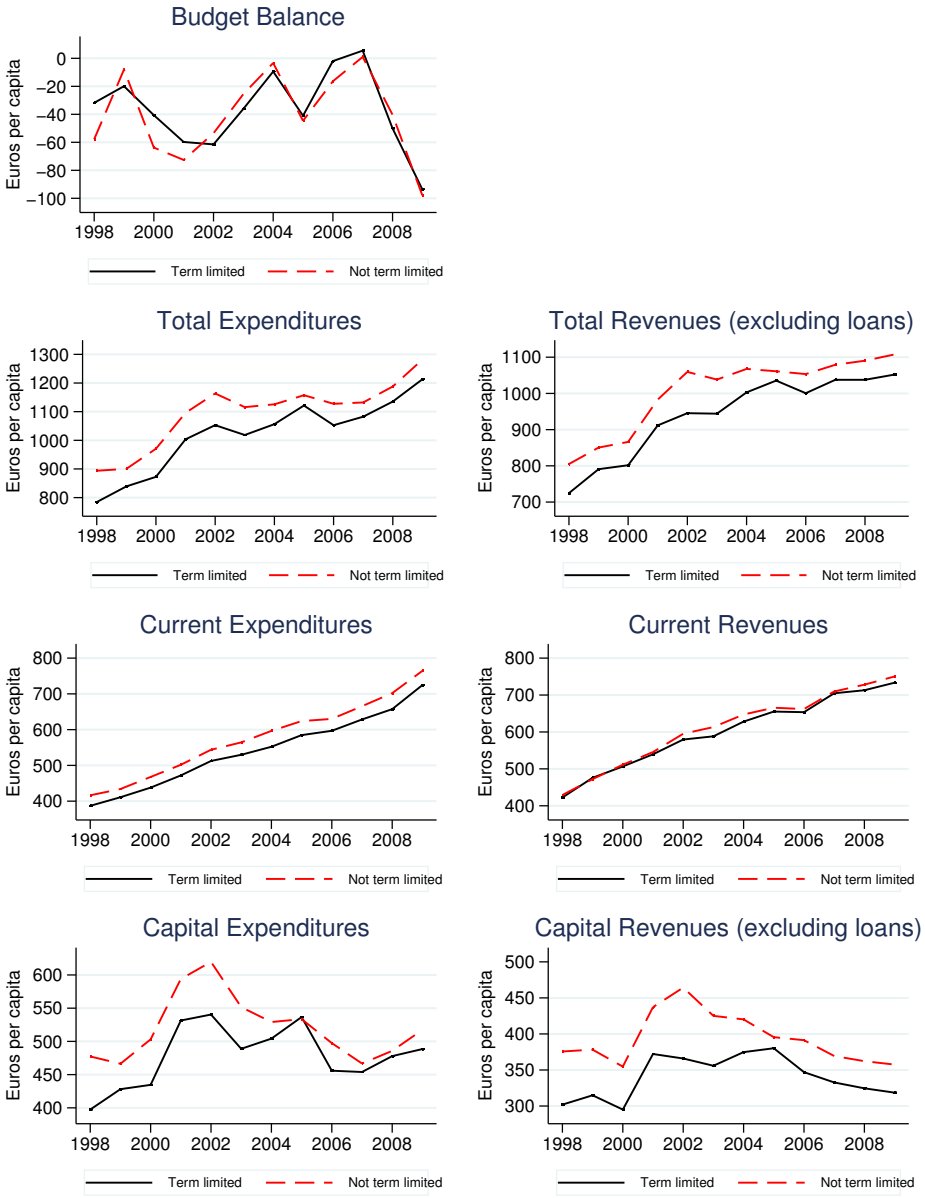
Panel data models are estimated for the 308 Portuguese municipalities, covering the period from 1998 to 2013. This time period covers the four municipal terms ending in the elections of 2001, 2005, 2009, and 2013. Given that the law restricting the number of consecutive terms in office entered into force in the beginning of 2006, the sample period includes two terms before and two terms after that event. But, since the term limits became binding in the 2013 elections, only the last 4-year term in our sample has term-limited mayors who cannot run for reelection.

4.1. Baseline difference-in-differences model

The effects of the introduction of binding term limits on the behavior of Portuguese mayors are assessed in a difference-in-differences (DD) framework, over the entire sample period of 1998 to 2013. Since 160 mayors were lame ducks in their 2010-2013 terms, while the other 148 were reelection-eligible, we can consider the municipalities of the term-limited mayors as the treatment group, and those of the reelection-eligible ones as the control group.

This DD framework requires that treated and control municipalities exhibit similar trends before term limits became binding (in the pre-treatment period). Figure 1 shows the paths of the averages of the main fiscal variables in municipalities with term-limited (treated) and reelection-eligible (control) mayors, until 2009. The "common trends hypothesis", central to the DD framework, seems to be valid for total and current expenditures and revenues, as the lines for the two groups of municipalities exhibit similar behavior. The means of the budget balance seem to follow a common trend after 2002. Treated and control municipalities also have somewhat similar trends for capital expenditures and revenues, but there are several years in which they behaved differently. Being essentially related to investment projects, which are rarely evenly distributed over time, capital expenditures and revenues are more volatile and do not exhibit a nice and regular upward trend like current expenditures and revenues. This may help explain why treated and control municipalities do not always exhibit a similar behavior in these components. In fact, there is also considerable variation within each of these groups.

Additional tests of the validity of the DD framework consisted on checking, for each fiscal variable, if treated municipalities behaved differently from the control ones in any year of the pre-treatment period, or if they followed a different linear trend. This does not seem to have happened to any of the seven fiscal variables considered above (see Figures A.1 and A.2 in the Online Appendix), which provides further support for the validity of our DD framework. The lack of statistical significance of the annual dummies for the treated municipalities in the period 2006-2009 also suggests that the management of local finances by the mayors that would be term-limited in 2010-2013 did not significantly



Note: Each line represents the average for each group of municipalities.
Source: Own calculations using data from DGAL.

Figure 1: Trends in the main fiscal variables (1998-2009)

change immediately after the approval of the law imposing term limits (due to eventual anticipation effects).[17]

Although most of the above-mentioned checks provide support for the "common trends hypothesis", the occasional differences in the means of capital expenditures and revenues shown in Figure 1 may cast doubts on its applicability to some fiscal variables. Thus,

we opt to be extra cautious by controlling for municipal specific trends. According to Angrist and Pischke (2009, 308-323), this allows treatment and control municipalities to follow different trends in a limited but potentially relevant way.

The baseline DD model, used to test the hypothesis that, on average, term-limited mayors behave differently (exert lower effort) from reelection-eligible ones (Hypothesis 1), can be summarized as follows:

$$ln(f_{it}) = \alpha + \delta TL_{it} + \phi Term1or2_{it} + \mathbf{X}'_{it}\gamma + \mu_i + \lambda_t + \theta_i.t + \varepsilon_{it}. \quad (1)$$

$$i = 1, ..., 308 \qquad t = 1998, ..., 2013$$

where $ln(f_{it})$ is a fiscal variable in municipality i in year t, TL_{it} is a dummy variable that equals 1 between 2010 and 2013 for the municipalities that have term-limited mayors (with 3 or more consecutive terms in office), and equals zero otherwise, and the parameter δ measures the treatment effect. Regarding the control variables, $Term1or2_{it}$ is a dummy variable that equals one for first- and second-term mayors, to account for mayors' experience, and $\mathbf{X}_{it}$ is a vector of other control variables. Finally, μ_i are the specific effects of municipality i, λ_t are time effects (year dummies),[18] $\theta_i.t$ are municipal specific time trends, and ε_{it} is the error term. Vector $\mathbf{X}_{it}$ includes the following set of control variables that may affect local finances:[19]

- Left-wing mayor and Independent mayor: these dummy variables control for possible ideological effects on local fiscal variables.
- Majority: dummy variable that takes the value of one when the mayor's party has, simultaneously, majorities in the Town Council and in the Municipal Assembly.
- Unemployment rate (deviation from HP trend): this variable controls for the cyclical component of a municipality's economic performance.
- A set of four variables characterizing mayors: age, a dummy variable for female mayors, a dummy for mayors who live in the municipality, and a dummy for mayors who were born in the municipality.

When studying the effects of US gubernatorial term limits, Alt et al. (2011) highlighted that it is necessary to disentangle accountability effects of elections from competence effects, which are associated to tenure. They suggest that differences in performance by reelection-eligible and term-limited incumbents, holding tenure in office constant, identify accountability effects. Competence/experience effects are identified by differences in performance by incumbents with different terms in office, holding term-limit status constant. Since the omitted (base) category of mayors in equation 1 is that for reelection-eligible mayors who have served three or more consecutive terms in office, a statistically significant δ would be consistent with accountability effects of elections, that is, with term-limited mayors behaving differently from equally experienced reelection-eligible mayors. Likewise, a statistically significant ϕ would indicate experience effects, that is, first- or second-term mayors behaving differently from their more experienced and also reelection-eligible colleagues (the base category).

4.2. Difference-in-differences model for political budget cycles

A modified version of the DD model of equation (1) is used to investigate how binding term limits affect the magnitude of political budget cycles (Rogoff, 1990; Shi and Svensson, 2006). Based on the evidence of opportunistic manipulation of local public finances in Portugal (Aidt, Veiga, and Veiga, 2011), we check if the degree of opportunism decreases when term limits are binding. More concretely, we start by testing the hypothesis that mayors who have served three or more consecutive terms in office are less opportunistic when they are term-limited than when they are reelection-eligible (Hypothesis 2). For that purpose, we add to equation (1) an election-year dummy,[20] and its interaction with the dummy variables for terms in office. The estimated model is now summarized as:

$$\begin{aligned} ln(f_{it}) =& \alpha + \delta TL_{it} + \beta_1 ELY_{it} + \beta_2 (ELY_{it} * TL_{it}) + \beta_3 Term1or2_{it} + \\ & \beta_4 (ELY_{it} * Term1or2_{it}) + \mathbf{X}'_{it}\gamma + \mu_i + \omega_t + \theta_i.t + \varepsilon_{it}. \end{aligned} \tag{2}$$

$$i = 1, ..., 308 \qquad t = 1998, ..., 2013$$

where ELY_{it} is a dummy variable that takes the value of 1 in municipal election years (2001, 2005, 2009 and 2013), and equals zero otherwise, ω_t are time effects (mandate dummies),[21] and the remaining variables and parameters are as defined above.

The category left out of equation (2) is, again, that of reelection-eligible mayors who have served three or more consecutive terms in office. Thus, a statistically significant β_2 would indicate that term limits matter for the degree of opportunism. The hypothesis that term-limited mayors are less opportunistic than reelection-eligible ones (Hypothesis 2) would be consistent with $\beta_2 < 0$ for municipal expenditures, and $\beta_2 > 0$ for municipal revenues (except for loans and transfers). It is worth noting that a model which did not include $Term1or2_{it}$ and $(ELY_{it} * Term1or2_{it})$ would simply compare term-limited mayors with all reelection-eligible mayors, without controlling for the latter's experience. Thus, β_2 would reflect, not only the effect of term limits on opportunism, but also differences in opportunism related to experience.

4.3. Model for political budget cycles with heterogeneous incentives

An extension of the model of equation (2) is used to test Hypothesis 3, which accounts for eventual heterogeneous electoral incentives of term-limited mayors, due to the differences in behavior regarding the 2013 municipal elections described in Section 3. Some mayors resigned before the end of their terms, eventually due to low motivation or popularity, and handed over the leadership to someone they trusted (their vice-mayors) as a way of increasing their party's likelihood of success at the upcoming election. Mayors who ran for further political office may also have behaved differently from true lame ducks, as they were aware that their actions would have reputational consequences, and hence determine the likelihood of winning subsequent elections.

