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Incumbent Tenure and Municipal Governance: The Portuguese Case

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Abstract

The present study analyses Portuguese municipalities' data in order to understand how the incumbent tenure influences economic performance at a municipal level. The incumbents' age is used as an instrumental variable to the mayors' tenure and its effect on the local economic development and pre-electoral fiscal policy is measured through a Two-stage Least Squares estimation with random effects. Tenure proves to have an insignificant positive impact on all economic and fiscal variables analysed and specific time-effects preponderance is outlined.

1. Introduction

In this section the reader is provided with a context for the analysis carried out in this work. A brief framework of municipalities and local power history is presented. The centralization of power in the figure of the mayor is stressed out and a justification for the analysis of tenure impact on local economic development and municipal governance is introduced.

1.1) Portuguese Local Power Brief History

The municipality has been the most stable sub-division of Portugal over years. It has been instituted gradually from 1096[1] on, through the grant of organizational charts whenever the central power[2] felt the need to establish a juridical recognized township and foster its population (Marques 1993). As Alexandre Herculano[3] states, the medieval Portuguese

[1] Date attributed to the organizational chart of Guimarães, according to the city's archive: "Arquivo Municipal Alfredo Pimenta".

[2] The deliberative power was centered in the King. Before the Zamora Treaty (1143), the first organizational charts - "cartas de foral", in Portuguese – were granted by the Count D. Henrique, his wife D. Teresa and his son, D. Afonso Henriques himself, before managing to garn independence and establishing the Portuguese Kingdom (Marques 1993).

[3] A poet and writer associated to the Romantic period, Herculano was also the Portuguese pioneer of the study of the institution of Portuguese municipalities, with his "História de Portugal : desde o começo da monarchia até o fim do reinado de Affonso III".

municipalities "represent, in a real and effective way, the variety against the unit, the irradiation of political life against centralization", a process that met ebbs and flows over Portuguese history.

Romero de Magalhães [1986] recognizes general great vitality and autonomy in the Ancient Portuguese Regime caused by the conjugation of different powers such as the King, the Church, and the juridical and municipal powers. However, there is no doubt that in the 14th and 15th centuries severe restrictions on municipal autonomy were imposed[4], while autonomy was enhanced following the Portuguese Liberal Revolution of 1820 (Ribeiro da Silva 1993) but only to be controlled shortly after, through an increased institutionalization between municipalities and the central state (Oliveira Rocha 1997). With the implementation of the First Republic, more autonomy was promised and foreseen, but it did not become a reality (Oliveira César 1996).

Nevertheless, the fundamental point of relief for the analysis carried out in this work is the 25th of April Revolution, which was a turning point in the 20th century Portuguese municipal governance. During Estado Novo the governance model became highly centralized in the State with little resources being granted to local governance. Municipalities were regarded as corporative and used as propagandistic agents (Miranda 2005), subordinated to the central power[5].

The first local elections after the Revolution were held in December 1976, and from then on "small is beautiful" became a motto increasingly applicable to the municipal governance in Portugal. A growth in political autonomy and in economic relevance of the

[4] Marked in "Regimento dos corregedores", a Law dating from 1332 that introduced external legal jurisdiction in municipalities

[5] In a speech delivered in the 30th of July of 1930, while announcing the creation of the National Union, the Portuguese dictator António Salazar uttered that he intended to "build a social and corporate state in close match with the natural constitution of society. Families, parishes, municipalities, corporations (…) are members of the nation".

municipalities make the analysis of the impact of local governance quality on economic development and citizens' welfare useful for the comprehension of the Portuguese political system.

1.2) The Mayor's Role

Since 1985, ordinary elections are carried out every 4 years and both a Municipal Assembly and a Town Council are elected. The Town Council is chaired by the mayor and its competences cover almost all sectors of society - planning, rural and urban infrastructure, energy, transport and communications, education, health, housing, civil protection, heritage and culture, leisure and sports. In addition, there is a clear tendency to personalize the municipal political power in the mayor (Bilhim 2004), who many times informally plays a moderation role of different interests and powers such as the judicial power, the Church, the local business community, political parties and voters.

In some of the fine Portuguese literature of the 19th and 20th century[6], this informal socio-economic relationship, imminently promiscuous, is brilliantly (and amusingly) portrayed. Oliveira Martins [1886] uses an expression, "cacique burocrata", which efficiently describes the concentration of competences and powers in one state official using his prominent role to gain influence and personal advantages. This effect suffers a boost when we are talking about the mayor, the number one figure in the municipal hierarchy, with extended reach and power, translating into flagrant future electoral advantage.

One can dare to state that a process of growing decentralization of political power, under the form of increased autonomy granted to municipalities – even though some defend it

[6] Including works from such writers as Eça de Queirós, Camilo Castelo-Branco or Aquilino Ribeiro

is not nearly enough (Baleiras 2004) – has been translating into the centralization of powers within the municipal hierarchy, in the figure of the mayor.

1.3) Term Limits and Tenure Economic Impact

In 2005 the Portuguese parliament approved a law limiting the number of terms of an incumbent as president of a municipality[7]. This document states mayors can only be elected for up to three consecutive terms and therefore this term limitation became bidding in the 2013 local elections. The impact of this decision has been widely debated amongst political actors, but we are lacking a structured, diversified and pragmatic analysis of the economic impact of incumbent tenure on municipal economic performance.

This may help to understand whether the term limits law was socially efficient or not. This topic is controversial, as some authors suggest that term limits have a distortionary effect on the political system, while others argue that limiting politicians to a number of consecutive terms helps to sanitize it.

We handle this problem by analysing a variety of municipal economic performance indicators and detecting existing patterns that. The main challenge is to drill deeper and understand the economic impact of mayor's tenure in Portuguese municipalities.

The remaining of the paper is organized as follows: section 2 provides a review on literature considered helpful to address the research question posed; section 3 presents the data used; section 4 describes the methodology and the econometric specification of the model; section 5 describes the empirical results and section 6 presents the conclusions.

[7] Law nº. 46/2005

2. Literature Review

2.1) Tenure impact analysis

The effects of tenure in performance by politicians have not been deeply studied yet for a diverse set of countries, as the existing literature focuses mainly on the USA. Besides, the literature is not conclusive, since antagonistic results have been attained.

The arguments to a positive impact of tenure and, thus, against the imposition of term limits, include the disciplinary power of accountability through elections (Ferraz and Finan 2011), prevention of competent politicians from being re-elected thus implying a negative impact of term limits on local economic development (Bonfiglioli and Gancia 2013; Veiga and Veiga 2016) and a reputation-building hypothesis that states that term-limited U.S. governors may shift their political behaviour resulting in lower state income (Besley and Case 1995).

On the other hand, Smart and Sturm [2013], while recognizing the accountability power of elections, have argued that term limits may be beneficial as they induce truthful behaviour from incumbents, allowing for a better screening of incumbents' preferences. Alt, Bueno de Mesquita, and Rose [2011] interestingly identify two separate effects on economic growth, taxes, spending and borrowing costs arising from term limits, which cancel each other out: the accountability effect (positive) and the competence effect (negative).

The tenure effect has been studied in depth in other roles, for instance, in auditing. Carey and Simnett [2006] find evidence of deterioration of auditors' performance associated with longer auditing partner tenure, using data from Australia. Chih-Ying, Chan-Jane, and Yu-Chen [2008] come to similar results using data from Taiwanese companies.

Even more striking evidence in favour of the hypothesis of correlation between tenure and deterioration in found by Coviello and Gagliarducci [2010], this time concerning mayor tenure. By matching data on procurement auctions in Italian municipalities and data on the politics of municipal governments, worse outcomes arising from longer mayor tenure are detected in the functioning of public procurement, such as fewer bidders per auction, a higher cost of procurement and a higher probability that the winner is local as well as that the same firm is awarded repeated auctions.

There is, in fact, evidence in the literature sustaining the hypothesis that longer tenure may be correlated with devious behaviour allowing for grand-corruption (Rose-Ackerman 1997). By staying more in years in office, mayors are more likely to control other branches of power and influence, such as the judicial system and the press. This hypothesis would imply a predominance of political power over administrative power, that ends up in a self-perpetuating cycle of power. Costas-Pérez, Solé-Ollé, and Sorribas-Navarro [2012] stress out that even corruption scandals have little effect on election outcome if the case doesn't get extensive press coverage (in which case the mayor loses an average of 14% of the votes). The ability to control locally institutions that are influential in the voters' decision-making process may reinforce the probability of re-election. In the same study from Costas-Pérez, Solé-Ollé, and Sorribas-Navarro (2012) no vote loss is detected in cases dismissed or with reports to the courts which did not lead to further judicial intervention. The fact that this study was conducted in Spain might favor extrapolation to the Portuguese population, due to cultural similarities.