In order to account for the effects of these differences in behavior among mayors,[22] we start by creating a categorical variable ($ResOther$) which reflects the three options available to a term-limited mayor: it takes the value of one for 21 mayors who resigned before the end of their terms; equals two for 78 mayors who completed their terms and then ran for other political offices; and equals zero otherwise (for the 61 true lame ducks). Then, we expand the model of equation (2) by including interactions of $ResOther$ with TL, ELY

and $TL * ELY$. This allows us to analyze the degree of opportunism in municipalities ran by true lame ducks ($ResOther = 0$), by term-limited mayors who resigned before the end of their terms ($ResOther = 1$), or ran for further political offices ($ResOther = 2$).

One problem with the estimation of this extended model for PBCs is that *ResOther* may be affected by the existence of binding term limits. In fact, the numbers of resigning mayors and of those running for other offices were considerably higher in the term leading to the 2013 elections than in the previous terms, and most of those mayors were term-limited. Thus, it seems clear that binding term limits influenced those decisions, which implies that *ResOther* is endogenous and that OLS or fixed effects estimations would lead to biased coefficients. To overcome this problem, we estimate, by Maximum Likelihood, a simultaneous equation model which combines a multinomial probit for *ResOther* with a linear regression for the fiscal dependent variable.[23] In the multinomial probit model for *ResOther* we include as independent variables the explanatory variables of the model for the fiscal variable,[24] plus two additional variables (instruments) which are expected to influence a mayor's decision to resign or to run for another office, but are not affected by TL: the share of votes received by the mayor's party in the previous elections; and, the number of terms in office of the incumbent mayor.[25]

5. Empirical results

This section presents the results of panel data fixed effects and simultaneous equations estimations, with standard errors clustered by municipality (in order to account for serial correlation), performed on panels comprising all Portuguese municipalities. We use a difference-in-differences approach to assess accountability and experience effects of elections, and to check if being eligible for reelection or not affects a mayor's opportunistic manipulation of local finances in election years.

5.1. Baseline difference-in-differences models

The first step of the empirical analysis uses a difference-in-differences framework (see equation 1) to test for the presence of accountability effects of elections, that is, to test the hypothesis that term-limited mayors behave differently from reelection-eligible ones.

(Hypothesis 1). More concretely, we check if lame ducks exert lower effort than reelection-eligible mayors. In order to economize on space, we only report in Table 1 the results for the dummy variables related to terms in office.[26]

Table 1: Difference-in-Differences Models for Accountability and Experience

	Budget Balance	Total Expenditures	Total Revenues (excl. loans)	Total Capital Expenditures	Own Revenues	Capital Grants (non-formula)
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Term-limited mayor (TL)	6.037	-0.057**	-0.042**	-0.118**	-0.052*	-0.222*
	(0.279)	(-2.405)	(-2.238)	(-2.466)	(-1.871)	(-1.747)
First- or second term mayor	-19.174**	0.016	-0.002	0.015	-0.024	0.038
	(-2.161)	(1.443)	(-0.194)	(0.686)	(-1.648)	(0.654)
Observations	4746	4748	4748	4748	4748	4730
R-squared	0.136	0.479	0.591	0.349	0.626	0.258

Notes: All regressions include municipal and year fixed effects, municipal-specific time trends, and the full set of control variables. The budget balance is measured in real euros (of 2015) per capita and the remaining fiscal variables are measured in logs of real euros per capita. Due to missing values for one municipality, the estimations cover 307 municipalities. T-statistics, based on robust standard errors, clustered by municipality, in parentheses. Significance level: *** p<0.01, ** p<0.05, * p.<0.10.

The results for the main fiscal aggregates (budget balance,[27] total expenditures, and total revenues excluding loans) are shown in the first three columns of Table 1. No significant differences in average budget balances between term-limited and reelection-eligible mayors seem to exist, as the dummy variable for term-limited mayors (TL) is not statistically significant (column 1). However, term-limited mayors have, on average, 5.7% lower total expenditures (column 2) and 4.2% lower total revenues excluding loans (column 3) than reelection-eligible mayors. The lower total expenditures are mainly explained by lower capital expenditures (column 4), of which investment is the main component. The lower total average revenues of term-limited mayors seem to result from lower own revenues (column 5) and non-formula capital transfers from the central government (column 6).[28] Overall, the results of Table 1 seem to provide support for Hypothesis 1, as they suggest that lame ducks invest relatively less than reelection-eligible mayors and make a smaller effort to negotiate with the central government capital grants beyond those that result from tax sharing and are formula determined. However, as will be shown below (in Table

2), the relatively lower level of investment by mayors who are stepping down occurs only in the election year, due to opportunistic measures adopted by reelection-eligible mayors, but not by lame ducks. Regarding experience effects, there is evidence of lower average budget balances (or of higher deficits) in municipalities run by less experienced mayors,[29] but experience does not seem to matter for the other fiscal variables.[30]

5.2. Difference-in-differences models for Political Budget Cycles

In order to check if term limits affect the opportunistic manipulation of local finances in election years, we estimate the extended DD model of equation (2), which interacts an election-year dummy variable (ELY) with dummy variables for municipalities with term-limited mayors (TL) and with less experienced ($Term1or2$) reelection-eligible mayors. Table 2 shows the results obtained for the main fiscal aggregates. The estimated marginal effects of the *Election Year* for the base category, term-limited and less experienced mayors are reported in the lower part of the table.

As can be seen from Table 2, in this extended version of the DD model of equation (1), the dummy variable for term-limited mayors is never statistically significant. Therefore, during non-election years, lame-ducks seem to behave similarly to re-election elegible mayors. Consistent with the evidence for PBCs in Portugal found in previous studies (Aidt, Veiga, and Veiga, 2011; Baleiras and Costa, 2004), budget balances are lower (or deficits are higher), and total expenditures are higher, for the reference category of experienced reelection-eligible mayors, in election years than in the remaining years of the electoral cycle.[31] Higher total revenues (excluding loans) in election years may seem somewhat surprising, but the fact that they increase less than expenditures (3.1 vs. 9.9 percent), is consistent with the adoption of opportunistic measures that deteriorate the budget balance. It is also worth noting that the rise in revenues results from the tendency of the central government to increase the global amount of grants in election years. That is, as found by Veiga and Pinho (2007), grants are managed opportunistically by the central government. In fact, when formula grants are excluded from total revenues (column 4), the election year effect on the latter disappears.

The penultimate row of Table 2 reports the estimated marginal effects of the election

Table 2: Difference-in-Differences (DD) Models for Political Budget Cycles

	Budget Balance	Total Expenditures	Total Revenues (excl. loans)	Total Revenues (excl. loans and formula grants)
VARIABLES	(1)	(2)	(3)	(4)
Election year	-77.702***	0.099***	0.031***	0.004
	(-6.502)	(8.315)	(3.657)	(0.220)
Term-limited mayor (TL)	1.737	-0.035	-0.024	-0.047
	(0.078)	(-1.460)	(-1.251)	(-1.216)
Election year * Term-limited mayor	1.708	-0.105***	-0.109***	-0.089***
	(0.073)	(-4.890)	(-8.655)	(-3.769)
First- or second-term mayor	-27.069***	0.029**	0.004	0.024
	(-2.914)	(2.381)	(0.358)	(1.248)
Election year * First- or second-term mayor	28.535**	-0.038***	-0.012	-0.012
	(2.206)	(-3.038)	(-1.363)	(-0.695)
Observations	4746	4748	4748	4746
R-squared	0.119	0.445	0.556	0.372
Marginal effects of Election year				
Base category (experienced eligible mayors)	-77.702***	0.099***	0.031***	0.004
	(-6.502)	(8.315)	(3.657)	(0.220)
Term-limited mayors	-75.994***	-0.006	-0.079***	-0.085***
	(-3.566)	(-0.325)	(-7.606)	(-4.473)
First- or second-term mayors	-49.167***	0.061***	0.019***	-0.008
	(-4.915)	(7.131)	(3.002)	(-0.590)

Notes: All regressions include municipal and term fixed effects, municipal-specific time trends, and the full set of control variables. The budget balance is measured in real euros (of 2015) per capita and the remaining fiscal variables are measured in logs of real euros per capita. Due to missing values for 1 municipality, the estimations cover 307 municipalities. T-statistics, based on robust standard errors, clustered by municipality, in parentheses. Significance level: *** p<0.01, ** p<0.05, * p.<0.10.

year for term-limited mayors.[32] The latter cut budget balances slightly less than experienced reelection-eligible mayors (the reference category), do not increase expenditures, and reduce revenues in election years. As will be shown below (in Table 3), the reduction in revenues is primarily due to a reduction in non-formula (conditional) grants received from the central government, and not to opportunistic behavior of term-limited mayors. The last row of Table 2 shows the marginal effects of *Election year* for less experienced

(first- or second-term) reelection-eligible mayors. These seem to be less opportunistic than their more experienced and also reelection-eligible colleagues, inducing smaller election-year reductions in budget balances and increases expenditures. Overall, the results are consistent with Hypothesis 2, as term-limited mayors behave less opportunistically than also experienced reelection-eligible mayors.

Table 3 reports the results for expenditure and revenue components. Expenditures on employees and on investment significantly increase during election years in the municipalities run by experienced reelection-eligible mayors (the reference category). Although fiscal revenues are reduced in elections years, they are compensated by increases in non-formula (conditional) grants received from the central government. These may result from greater effort or greater political ability and connections of reelection-eligible experienced mayors, or from the above-referred opportunistic management of grants by the central government.

The marginal effects of *Election year* are quite different for the municipalities of term-limited mayors. First, there is a reduction in the compensation of employees. Second, there are no significant election-year effects on investment expenditures and fiscal revenues. Third, there is a reduction in non-formula (conditional) grants from the central government, which helps explain the reduction in total revenues found in Table 2. This may result from lower effort of these mayors, expressed in a smaller number of applications for funding and/or weaker lobbying at the central government. It is also possible that the central government discriminates against municipalities with term-limited mayors when allocating grants given that it expects lower electoral returns. Thus, binding term limits seem to affect the behavior of mayors, eliminating the strategic manipulation of wages, investment, and fiscal revenues to woo the electorate, and the effort to obtain grants from the central government, providing further support to Hypothesis 2.

As indicated by the results shown in Tables 2 and 3, less experienced reelection-eligible mayors seem to be less opportunistic than their more experienced and also reelection-eligible colleagues. Concretely, they increase expenditures and reduce fiscal revenues by smaller percentages in election years. Additionally, they seem to have a smaller capacity

Table 3: Difference-in-Differences (DD) Models for Political Budget Cycles: Components of Expenditures and Revenues

	Expenditures		**Revenues**	
	Compensation of Employees	Investment	Fiscal	Non-formula Grants
VARIABLES	(1)	(2)	(3)	(4)
Election year	0.101***	0.145***	-0.071***	0.096**
	(15.683)	(4.306)	(-6.730)	(2.188)
Term-limited mayor (TL)	0.036**	-0.020	-0.018	-0.070
	(2.302)	(-0.252)	(-0.650)	(-0.764)
Election year * Term-limited mayor	-0.145***	-0.171***	0.046***	-0.247***
	(-15.203)	(-2.628)	(2.774)	(-3.783)
First- or second-term mayor	0.027***	0.055	-0.032**	0.053
	(3.636)	(1.481)	(-2.050)	(1.145)
Election year * First- or second-term mayor	-0.042***	-0.066*	0.038***	-0.052
	(-5.822)	(-1.942)	(3.234)	(-1.208)
Observations	4748	4748	4748	4736
R-squared	0.782	0.458	0.720	0.234
Marginal effects of Election year				
Base category (experienced eligible mayors)	0.101***	0.145***	-0.071***	0.096**
	(15.683)	(4.306)	(-6.730)	(2.188)
Term-limited mayors	-0.043***	-0.026	-0.024	-0.151***
	(-6.040)	(-0.446)	(-1.515)	(-2.904)
First- or second-term mayors	0.059***	0.079***	-0.033***	0.045
	(13.757)	(3.144)	(-3.754)	(1.256)

Notes: All regressions include municipal and term fixed effects, municipal-specific time trends, and the full set of control variables. The fiscal variables are measured in logs of real euros (of 2015) per capita. Due to missing values for 1 municipality, the estimations cover 307 municipalities. T-statistics, based on robust standard errors, clustered by municipality, in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1. Estimated marginal effects for each category when the other categories are set at zero.

to obtain non-formula related grants from the central government at election years.

It is worth noting that the results of this subsection could be affected by candidate selection effects. That is, some potential candidates may have decided not to run in 2009, delaying their candidacy by four years, in order to avoid facing a long-standing incumbent mayor who would be term-limited in 2013. This could imply a lower average quality of

challengers in 2009, reducing the need for opportunistic management of fiscal policy prior to that election. If the effects were sizable, they could reduce the incidence of Political Budget Cycles (PBCs) in the pre-treatment period (1998-2009). This would lead to a smaller difference in PBCs before and after term limits became binding in 2013. Thus, candidate selection effects, by reducing the incidence of PBCs in part of the pre-treatment period, could lead to a lower estimated treatment effect.[33]

As complementary evidence to the analysis above, we also estimated a within-mayors panel model with mayor fixed effects. Essentially, this model checks if the same mayor shows less effort in the final year of the term in which she is term-limited than in final years of her previous terms. The results for the main fiscal aggregates are reported in Table A.5 in the Online Appendix. They are very similar to those reported in Table 2, reinforcing our conclusion that term-limited mayors exert lower effort to woo the electorate and obtain less grants from the central government than reelection-eligible mayors.[34]

5.3. ***Political budget cycles with heterogeneous incentives***

In order to check for heterogeneous behavior of term-limited mayors in election years, the model of equation (2) was extended by including interactions with the dummy variables for the mayors that resigned before the end of the term ($ResOther = 1$) and for those who ran for other political offices ($ResOther = 2$). Since the inclusion of several additional interaction terms makes the tables of results quite long and hard to interpret, only the estimated marginal effects of *Election year* are reported in Table 4.[35] The results suggest that true lame ducks are less opportunistic than equally experienced reelection-eligible mayors (the base category), as they do not increase total expenditures in election years. The same appears to apply to term-limited mayors who ran for other offices or in different municipalities, as their estimated marginal effects are quite similar to those for true lame ducks. Municipalities with resigning term-limited mayors, who handed over the leadership to the vice-presidents do not face an election year reduction in non-formula (conditional) grants from the central government, and rely more on revenues from loans. Although the estimated coefficients for the budget and total expenditures also suggest greater opportunism, Wald tests do not reject the equality of marginal effects for resign-

ing and true lame ducks for these two fiscal variables.

Table 4: Extended DD Models for Political Budget Cycles Marginal Effects of Election Year

	Budget Balance	Total Expenditures	Total Revenues (excl. loans)	Total Revenues (excl. loans and formula grants)	Revenues from Non-formula Grants	Revenues from Financial Liabilities (loans)
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Base category (experienced	-77.520***	0.100***	0.032***	0.005	0.102**	0.737***
reelection-eligible mayors)	(-6.735)	(8.998)	(3.926)	(0.288)	(2.575)	(8.300)
True lame ducks	-63.053***	-0.015	-0.083***	-0.105***	-0.207**	0.711***
	(-3.042)	(-0.593)	(-5.162)	(-3.442)	(-2.281)	(2.959)
Resigning lame ducks	-138.730*	0.051	-0.074**	-0.016	0.212	2.059***
	(-1.923)	(0.829)	(-2.470)	(-0.278)	(1.335)	(4.980)
Lame ducks who ran for	-68.994**	-0.016	-0.076***	-0.075***	-0.166**	0.690***
other offices	(-2.071)	(-0.594)	(-5.513)	(-2.920)	(-2.504)	(3.004)
First- or second-term	-44.299***	0.057***	0.019***	-0.010	0.016	0.608***
mayors	(-4.511)	(6.743)	(3.009)	(-0.695)	(0.464)	(8.282)
Observations	4748	4748	4748	4748	4748	4567

Notes: The estimated marginal effects are based on the estimation of a simultaneous equation model which combines a multinomial probit for *ResOther* and a linear regression for the fiscal dependent variable. The budget balance is measured in real euros (of 2015) per capita and the remaining fiscal variables are measured in logs of real euros per capita. T-statistics, based on robust standard errors in parentheses. Significance level: *** p<0.01, ** p<0.05, * p.<0.10.

Overall, these results are supportive of Hypothesis 3, as there are differences in the degree of opportunism among different types of term-limited mayors, with the true lame ducks not behaving opportunistically. Somewhat surprisingly, those that ran for other offices were not opportunistic either, eventually because they ran for lower offices or in different municipalities. The strong opportunistic behavior found in municipalities with resigning term-limited mayors may be due to the need to signal competence by the former vice-mayors who replaced the resigning mayors, as practically all of them ran for mayors in the next elections. Being less known to voters than experienced mayors, and having a shorter period to show what they are capable of, they might have felt the need to behave more opportunistically in order to increase the likelihood of being elected in 2013.[36]

Finally, as indicated by the results shown in Tables 3 and 4, less experienced mayors seem to behave less opportunistically than, also reelection-eligible, more experienced ones. That is, they decrease budget balances and increase expenditures by smaller amounts in

election years.

5.4. Robustness tests

Several tests were conducted to check the robustness of the above-described results.[37] First, we tried alternative versions of the vector of control variables, such as including more demographic variables, more mayors' characteristics, or excluding some or all of the mayors' characteristics. Second, we analyzed if the effects of term limits depend on mayors' ideology. Third, the robustness of the results for the true lame ducks was checked by excluding resigning and candidate lame ducks from the sample. Fourth, we replaced the municipal specific linear time trends with the Hodrick-Prescott trend of the dependent variable in the estimations. Fifth, we used region specific trends instead of municipal specific trends in all estimations. Sixth, we removed the 30 municipalities belonging to the archipelagos of Madeira and Azores. Finally, we estimated the simultaneous equation models of Table 4 by 2SLS and by GMM, in order to check if our results depended on the estimation method chosen.[38] We also estimated the model by fixed effects, to check if not taking the endogeneity of *ResOther* into account affected the results.[39] The main results and conclusions did not change materially in any of these robustness tests.

6. Discussion and conclusion

The analysis of the effects of electoral incentives on local fiscal policy reveals that municipalities with term-limited mayors have lower expenditures and revenues than those with reelection-eligible mayors. These are essentially driven by lower investment expenditures and lower attraction of resources from the central government. As both the preparation of new investment projects and lobbying for conditional (non-formula related) grants from the central government require considerable effort, our results are consistent with the hypothesis that a binding term-limit induces lower effort.

These results contrast with those found for US state governors (Alt et al., 2011; Besley and Case, 1995), but are consistent with the finding that term-limited US state legislators provide less pork to their constituencies (Aidt and Shvets, 2012). This could be due to the fact that Portuguese mayors are somewhere between the governors of Besley and Case

(1995) and Alt et al. (2011), having extensive decision-making autonomy in the allocation of resources and some ability to raise local taxes, and the legislators of Aidt and Shvets (2012), in the sense that they compete for the grants from the central government. Since the results indicate significant differences in non-formula grants from the central government between municipalities with term-limited and reelection-eligible mayors, which may drive the differences in expenditures, the competition effect seems to dominate. This may happen because the vast majority of Portuguese municipalities has limited ability to raise own revenues and is largely dependent on grants from the central government.

Regarding political budget cycles, the empirical evidence indicates that lame ducks manage budget balances and the size and composition of expenditures and revenues in a less opportunistic manner than experienced reelection-eligible mayors. As indicated by Besley and Case (1995), term-limited policymakers are not all alike, as some may run for further office, and parties still exist after the election. Thus, political reputation may not end with a binding term limit. These differences may become especially evident in election years, due to differences in electoral incentives of different types of term-limited mayors. The highest degree of opportunism among municipalities with term-limited mayors was found in those whose mayors resigned before the end of the term. These municipalities seem to undertake larger election-year reductions in taxes, matched by greater increases in financial liabilities (loans), than those of other types of term-limited mayors. This degree of election year fiscal manipulation, more similar to the behavior of reelection-eligible mayors, may result from the efforts of the vice-mayors who replaced the resigning mayors, most of whom ran for mayor in 2013. Since they were in charge for a relatively small period and were less known by the electorate, they may have felt the need to signal competence. Our results also indicate that the fiscal policy choices of mayors that ran for president of the Municipal Assembly of their municipality, or for mayor in another municipality, were similar to those of true lame ducks. Thus, they were also less opportunistic than equally experienced reelection-eligible mayors, probably because they ran for a lower office and were already well known by their constituency, or would be evaluated by inhabitants of other municipalities.

Overall, our results clearly indicate that differences in electoral incentives among mayors, brought about by binding term limits, help explain differences in the management of local fiscal policy. We believe our analysis of the effects of the introduction of mayoral term-limits in Portugal can bring novel insights to a literature that is highly focused on the US case. First, it may provide useful insights for countries with similar institutional systems. Second, in Portugal, the institutional reform was exogenously imposed by the national parliament, and the same law applies to all local governments, rendering the estimation of the term-limit treatment effect less problematic than for the US, where states decide on the adoption of term limits, and term-limit laws vary from state to state. Third, unlike most previous research, we control for the effects of incumbents' experience on fiscal policy choices. Finally, the empirical analysis goes beyond the standard public finance variables and provides evidence on last-period behavior of mayors, for different types of lame ducks, and other strategies used by term-limited executives to continue a political career or to provide help to a successor in an upcomig election.

References

Aaskoven, L., and D. Lassen. 2017. "Political Budget Cycles," in W. R. Thompson, ed., *Oxford Research Encyclopedia of Politics*. Oxford: Oxford University Press.

Aidt, Toke S., and Julia Shvets. 2012. "Distributive Politics and Electoral Incentives: Evidence from Seven US State Legislatures," 4 (3) *American Economic Journal: Economic Policy* 1–29.

Aidt, Toke S, Francisco José Veiga, and Linda Gonçalves Veiga. 2011. "Election Results and Opportunistic Policies: A New Test of the Rational Political Business Cycle Model," 148 (1-2) *Public Choice* 21–44.

Alt, James, Ethan Bueno de Mesquita, and Shanna. Rose. 2011. "Disentangling Accountability and Competence in Elections: Evidence from US Term Limits," 73 *The Journal of Politics* 171–186.

Alt, James E., and D. D. Lassen. 2006. "Fiscal Transparency, Political Parties, and Debt in OECD Countries," 50 (6) *European Economic Review* 1403–1439.

Altonji, Joseph G., Todd E. Elder, and Christopher R. Taber. 2005. "Selection on Observed and Unobserved Variables: Assessing the Effectiveness of Catholic Schools," 113 (1) *Journal of Political Economy* 151–184.

Angrist, Joshua D., and Jórn-Steffen Pischke. 2009. *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton and Oxford: Princeton University Press.

Ansolabehere, S., and J. M. Snyder Jr. 2004. "Using Term Limits to Estimate Incumbency Advantages when Officeholders Retire Strategically," XXIX (4) *Legislative Studies Quarterly* 487–515.

Bails, D., and M. Tieslau. 2000. "The Impact of Fiscal Constitutions on State and Local Expenditures," 20 (2) *Cato Journal* 255–277.

Baleiras, R. N., and J. S. Costa. 2004. "To be or not to be in Office Again: An Empirical Test of a Local Political Business Cycle Rationale," 20 (3) *European Journal of Political Economy* 655–671.