Control over institutions is correlated with higher mayors' tenure and it self-perpetuates power. Accumulation of terms may work as a trigger for personal complicities that promote corruption or opportunistic behaviour. This is a negative trait of democracies where leaders stay in office for longer periods. However, it is legitimate to ask whether

the same effect that associates longer tenure in political roles to deteriorating or improving performance (varies across the literature) verifies when it comes to economic development indicators and local governance performance or if, on the other hand, the stability of keeping the same political leadership for several terms and a potentially existent learning curve for mayors sustains a positive effect of tenure on local economic development.

2.2) Tenure, Perceived Performance and Voter Myopia

One question is how tenure influences municipal economic indicators. Another one is how tenure is perceived to influence those economic indicators by voters. We have previously used the auditors' tenure literature to illustrate how tenure may be detrimental to incumbent's performance. Now we will use it to illustrate how tenure may increase perceived performance quality. Ghosh and Moon [2005] document a positive association between investor perceptions of earnings quality and auditor tenure. It may sound contradictory, but it is important to understand the difference between the perceived performance and actual performance. Is it possible that the same happens to mayors that accumulate terms and we are in face of a political myopia case?

Even the single fact that the mayor running for re-election is a known face to voters may cause elections outcome not to be based neither on the quality of the project for the future of the municipality nor on tangible results achieved in previous terms, but on the visibility that the position in office grants the previous incumbent with (Lee 2001). Fowler [2014] goes even further by disentangling personal incumbency and partisan incumbency: the first proves to have a positive electoral effect and the latter is statistically insignificant.

This effect is often pointed out as decisive in the literature either in the perspective of re-election or in the face of the possibility of election of a relative to office (Dal et al. 2015).

Despite this, negative incumbency effects are also present in the literature, especially regarding developing countries (Titiunik 2009). Rahman [2013] documents a positive correlation between the existence of political dynasties and the occurrence of corruption.

2.3) Opportunistic Behaviour and Self-Interest based Distortions

As we have seen, there is evidence that "political dinosaurs" often enjoy a positive bias in voters' perception. It is, therefore, interesting to our analysis to understand if the accumulation of mandates is related to opportunistic behaviour by mayors, which amplifies that bias in the performance perceived by voters.

Barro [1973] points out a division between voter and political representatives interests. He also defends the existence of mechanisms that align those different interests, being one of those the election, which makes the political representative accountable for his acts and creates a positive incentive for the incumbent looking forward to being re-elected. With term limits that incentive may be removed. Elections also have the advantage of creating an adverse-selection mechanism, punishing politicians that did not perform according to citizens' best interest (Ferejohn 1986).

Despite this, the fact is that there is evidence that, in the presence of asymmetric information between voters and politicians, there may be an incentive to adopt opportunistic measures that increase voters' perceived incumbent performance. This would translate into a Political Business Cycle (Rogoff 1990). The incentive to raise investment in the year preceding elections described in the Rogoff PBC's model made Candel-Sánchez [2007] propose a sanctions-based budget discipline fiscal model.

However, Shi and Svensson [2006], stress that the efficiency of pre-electoral opportunistic behaviour and the existence of PBC's differ across countries depending on such factors as rents to be attained by politicians if they stay in office and the share of

informed voters in the electorate. Guo [2009] uses a panel data set to understand how opportunistic behaviour under the form of pre-electoral spending varies according to a political leader's time in office, finding evidence of increased spending in the leaders' 3rd and 4th year in office, a timing regarded as strategic to attain promotions and acknowledgement among superiors.

2.4) Portuguese Municipalities

There is literature on the above-mentioned topics using Portuguese municipalities data. Veiga and Veiga [2016] provide evidence of a negative impact of term limits, which force competent mayors out of office. However, there is evidence of a positive impact through the decreasing of opportunistic manipulation of local finances by lame ducks, while no evidence of costs from the elections accountability effect is found.