Barro, Robert. 1973. "The Control of Politicians: An Economic Model," 14 *Public Choice* 19–42.

Bernhardt, Dan, Sangita Dubey, and Eric Hughson. 2004. "Term Limits and Pork Barrel Politics," 88 *Journal of Public Economics* 2383–2422.

Besley, T., and A. Case. 2003. "Political Institutions and Policy Choices: Evidence from the United States," 41 (1) *Journal of Economic Literature* 7–73.

Besley, Timothy, and Anne Case. 1995. "Does Electoral Accountability Affect Economic Policy Choices? Evidence from Gubernatorial Term Limits," 110 (3) *Quarterly Journal of Economics* 769–798.

Bonfiglioli, A., and G. Gancia. 2013. "Uncertainty, Electoral Incentives and Political Myopia," 123 *The Economic Journal* 373–400.

Bullock, J. C., D. P. Green, and S. E. Ha. 2010. "Yes, but What's the Mechanism? Don't Expect an Easy Answer," 98 (4) *Journal of Personality and Social Psychology* 550–558.

Cummins, J. 2012. "The Effects of Legislative Term Limits on State Fiscal Conditions," 41 *American Politics Research* 417–442.

Ehrenhalt, A. 1991. *The United States of Ambition: Politicians, Power, and the Pursuit of Office*. New York: Random House.

Erler, H. A. 2007. "Legislative Term Limits and State Spending," 133 *Public Choice* 479–494.

Ferejohn, J. 1986. "Incumbent Performance and Electoral Control," 50 (1-3) *Public Choice* 5–25.

Ferraz, C., and F. Finan. 2011. "Electoral Accountability and Corruption: Evidence from the Audits of Local Governments," 101 *American Economic Review* 1274–1311.

Fowler, A., and A. B. Hall. 2014. "Disentangling the Personal and Partisan Incumbency Advantages: Evidence from Close Elections and Term Limits," 9 *Quarterly Journal of Political Science* 501–531.

Fund, J. H. 1990. "Term Limitation: An Idea of Whose Time has Come," 141 *Cato Policy Analysis* 1–18.

Jones, M. P. 2011. "Weakly Institutionalized Party Systems and Presidential Democracy: Evidence from Guatemala," 14 (4) *International Area Studies Review* 3–30.

Keele, Luke, Neil Malhotra, and Colin H. McCubbins. 2013. "Do Term Limits Restrain State Fiscal Policy? Approaches for Causal Inference in Assessing the Effects of Legislative Institutions," 38 (3) *Legislative Studies Quarterly* 291–326.

Klasnja, Marko, and Roco Titiunik. 2017. "The Incumbency Curse: Weak Parties, Term Limits, and Unfulfilled Accountability," 111 (1) *American Political Science Review* 129–148.

Klein, Fabio Alvim, and Sergio Naruhiko Sakurai. 2015. "Term Limits and Political Budget Cycles at the Local Level: Evidence from a Young Democracy," 37 *European Journal of Political Economy* 21–36.

Laakso, M., and R. Taagepera. 1979. "Effective Number of Parties: A Measure with Application to West Europe," 12 (1) *Comparative Political Studies* 3–27.

Lewis, Daniel C. 2012. "Legislative Term Limits and Fiscal Policy Performanc," 37 (3) *Legislative Studies Quarterly* 305–328.

List, John, and D. M. Sturm. 2006. "How Elections Matter: Theory and Evidence from Environmental Policy," 121 (4) *The Quarterly Journal of Economics* 1249–1281.

Lopes da Fonseca, Mariana. 2016. "Candid Lame Ducks," 5773 CESifo Working Paper.

Lopes da Fonseca, Mariana. 2017. "Identifying the Source of Incumbency Advantage through a Constitutional Reform," 61 (3) *American Journal of Political Science* 657–670.

MacRae, D. 1977. "A Political Model of the Business Cycle," 85 *Journal of Political Economy* 239–264.

Mainwaring, Scott, and Mariano Torcal. 2006. "Party System Institutionalization and Party System Theory After the Third Wave of Democratization," in Richard S. Katz and William Crotty, eds., *Handbook of Party Politics* 204–227. London: SAGE Publications.

Mathew, David. 2008. "Incumbency Advantage in the U.S. presidential elections: The Historical Record," 123 (2) *Political Science Quarterly* 201–228.

Nordhaus, W. 1975. "The Political Business Cycle," 42 (2) *Review of Economic Studies* 169–190.

Oster, Emily. 2017. "Unobservable Selection and Coefficient Stability: Theory and Evidence," *Journal of Business & Economic Statistics* (forthcoming).

Padovano, Fabio, and I. Petrarca. 2014. "Are the Responsibility and Yardstick Competition Hypothesis Mutually Consistent?" 34 *European Journal of Political Economy* 459–477.

Reed, W. R., D. E. Schansberg, J. Wilbanks, and Z. Zhu. 1998. "The Relationship Between Congressional Spending and Tenure with an Application to Term Limits," 94 *Public Choice* 85–104.

Rogoff, K. 1990. "Equilibrium Political Budget Cycles," 80 (1) *American Economic Review* 21–36.

Rogoff, K., and A. Sibert. 1988. "Elections and Macroeconomic Policy Cycles," 55 (1) *Review of Economic Studies* 1–16.

Roodman, David. 2011. "Fitting Fully Observed Recursive Mixed-Process Models with cmp," 11 (2) *Stata Journal* 159–206.

Rose, S. 2006. "Do Fiscal Rules Dampen the Political Business Cycle?," 128 *Public Choice* 407–431.

Shi, M., and J. Svensson. 2006. "Political Budget Cycles: Do They Differ Across Countries and Why?," 90 (8-9) *Journal of Public Economics* 1367–1389.

Smart, M., and D.M. Sturm. 2013. "Term Limits and Electoral Accountability," 107 *Journal of Public Economics* 93–102.

Veiga, Francisco José, Linda Gonçalves Veiga, and Atsuyoshi Morozumi. 2017. "Political Budget Cycles and Media Freedom," 45 *Electoral Studies* 88 – 99.

Veiga, Linda Gonçalves. 2012. "Determinants of the Assignment of E.U. Funds to Portuguese Municipalities," 153 *Public Choice* 215–233.

Veiga, Linda Gonçalves, and Maria Manuel Pinho. 2007. "The Political Economy of Intergovernmental Grants: Evidence from a Maturing Democracy," 133 (3-4) *Public Choice* 457–477.

Veiga, Linda Gonçalves, and Francisco José Veiga. 2007. "Political Business Cycles at the Municipal Level," 131 (1-2) *Public Choice* 45–64.

Veiga, Linda Gonçalves, and Francisco José Veiga. 2013. "Intergovernmental Fiscal Transfers as Pork Barrel," 155 *Public Choice* 335–353.

Appendix A. Online Appendix

Table A.1: Descriptive Statistics on Party Institutionalization

Sample	Variables	Obs.	Mean	Std.Dev.	Min.	Max.
All	Election volatility	1,229	4.24	3.42	0.04	28.51
Elections	Number of effective parties	1,229	2.01	0.41	1.00	4.45
	Number of parties/lists	1,229	4.74	1.26	2.00	11.00
	Independent candidates	1,229	0.14	0.35	0.00	1.00
	Independent mayor	1,229	0.02	0.15	0.00	1.00
2001	Election volatility	305	5.90	4.17	0.29	28.51
	Number of effective parties	305	2.00	0.42	1.32	4.45
	Number of parties/lists	305	4.08	0.91	3.00	8.00
	Independent candidates	305	0.07	0.25	0.00	1.00
	Independent mayor	305	0.01	0.09	0.00	1.00
2005	Election volatility	308	3.49	3.08	0.27	17.88
	Number of effective parties	308	1.98	0.38	1.00	3.57
	Number of parties/lists	308	4.21	1.08	2.00	9.00
	Independent candidates	308	0.09	0.28	0.00	1.00
	Independent mayor	308	0.02	0.15	0.00	1.00
2009	Election volatility	308	3.29	2.59	0.04	13.92
	Number of effective parties	308	1.95	0.37	1.00	3.10
	Number of parties/lists	308	5.29	1.12	3.00	10.00
	Independent candidates	308	0.16	0.37	0.00	1.00
	Independent mayor	308	0.02	0.15	0.00	1.00
2013	Election volatility	308	4.30	3.03	0.34	18.49
	Number of effective parties	308	2.09	0.46	1.00	4.45
	Number of parties/lists	308	5.38	1.29	3.00	11.00
	Independent candidates	308	0.26	0.44	0.00	1.00
	Independent mayor	308	0.04	0.20	0.00	1.00

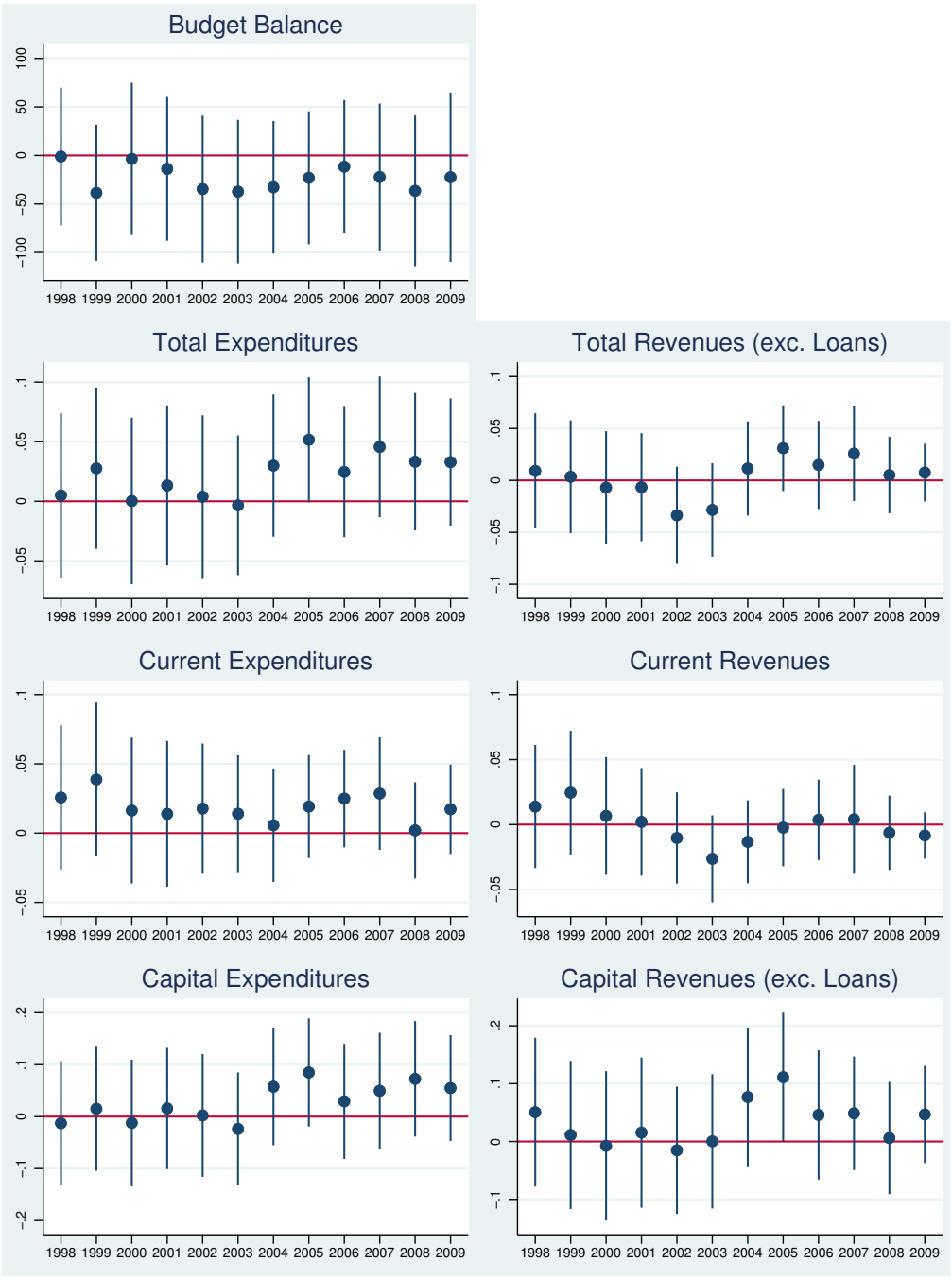
Sources: Author's calculations based on data from the Portuguese Ministry of Internal Affairs.

Notes: *Election volatility* corresponds to the average absolute change in vote shares of all parties/lists since the previous election. The Laakso and Taagepera (1979) *Number of effective parties* is equal to 1 over the sum of the squared vote shares of the parties/lists. *Independent candidates* is a dummy for the presence of independent lists of candidates. *Independent mayor* is a dummy for incumbent independent mayors.

Table A.2: Descriptive Statistics

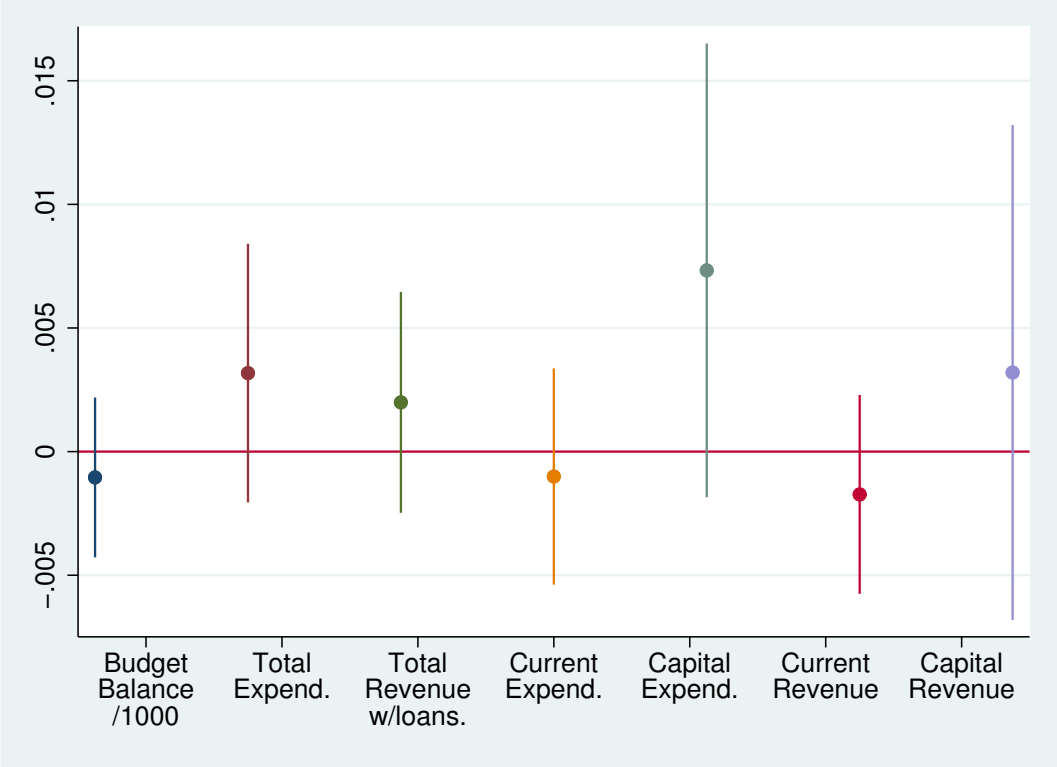
VARIABLES	N. Obs.	Mean	SD	Min	Max
Fiscal variables (in real euros per capita, at 2015 prices)					
Budget Balance	4923	-25.71	160.90	-3955.61	1301.34
Total Expenditures	4925	1076.16	591.39	173.66	8614.36
Total Current Expenditures	4925	593.72	318.01	91.94	2868.39
Compensation of Employees	4925	292.67	179.30	18.78	1888.96
Total Capital Expenditures	4925	482.44	355.61	45.54	6656.47
Investment Expenditures	4925	333.92	285.03	4.19	6289.28
Total Revenues (excluding Loans)	4925	994.70	531.46	199.93	8320.12
Total Current Revenues	4925	638.11	295.64	129.27	2734.77
Fiscal Revenues	4925	159.70	141.80	6.16	1566.25
Total Capital Revenues (excluding Loans)	4,925	356.35	301.82	2.07	6536.90
Non-formula Grants	4925	187.62	196.57	0.00	5404.80
Loans (Financial liabilities)	4925	83.85	186.44	0.00	7164.29
Own Revenues	4925	296.00	196.57	38.45	2660.42
Term and election variables					
Number of terms (mayor)	4916	2.62	1.77	0.00	10.00
Term-limited mayor (TL)	4928	0.13	0.34	0.00	1.00
Resign (*ResOther = 1*)	4928	0.04	0.20	0.00	1.00
Run Other Office (*ResOther = 2*)	4928	0.09	0.29	0.00	1.00
First- or second term mayor	4928	0.57	0.50	0.00	1.00
Election year	4928	0.25	0.43	0.00	1.00
Main control variables					
Left-wing mayor	4928	0.50	0.50	0.00	1.00
Independent Mayor	4928	0.01	0.12	0.00	1.00
Majority	4928	0.78	0.41	0.00	1.00
Unemployment rate - deviation from HP trend (in p.p.)	4824	0.03	0.71	-7.33	4.24
Mayors' characteristics					
Age	4887	51.71	8.12	28.00	78.00
Lives in the municipality	4853	0.92	0.28	0.00	1.00
Born in the municipality	4887	0.68	0.47	0.00	1.00
Female	4899	0.06	0.23	0.00	1.00

Sources: Directorate General for Local Authorities (DGAL), Ministry of Internal Affairs, National Institute of Statistics (INE), Institute of Employment and Professional Training (IEFP), *Pordata* - FFMS, and Sales Index - *Marktest*.



Note: The graphs show the coefficient estimates and 95% confidence intervals of year dummies for the treated municipalities in the pre-treatment period (1998-2009). The estimated models also include municipality and year fixed effects. The budget balance is in euros per capita, while the other variables are in logs of euros per capita.

Figure A.1: Year Dummies for the Treated Group in the Pre-Treatment Period



Note: This figure shows the coefficient estimates and 95% confidence intervals of linear trends for the treated municipalities in the pre-treatment period (1998-2009), obtained in regressions for each fiscal variable, which included municipality and year fixed effects. Expenditure and revenue variables are in logs of real euros per capita. The budget balance (in real euros per capita) was divided by 1000 in order to fit the same scale (in the vertical axis) as the logs of the other variables.

Figure A.2: Linear Trend for the Treated Group in the Pre-Treatment Period

Table A.3: Probability of running for reelection (1997-2009)

	(1)	(2)
	Probit	Probit Random Effects
Existence of term limits (dummy for 2009 elections)	0.177	0.181
	(1.36)	(1.32)
Mayor's age	-0.0271***	-0.0335***
	(-3.96)	(-4.25)
Mayor lives in the municipality	-0.352*	-0.303
	(-1.84)	(-1.50)
Mayor born in the municipality	0.0890	0.123
	(0.85)	(1.09)
Female mayor	0.960**	0.991**
	(2.29)	(2.20)
Majority in both the Municipal Council and the Municipal Assembly	0.219*	0.235*
	(1.81)	(1.86)
Number of consecutive terms in office	-0.0976***	-0.126***
	(-2.98)	(-2.59)
Mayor's margin of victory (previous election)	0.00159	0.00245
	(0.40)	(0.57)
Party similarity (mayor and prime minister)	0.0152	0.0179
	(0.09)	(0.09)
Presence of independent lists	-0.178*	-0.183*
	(-1.69)	(-1.69)
Left-wing mayor	0.0994	0.0620
	(0.61)	(0.30)
Unemployment rate	0.0339*	0.0250
	(1.65)	(1.05)
Log(Population)	0.124*	0.000197
	(1.92)	(0.00)
Population growth (absolute value)	0.0151	0.0115
	(0.96)	(0.67)
Share of population with less than primary education	0.00357	-0.00995
	(0.25)	(-0.61)
Average past turnout	0.00969	-0.00183
	(1.04)	(-0.15)
Regional (NUTS III) fixed effects	No	Yes
Observations	1170	1170
Log-likelihood	-452.9	-444.5

Notes: Robust t-statistics in parentheses (standard errors clustered by municipality). Significance level: *** p<0.01, ** p<0.05, * p.<0.10.

Table A.4: Difference-in-Differences Models for Accountability and Experience - Full model

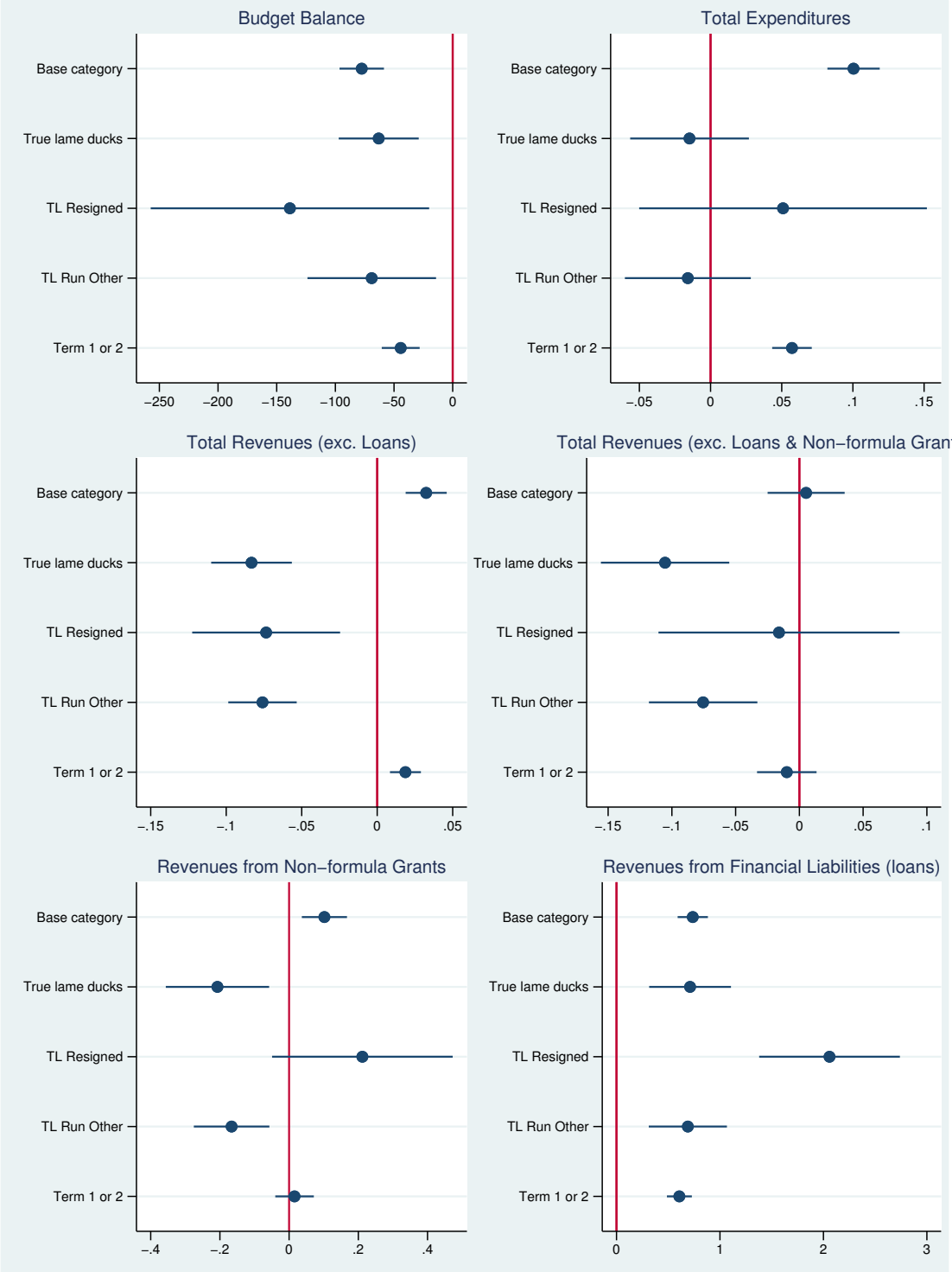
	Budget Balance	Total Expenditures	Total Revenues (excl. loans)	Total Capital Expenditures	Own Revenues	Capital Grants (non-formula)
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Term-limited mayor (TL)	6.037	-0.057**	-0.042**	-0.118**	-0.052*	-0.222*
	(0.279)	(-2.405)	(-2.238)	(-2.466)	(-1.871)	(-1.747)
First- or second term mayor	-19.174**	0.016	-0.002	0.015	-0.024	0.038
	(-2.161)	(1.443)	(-0.194)	(0.686)	(-1.648)	(0.654)
Left-wing	-6.149	-0.001	-0.000	0.031	0.010	0.132
	(-0.437)	(-0.064)	(-0.016)	(0.945)	(0.455)	(1.404)
Independent	-36.277	0.051	0.033	0.102	0.047	0.219*
	(-0.923)	(1.108)	(0.856)	(1.302)	(0.806)	(1.670)
Majority	-3.578	0.010	0.004	0.032	0.023	0.064
	(-0.341)	(0.923)	(0.509)	(1.522)	(1.624)	(1.132)
Unemployment rate	0.126	-0.008*	-0.007**	-0.019**	0.001	-0.025
(deviation from HP trend)	(0.025)	(-1.902)	(-2.129)	(-2.122)	(0.068)	(-1.104)
Age	-0.581	0.001	0.000	0.002	-0.001	0.008
	(-0.769)	(0.730)	(0.118)	(1.255)	(-0.952)	(1.625)
Lives in the municipality	24.401	-0.009	-0.008	-0.024	0.008	-0.015
	(1.050)	(-0.339)	(-0.489)	(-0.462)	(0.323)	(-0.112)
Born in the municipality	40.429**	-0.003	0.023	-0.017	0.013	0.087
	(2.141)	(-0.153)	(1.500)	(-0.430)	(0.697)	(0.846)
Female	-5.878	0.039	0.021	0.102	0.036	-0.006
	(-0.251)	(1.175)	(0.726)	(1.522)	(0.964)	(-0.037)
Observations	4746	4748	4748	4748	4748	4730
R-squared	0.136	0.479	0.591	0.349	0.626	0.258

Notes: All regressions include municipal and year fixed effects, and municipal-specific time trends. The budget balance is measured in real euros (of 2015) per capita and the remaining fiscal variables are measured in logs of real euros per capita. Due to missing values for one municipality, the estimations cover 307 municipalities. T-statistics, based on robust standard errors, clustered by municipality, in parentheses. Significance level: *** p<0.01, ** p<0.05, * p.<0.10.

Table A.5: Difference-in-Differences (DD) Models for Political Budget Cycles (Within-mayors panel)

	Budget Balance	Total Expenditures	Total Revenues (excl. loans)	Total Revenues (excl. loans and formula grants)
VARIABLES	(1)	(2)	(3)	(4)
Election year	-80.688***	0.102***	0.031***	0.001
	(-6.814)	(8.753)	(3.692)	(0.047)
Term-limited mayor (TL)	-10.181	-0.013	-0.010	-0.022
	(-0.381)	(-0.526)	(-0.496)	(-0.592)
Election year * Term-limited mayor	10.851	-0.109***	-0.106***	-0.079***
	(0.468)	(-5.068)	(-8.073)	(-3.277)
First- or second-term mayor	-22.013*	0.033**	0.011	0.020
	(-1.857)	(2.223)	(0.846)	(0.818)
Election year * First- or second-term mayor	35.421***	-0.045***	-0.013	-0.011
	(2.720)	(-3.673)	(-1.469)	(-0.612)
Observations	4746	4748	4748	4746
R-squared	0.141	0.383	0.491	0.274
Number of mayors	611	611	611	611
Marginal effects of Election year				
Base category (experienced eligible mayors)	-80.688***	0.102***	0.031***	0.001
	(-6.814)	(8.753)	(3.692)	(0.047)
Term-limited mayors	-69.836***	-0.007	-0.076***	-0.078***
	(-3.293)	(-0.366)	(-6.927)	(-3.914)
First- or second-term mayor	-45.266***	0.056***	0.018***	-0.010
	(-4.586)	(6.576)	(2.731)	(-0.729)

Notes: All regressions include mayor and term fixed effects, municipal-specific time trends, and the full set of control variables. The budget balance is measured in real euros (of 2015) per capita and the remaining fiscal variables are measured in logs of real euros per capita. T-statistics, based on robust standard errors, clustered by mayor, in parentheses. Significance level: *** p<0.01, ** p<0.05, * p.<0.10.



Note: Estimated marginal effects with 90% confidence intervals. The budget balance is measured in real euros (of 2015) per capita and the remaining fiscal variables are measured in logs of real euros per capita.

Figure A.3: Extended DD Model for PBCs: Marginal Effects of Election Year

Table A.6: Extended DD Models for Political Budget Cycles - Linear Regression

VARIABLES	Budget Balance (1)	Total Expenditures (2)	Total Revenues (excl. loans) (3)	Total Revenues (excl. loans and formula grants) (4)	Revenues from Non-formula Grants (5)	Revenues from Financial Liabilities (loans) (6)
Election year	-77.520***	0.100***	0.032***	0.005	0.102**	0.737***
	(-6.735)	(8.998)	(3.926)	(0.288)	(2.575)	(8.300)
Term-limited mayor	-1.512	0.000	0.018	0.019	0.390***	-0.446**
	(-0.097)	(0.021)	(0.878)	(0.282)	(2.792)	(-2.322)
Election year*Term-limited mayor	14.467	-0.115***	-0.116***	-0.111***	-0.309***	-0.026
	(0.650)	(-4.391)	(-6.672)	(-3.377)	(-3.241)	(-0.111)
Resigning mayor	-12.480	0.003	-0.004	-0.152**	-0.805***	-1.957***
	(-0.541)	(0.102)	(-0.175)	(-2.044)	(-2.904)	(-6.074)
Run for other office	1.497	-0.018	-0.019	0.081	-0.490	0.524*
	(0.066)	(-0.668)	(-0.954)	(0.455)	(-1.580)	(1.795)
Election year * Resigning mayor	-81.847	0.072**	0.012	0.038	0.195*	0.459**
	(-1.416)	(1.980)	(0.407)	(0.631)	(1.747)	(2.089)
Election year * Run for other office	-17.872	-0.032	-0.042	-0.101*	-0.366***	-0.143
	(-0.656)	(-0.958)	(-1.577)	(-1.713)	(-2.650)	(-0.584)
Term-limited mayor * Resigning mayor	-9.411	-0.066	-0.088**	-0.056	-0.373	0.838**
	(-0.354)	(-1.588)	(-2.384)	(-0.582)	(-1.616)	(2.372)
Term-limited mayo r* Run for other office	-8.089	0.035	0.020	-0.047	0.023	0.285
	(-0.281)	(1.011)	(0.699)	(-0.612)	(0.133)	(1.018)
Election year * Term-limited mayor *	6.170	-0.007	-0.002	0.051	0.224	0.889*
Resigning mayor	(0.065)	(-0.090)	(-0.044)	(0.594)	(1.057)	(1.720)
Election year * Term-limited mayor *	11.931	0.031	0.049	0.131*	0.407**	0.121
Run for other office	(0.248)	(0.623)	(1.466)	(1.854)	(2.309)	(0.307)
First- or second term mayor	-19.932***	0.012	-0.008	-0.003	-0.029	0.043
	(-2.654)	(1.061)	(-0.915)	(-0.136)	(-0.605)	(0.585)
Election year*First- or second	33.221***	-0.043***	-0.014*	-0.015	-0.086**	-0.129
term mayor	(2.665)	(-3.647)	(-1.659)	(-0.886)	(-2.199)	(-1.422)
Left-wing	11.180	-0.002	0.008	0.034	0.073	0.019
	(1.220)	(-0.114)	(0.641)	(1.339)	(1.331)	(0.286)
Majority	1.922	0.018	0.014	0.025	0.019	0.035
	(0.250)	(1.627)	(1.572)	(1.482)	(0.396)	(0.517)
Unemployment rate	7.392**	-0.033***	-0.026***	-0.027***	-0.013	-0.104***
(deviation from HP trend)	(2.065)	(-8.206)	(-8.951)	(-4.691)	(-0.823)	(-3.113)
Age	-0.105	-0.002**	-0.002***	-0.003*	-0.004	-0.010**
	(-0.237)	(-2.000)	(-2.816)	(-1.915)	(-1.392)	(-2.574)
Lives in the municipality	7.191	0.015	0.016	0.028	-0.027	0.148
	(0.509)	(0.627)	(0.866)	(0.832)	(-0.402)	(1.528)
Born in the municipality	26.206**	0.002	0.018	0.016	0.010	0.020
	(2.356)	(0.101)	(1.335)	(0.550)	(0.157)	(0.294)
Female	0.481	0.005	-0.012	-0.006	-0.024	-0.251**
	(0.025)	(0.177)	(-0.514)	(-0.148)	(-0.290)	(-2.033)
Observations	4748	4748	4748	4748	4748	4567

Notes: Linear regression results of the estimation of a simultaneous equation model which also includes a multinomial probit for *ResOther*. The budget balance is measured in real euros (of 2015) per capita and the remaining fiscal variables are measured in logs of real euros per capita. All regressions include municipal and term fixed effects, and region-specific time trends. Robust standard errors in parentheses. Significance level: *** p<0.01, ** p<0.05, * p.<0.10.

Table A.7: Extended DD Models for Political Budget Cycles - Multinomial Probit

VARIABLES	Budget Balance (1)	Total Expenditures (2)	Total Revenues (excl. loans) (3)	Total Revenues (excl. loans and formula grants) (4)	Revenues from Non-formula Grants (5)	Revenues from Financial Liabilities (loans) (6)
Probability that a mayor resigns before the end of the term (ResOther=1)						
Term-limited mayor	1.590***	1.401***	1.415***	1.247***	1.142***	1.150***
	(6.224)	(5.992)	(6.132)	(4.744)	(4.293)	(5.035)
Election year	-0.226***	-0.182***	-0.170	-0.236***	-0.272***	-0.209***
	(-3.994)	(-2.834)	(-1.599)	(-3.765)	(-4.687)	(-2.965)
First- or second term mayor	-1.011***	-0.965***	-0.960***	-1.055***	-1.024***	-0.939***
	(-3.412)	(-3.563)	(-3.528)	(-3.499)	(-3.553)	(-3.251)
N. Terms mayor	-0.444***	-0.424***	-0.416***	-0.455***	-0.435***	-0.409***
	(-3.216)	(-3.632)	(-3.857)	(-3.527)	(-3.417)	(-2.912)
% Votes in previous election	0.006	0.006	0.005	-0.002	0.002	0.004
	(0.396)	(0.444)	(0.368)	(-0.136)	(0.161)	(0.338)
Left-wing	0.311*	0.266	0.253	0.300*	0.276	0.299*
	(1.683)	(1.495)	(1.360)	(1.648)	(1.602)	(1.817)
Majority	-0.191	-0.211	-0.203	-0.173	-0.173	-0.224
	(-0.790)	(-0.979)	(-0.849)	(-0.693)	(-0.718)	(-0.981)
Unemployment rate	-0.066	-0.080	-0.079	-0.059	-0.018	-0.030
(deviation from HP trend)	(-1.060)	(-1.439)	(-1.291)	(-0.907)	(-0.270)	(-0.482)
Age	-0.002	-0.004	-0.004	-0.006	-0.002	0.001
	(-0.138)	(-0.296)	(-0.333)	(-0.390)	(-0.187)	(0.051)
Lives in the municipality	-0.186	-0.130	-0.089	-0.219	-0.220	-0.171
	(-0.670)	(-0.447)	(-0.313)	(-0.772)	(-0.798)	(-0.630)
Born in the municipality	-0.222	-0.237	-0.239	-0.258	-0.145	-0.032
	(-1.265)	(-1.423)	(-1.402)	(-1.268)	(-0.829)	(-0.188)
Female	-0.349	-0.259	-0.189	-0.168	-0.098	-0.170
	(-1.115)	(-0.748)	(-0.576)	(-0.546)	(-0.349)	(-0.611)
Probability that a mayor runs for other offices after the end of the current term (ResOther=2)						
Term-limited mayor	0.864***	0.276***	0.319***	0.009***	0.141**	0.015
	(8.894)	(12.120)	(12.061)	(9.243)	(2.055)	(1.298)
Election year	0.002	-0.011**	-0.011	0.000	0.001	-0.000
	(0.178)	(-2.167)	(-1.039)	(0.776)	(0.618)	(-0.357)
First- or second term mayor	-0.290***	-0.086***	-0.099***	-0.003**	-0.041	-0.005
	(-2.746)	(-3.344)	(-3.207)	(-2.177)	(-1.623)	(-1.132)
N. Terms mayor	-0.023	-0.014**	-0.016**	0.000	0.000	-0.000
	(-0.596)	(-2.016)	(-2.009)	(0.100)	(0.063)	(-0.663)
% Votes in previous election	0.007	0.002	0.002	0.000	0.001	0.000
	(1.570)	(1.363)	(1.224)	(1.546)	(1.055)	(0.960)
Left-wing	0.007	0.013	0.015	-0.000	-0.006	0.000
	(0.106)	(0.851)	(0.744)	(-0.303)	(-0.586)	(0.069)
Majority	-0.082	-0.030	-0.034	-0.001	-0.013	-0.001
	(-0.844)	(-1.387)	(-1.235)	(-0.851)	(-0.751)	(-0.741)
Unemployment rate	0.007	0.001	0.001	0.000	0.000	0.000
(deviation from HP trend)	(0.406)	(0.223)	(0.087)	(0.742)	(0.159)	(0.293)
Age	-0.001	-0.000	-0.000	-0.000	-0.000	-0.000
	(-0.204)	(-0.134)	(-0.134)	(-0.250)	(-0.090)	(-0.341)
Lives in the municipality	-0.095	-0.032	-0.034	-0.001	-0.010	-0.002
	(-1.045)	(-1.350)	(-1.205)	(-0.914)	(-0.589)	(-0.955)
Born in the municipality	-0.067	-0.026*	-0.030	-0.001	-0.012	-0.001
	(-1.201)	(-1.855)	(-1.529)	(-1.110)	(-1.075)	(-0.881)
Female	-0.155	-0.055*	-0.058	-0.001	-0.025	-0.002
	(-1.334)	(-1.672)	(-1.499)	(-1.020)	(-1.090)	(-0.888)
Observations	4748	4748	4748	4748	4748	4567

Notes: Multinomial probit results. Robust standard errors in parentheses. Significance level: *** p<0.01, ** p<0.05, * p.<0.10.

Table A.8: Extended DD Models for Political Budget Cycles - Marginal Effects of Election Year (Estimation of IV Models using 2SLS and GMM)

	Budget Balance	Total Expenditures	Total Revenues (excl. loans)	Total Revenues (excl. loans and formula grants)	Revenues from Non-formula Grants	Revenues from Financial Liabilities (loans)
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
IV Estimation using 2SLS						
Base category (experienced	-83.349***	0.134***	0.055***	0.044*	0.180***	0.839***
reelection-eligible mayors)	(-5.782)	(7.758)	(4.228)	(1.724)	(3.113)	(7.323)
True lame ducks	-63.182***	-0.013	-0.082***	-0.097**	-0.198**	0.745***
	(-2.693)	(-0.447)	(-3.834)	(-2.319)	(-2.113)	(3.257)
Resigning lame ducks	-137.042***	0.033	-0.091***	-0.079	0.012	1.604***
	(-3.522)	(0.700)	(-2.579)	(-1.143)	(0.080)	(4.326)
Lame ducks who ran for	-69.114***	-0.014	-0.074***	-0.071*	-0.142*	0.574***
other offices	(-3.349)	(-0.586)	(-3.961)	(-1.951)	(-1.726)	(2.755)
First- or second-term	-46.609***	0.070***	0.028***	0.008	0.059	0.678***
mayors	(-4.706)	(5.946)	(3.096)	(0.456)	(1.496)	(8.089)
Observations	4746	4748	4748	4746	4736	3592
IV Estimation using GMM						
Base category (experienced	-83.928***	0.133***	0.054***	0.039	0.182***	0.864***
reelection-eligible mayors)	(-6.240)	(7.877)	(4.200)	(1.580)	(3.307)	(7.803)
True lame ducks	-63.360***	-0.012	-0.081***	-0.096***	-0.196**	0.730***
	(-3.255)	(-0.457)	(-4.107)	(-2.689)	(-2.120)	(3.097)
Resigning lame ducks	-133.757**	0.036	-0.089***	-0.080	0.016	1.641***
	(-2.199)	(0.637)	(-2.949)	(-1.429)	(0.106)	(4.571)
Lame ducks who ran for	-69.893**	-0.014	-0.074***	-0.073**	-0.142*	0.602***
other offices	(-2.346)	(-0.550)	(-4.172)	(-2.260)	(-1.723)	(2.688)
First- or second-term	-46.682***	0.070***	0.027***	0.007	0.063	0.693***
mayors	(-4.964)	(6.045)	(3.134)	(0.416)	(1.597)	(8.221)
Observations	4746	4748	4748	4746	4736	3592

Notes: The estimated marginal effects are based on the estimation of an Instrumental Variables (IV) model combining a first-stage regression for *ResOther* and a second stage for the fiscal dependent variable. The budget balance is measured in real euros (of 2015) per capita and the remaining fiscal variables are measured in logs of real euros per capita. T-statistics, based on robust standard errors in parentheses. Significance level: *** p<0.01, ** p<0.05, * p.<0.10.

Table A.9: Extended DD Models for Political Budget Cycles - Fixed Effects Estimations

	Budget Balance	Total Expenditures	Total Revenues (excl. loans)	Total Revenues (excl. loans and formula grants)	Revenues from Non-formula Grants	Revenues from Financial Liabilities (loans)
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Election year	-77.499***	0.101***	0.033***	0.008	0.122***	0.726***
	(-6.700)	(9.055)	(4.027)	(0.413)	(2.963)	(8.241)
Term-limited mayor	-1.876	-0.019	-0.002	-0.006	0.096	-0.327
	(-0.123)	(-0.835)	(-0.113)	(-0.149)	(1.120)	(-1.638)
Election year * Term-limited mayor	14.493	-0.114***	-0.115***	-0.105***	-0.322***	0.030
	(0.649)	(-4.337)	(-6.616)	(-3.233)	(-3.348)	(0.123)
Resigning mayor	-10.142	0.027	0.033	0.058	0.063	-0.055
	(-0.587)	(1.049)	(1.352)	(1.129)	(0.552)	(-0.312)
Run for other office	2.180	0.050*	0.044**	0.080**	0.226**	0.158
	(0.107)	(1.824)	(2.285)	(1.973)	(2.589)	(0.921)
Election year * Resigning mayor	-82.151	0.070*	0.007	0.012	0.092	0.206
	(-1.399)	(1.909)	(0.254)	(0.202)	(0.822)	(0.924)
Election year * Run for other office	-17.833	-0.037	-0.045*	-0.102*	-0.376***	-0.044
	(-0.652)	(-1.060)	(-1.700)	(-1.726)	(-2.700)	(-0.157)
Term-limited mayor * Resigning mayor	-9.756	-0.054	-0.078**	-0.100	-0.311*	0.299
	(-0.355)	(-1.275)	(-2.079)	(-1.449)	(-1.760)	(0.714)
Term-limited mayor * Run for other office	-8.305	0.006	-0.006	-0.024	-0.163	0.170
	(-0.290)	(0.186)	(-0.199)	(-0.452)	(-1.311)	(0.655)
Election year * Term-limited mayor * Resigning mayor	5.883	-0.011	-0.008	0.020	0.142	0.699
	(0.062)	(-0.148)	(-0.174)	(0.234)	(0.654)	(1.389)
Election year * Term-limited mayor * Run for other office	11.918	0.034	0.053	0.127*	0.431**	-0.118
	(0.247)	(0.685)	(1.569)	(1.803)	(2.438)	(-0.272)
First- or second term mayor	-19.846***	0.015	-0.005	0.003	0.027	0.099
	(-2.658)	(1.353)	(-0.545)	(0.151)	(0.651)	(1.234)
Election year * First- or second term mayor	33.240***	-0.044***	-0.014*	-0.014	-0.086**	-0.090
	(2.654)	(-3.679)	(-1.704)	(-0.797)	(-2.168)	(-0.998)
Observations	4746	4748	4748	4746	4736	3592
R-squared	0.055	0.323	0.435	0.220	0.091	0.054
Sensitivity tests of significant coefficients						
Election year	0.58	1.41	1.32		15.05	0.45
Election year * Term-limited mayor		-1.79	-3.78	-0.65	-1.10	
Run for other office		0.81	0.86	0.40	0.32	
Election year * Resigning mayor		2.96				
Election year * Run for other office			-1.24	0.81	0.32	
Term-limited mayor * Resigning mayor			-10.75		1.51	
Election year * Term-limited mayor * Run for other office				0.56	-2.98	
Election year * First- or second term mayor	-0.30	-0.77	-0.79		-0.42	
Marginal effects						
Base category (experienced reelection-eligible mayors)	-77.499***	0.101***	0.033***	0.008	0.122***	0.726***
	(-6.700)	(9.055)	(4.027)	(0.413)	(2.963)	(8.241)
True lame ducks	-63.006***	-0.013	-0.082***	-0.097***	-0.199**	0.757***
	(-3.029)	(-0.514)	(-5.045)	(-3.239)	(-2.199)	(3.011)
Resigning lame ducks	-139.274*	0.046	-0.082***	-0.064	0.035	1.661***
	(-1.937)	(0.739)	(-2.746)	(-1.157)	(0.214)	(4.192)
Lame ducks who ran for other offices	-68.920**	-0.015	-0.074***	-0.072***	-0.143**	0.595**
	(-2.059)	(-0.558)	(-5.390)	(-2.841)	(-2.155)	(2.479)
First- or second-term mayors	-44.259***	0.057***	0.019***	-0.006	0.037	0.636***
	(-4.494)	(6.829)	(3.098)	(-0.451)	(1.060)	(8.469)

Notes: The budget balance is measured in real euros (of 2015) per capita and the remaining fiscal variables are measured in logs of real euros per capita. T-statistics, based on robust standard errors in parentheses. Significance level: *** p<0.01, ** p<0.05, * p.<0.10. The sensitivity tests were performed using the Stata command *psacalc* (see Oster, 2017). They report the value of proportional selection, δ, such that the effect of the coefficient is equal to zero

Notes

[1] Original models of political business cycles (i.e., Nordhaus 1975; MacRae 1977) posited that governments would increase the money supply growth in the year prior to an election to temporarily raise output and employment. Voters would react positively, not realizing that after the election inflation would rise, and output and employment would return to their natural rates. With the rational expectations revolution the existence of an exploitable Phillips curve and the idea that voters can be systematically fooled before elections became untenable. Rational expectations were first introduced in the electoral cycle in macroeconomic policy by Rogoff and Sibert (1988).

[2] See Aaskoven and Lassen (2017) for a recent survey, and Veiga, Veiga, and Morozumi (2017) for a recent empirical analysis of the relative importance of factors influencing PBCs on a large panel of countries.

[3] In variants of the model, government spending can also be manipulated and loans can be contracted to finance the deficit.

[4] Empirical results for the effects of term limits in US state legislatures on spending are mixed (Bails and Tieslau, 2000; Erler, 2007; Reed et al., 1998). However, term limits seem to negatively impact on states' fiscal deficits (Cummins, 2012) and bond ratings (Lewis, 2012). Recently, doubts were raised on the research design of previous studies, because they did not take into account that the variables which predict the introduction of term limits in a given state may also influence budgetary decisions. When using the synthetic case control method to account for heterogeneity in the probability of treatment, there is little evidence that term limits on legislators affect state spending (Keele et al., 2013).

[5] By focusing on just four fiscal policy variables (related to current expenditures and fiscal revenues), and not accounting for the experience of mayors and heterogeneity among term-limited mayors, this working paper's analysis is considerably narrower in scope than ours. Additionally, grants from the central government, which are the main source of revenue for the majority of Portuguese municipalities, are not considered either.

[6] Administrative regions were established only in the archipelagos of Azores and Madeira. Local governments include the municipal and parish levels, with each municipality including several parishes (*freguesias*). The latter have a very limited number of functions and resources, and detailed fiscal data at the parish level are not available.

[7] This was the case of 31 (5.1%) of the 611 mayors covered in our dataset. Since we do not have information on all candidates, we do not know how many ran for two or more different parties/lists over their careers, but we suspect that they account for considerably more than 5% of the total.

[8] Personal incumbency advantage refers to an electoral edge enjoyed by in-office persons and has been studied by many scholars (e.g., Ansolabehere and Snyder Jr. 2004; Mathew 2008; Fowler and Hall 2014).

[9] Descriptive statistics of party institutionalization indicators are presented in Table A.1 of the Online

Appendix. Although electoral volatility is not high, especially when compared to the values reported by Mainwaring and Torcal (2006) and Jones (2011) for some Latin American countries, the number of parties/lists is sometimes high (10 or 11), and there is a growing number of independent lists of citizens running (and winning) in Portuguese municipal elections.

[10] By 2013, 31 mayors had been in office for 20 years or more, with two municipalities (Braga and Vila Nova de Poiares) having the same mayor from 1976 to 2013 (for 10 consecutive terms).

[11] There were also proposals to apply term limits to the prime minister and to the presidents of regional governments, but the required two-thirds majority in parliament to approve them was not obtained. It is also worth noting that there were no changes in budgetary procedures or in the competences of the municipalities in response to this law.

[12] The transitory provision that allowed all mayors to run in 2009 was a demand of PPD-PSD, that had the highest number of term-limited mayors. It was essentially a way of maintaining control of a large number of municipalities for four additional years.

[13] By resigning, a mayor does not regain eligibility for election, but gives some incumbency advantage to the vice-mayor who seeks election. We do not treat as resigning five mayors who stepped down just four months or less before the elections, as they practically concluded their terms and did not give their vice-mayors enough time to introduce changes in local fiscal policy or to benefit from incumbency advantage. Seven resigning mayors who also ran for other offices are treated simply as resigning mayors, so that there is no overlap between the three types of term-limited mayors considered in the empirical analysis.

[14] There is evidence that, in Portugal, intergovernmental transfers increase during election years and that these increases pay off in terms of electoral support(Veiga and Pinho, 2007; Veiga, 2012; Veiga and Veiga, 2013).

[15] See Rogoff and Sibert (1988) and Rogoff (1990) for rational expectations models in which the incumbent policymaker opportunistically distorts fiscal variables in order to signal greater competence to the electorate shortly before elections.

[16] Candidates running as incumbents tend to perform better in elections than other candidates (Ansolabehere and Snyder Jr., 2004; Mathew, 2008; Fowler and Hall, 2014; Lopes da Fonseca, 2016). Several reasons may explain this statistical fact (Mathew, 2008). First, due to holding office, the incumbent may acquire access to skills, resources, and prerogatives. Second, the experience acquired in running the previous election campaign may help in winning the next one. Third, voters' risk averseness and inertia may give an edge to the incumbent. Fourth, incumbent politicians may be better competitors than the opponents they face, that is, they may hold an innate superior talent.

[17] The approval of the law in July 2005 could also have affected early retirements during the term leading to the 2005 and 2009 elections. That is, the fact that some mayors knew that they would be term-limited soon could have led them to retire before the law became binding, which could bias our

results. This does not seem to have happened. First, the percentages of mayors running for reelection in 2005 and 2009 were the second and third highest ever (83.1% and 85.1%, respectively), only slightly behind that of 2001 (85.9%). Second, only nine(six) of the mayors elected in 2001(2005) resigned before the 2005(2009) elections, which are lower numbers of resignations than in the term leading to the 2001 elections, in which 13 mayors resigned. Finally, when estimating probit models for the probability of running for reelection in the elections before 2013, the dummy variable for the existence of term limits is not statistically significant (see Table A.3 in the Online Appendix).

[18] These year dummies account for events that affected all municipalities at the same time, including the approval and entry into force of the law introducing term limits. Their inclusion allows us to distinguish between the effects of having a term-limited mayor (given by δ) and those of the existence of term limits (captured by the year dummies, λ_t).

[19] An initial version of vector $\mathbf{X}_{it}$ also included population density, the percentages of the population below 15 years old and above 65 years old, and a dummy variable for mayors who hold a university degree. But, Variance of Inflated Factors (VIF) tests indicate that demographic variables create problems of multicollinearity. Since the sample period is relatively short, there is little variation in demographic variables, which results in collinearity with the municipal fixed effects. Additionally, due to lack of information on the academic degrees of several mayors, the dummy for mayors with a university degree has many missing values, and its inclusion in the model leads to the exclusion of 14 municipalities. Although the inclusion of these control variables does not significantly affect the main results (available from the authors upon request), we prefer to exclude them.

[20] It is possible that there are some non-distortionary cyclical expenditures which coincide with the election period. These would bias the coefficient of the election-year dummy upwards in regressions for expenditure items, indicating a higher degree of opportunism. Although we cannot completely rule out this possibility, and the coefficient should be interpreted as an upper bound measure of the degree of opportunism, we believe that most of the non-distortionary cyclical expenditures are captured by the set of control variables, and that the bias is small.

[21] Since the election year dummy would be collinear with the year dummies, 4-year mandate dummies (for each election cycle) are included instead of the year dummies.

[22] Besley and Case (1995) analysed similar situations for US governors.

[23] Given the three choices available to term-limited mayors, the determinants of the probability of choosing one option over another are better estimated using a multinomial probit model than with a linear model. According to Roodman (2011), the estimation of a model which uses the information about the limited nature of the earlier stage dependent variable is more efficient than a 2SLS estimation, which would treat it as if it were continuous and unbounded. Roodman (2011)'s *cmp* command for Stata is used in our estimations. Nevertheless, as a robustness check, we also estimate the model by 2SLS and

GMM, obtaining very similar results.

[24] Including municipal fixed effects and municipal specific trends leads to a very high number of variables, which frequently implies that convergence is not achieved. In order to achieve convergence in the ML estimations, we replaced the 307 municipal specific trends with 25 regional specific trends. As indicated in the robustness tests section, doing the same in the models of equations (1) or (2) does not significantly change the results.

[25] The results of our models that assess heterogeneous effects of term limits among mayors should be interpreted with caution. The causal interpretation of the interaction effects is problematic, and regression analysis with non-experimental data is likely to produce biased estimates that overstate the effects (Bullock et al., 2010). This may happen because control variables are affected by the treatment or due to the omission of unobserved variables that affect interaction variables. Despite our efforts to avoid endogeneity and omitted variable bias problems, we acknowledge that, given the use of non-experimental data, some bias may still exist.

[26] The full estimation results are reported in Table A.4 in the Online Appendix.

[27] Since local finance data is reported on a cash basis, total revenues equal total expenditures. The budget balance is then obtained by excluding the transactions in financial assets and liabilities from the totals of revenues and expenditures.

[28] As mentioned above, the vast majority of Portuguese municipalities is highly dependent on grants from the central government. Since part of these grants involve a considerable amount of work preparing investment projects and lobbying for their approval, lower effort may translate into smaller numbers of project submissions and approvals. The main direct expected effect in the municipal accounts is lower revenues from central government conditional transfers.

[29] Including two separate dummies for first- and second-term mayors leads to a similar conclusion.

[30] The coefficients of time dummies and of the municipal trends, which are not reported to economize space, are jointly statistically significant. Additionally, F-tests indicate that the fixed effects model is more appropriate than pooled-OLS, and Hausman tests indicate that it is preferable to random effects. All results not shown in the paper are available from the authors upon request.

[31] The budget balance is reduced by 77.7 euros per capita, while expenditures increase by 9.9 percent (note that they are measured in logs), relative to the other years of the electoral cycle.

[32] The overall election year effect for term-limited mayors corresponds to the sum of the coefficients for *Election year* and for *Election year*Term-limited mayor*.

[33] We believe that candidate entry selection effects were not important for most municipalities. First, 30 of the 190 incumbents who ran for reelection in 2009, and would be term-limited in 2013 if they won, were defeated. Second, the majority of the candidates from opposition parties that were able to win in 2013 also faced the long-standing incumbent in 2009. Third, of the 160 municipalities with term-limited

mayors in 2013, about 100 had new candidates (who did not run in 2009) from the main opposition party, and only 20 were able to defeat the candidate of the incumbent party (generally the former deputy-mayor). Thus, for the vast majority of municipalities, there is no indication of higher quality challengers in 2013 than in 2009.

[34] The results for expenditure and revenue components (not shown here) are very similar to those reported in Table 3. Very similar results are obtained when we restrict the sample to the 160 mayors that were term-limited in the term 2010-2013, rather than using the full sample of 611 mayors. All results not reported in the paper are available from the authors upon request.

[35] Graphs of the estimated marginal effects of *Election year* for the different types of mayors are presented in Figure A.3 in the Online Appendix, and the full estimation results are reported in Table A.6 (linear regression - 2nd stage) and Table A.7 (multinomial probit - 1st stage), also in the Online Appendix.

[36] When extending the model of equation (1) to account for the possible effects, over entire terms, of the heterogeneous behavior of term-limited mayors, the results (available upon request) provide only weak evidence of differences among term-limited mayors. Concretely, the municipalities of resigning mayors have lower total revenues, which may be due to the election-year reductions reported in Table 4. Therefore, differences in behavior among term-limited mayors seem to be mainly associated with the degree of opportunism in the election year, as shown in Tables 3 and 4.

[37] These tests are available from the authors upon request.

[38] The marginal effects from 2SLS and GMM estimations are reported in Table A.8 of the Online Appendix. They are very similar to those reported in Table 4, providing evidence of the robustness of our results.

[39] The results of the fixed effects estimations, reported in Table A.9, are very similar to those of Table 4 and of the IV estimations using 2SLS or GMM (Table A.8). Sensitivity tests based on Oster (2017), who extends the work of Altonji et al. (2005), report the value of proportional selection on unobservables relative to observables, such that the effect of the coefficients would be zero. In general, a greater value is associated with more robust results.