The decreasing opportunistic behaviour arising from term limits is corroborated by a previous, but still very recent, study from Lopes da Fonseca [2015], in which evidence that lame ducks decrease taxes, user charges and spending is found.

The current study differs from the existing literature on term limits, electoral behaviour and lame ducks using Portuguese municipalities' data, mainly because of the focus and on the data set before the term limits law became binding, carrying out an extensive analysis on non-limited mayors in order to grasp the effect of extended tenure on local economic performance. Mayor's age is adopted as an instrument for the number of terms, which allows to control endogeneity. The dependent variables chosen to portray local economic development and fiscal opportunistic behaviour may allow to provide evidences supporting some of the diverse (and sometimes colliding) notions present in the literature.

3. Sample Size and Data Issues

Portugal is sub-divided in districts, municipalities and parishes. The latter are small and relatively short of resources, which are many times controlled by municipalities. Portugal has 308 municipalities, distributed over 12 districts. We use a panel data set of 278 municipalities[8] due to unavailability of key indicators in 30 of them.

Portuguese municipalities provide us with a high-quality dataset to carry out statistical inference about the effects of tenure on municipal economic performance because: i) Portugal was one of the last countries approving a term limitation law, thus even though our democracy is relatively young we have a comprehensive data set, in this case including data on five local elections: 1993, 1997, 2001, 2005 and 2009; ii) The fact that the law approved in 2005 already became bidding allows us to investigate the difference in behaviour during the year of 2012 between lame ducks (incumbents unable to run again for office in 2013) and mayors with possibility of reelection (not done in this work); iii) Before the term limits law became binding in 2013, there was a clear tendency for mayors to accumulate consecutive terms, which provides us with a fine number of cases representative of the advantages or disadvantages of incumbents tenure, which is the focus of the current work. Before the 2013 elections, even though the most frequent case was that of mayor holding a single term the average number of terms amounted up to approximately 3, indicating there were many incumbents accumulating several terms.

Per capita purchasing power will serve as one our dependent variable for assessing the effect of incumbents' tenure on municipal economic performance and was obtained from the Portuguese National Institute of Statistics (INE). The per capita Purchasing Power is used as a proxy for local economic development and citizens' welfare at a municipal

[8] See appendix 8.1 for a complete listo f the municipalities considered for this study.

level. This is a synthetic indicator calculated according to a reference national value of 100 for Portugal and reflects daily purchasing power revealed by local populations. Caution is needed while making statistical inference using such a synthetic indicator to portray economic development. It must not be appropriated as a variable with a well-delimited conceptual framework, such as wages or consumption, however.

The investment and the IMI share, as well as the investment per capita, IMI per capita and budgetary surplus (or deficit, depending on the sign) are indicators illustrating the mayors' behaviour in the year preceding elections and were obtained from the annual publication on municipal finance of "Direcção-geral das Autarquias Locais". These indicators are obtained through a simple ratio:

$$IMI\ Share = \frac{IMI_t}{Total\ Municipal\ Revenues_t}$$

$$Investment\ Share = \frac{Investment_t}{Total\ Municipal\ Spending_t}$$

The "IMI" (a municipal housing tax) is determined, even though if only to some extension, by mayors' fiscal choices (see information in the appendix, for a closer look), thus being a valid measure of fiscal policy. Investment share enables the comprehension of how much of the total spending was spent in investment. Both the investment and IMI share and also the Budgetary Performance (budget surplus or deficit, measured in "contos"[9]), while associated to an election year, are referent to the year preceding the election. Since elections take place traditionally in October – from 1985 on, which covers the period of our analysis – reforms and political shifts occurring in the last 3 months of the civil year could contaminate our goal of detecting opportunistic behaviour. As it is,

[9] Portuguese currency before the adoption of the Euro

the year preceding the election is more likely to describe accurately whether the incumbent approach is opportunistic or not.

Data on political variables such as the mayor's age, education, the number of terms and the mayor's ideological orientation was collected from the National Elections Comission (CNE).

4. Methodology and Econometrics Model

A longitudinal panel framework was designed to describe the relationship between political variables associated to the incumbent (including tenure) and local economic development and fiscal variables, allowing for dynamic relationships and to control for individual heterogeneity, offering more variability, more degrees of freedom and reducing collinearity among explanatory variables. As it is, the efficiency of the econometric estimates is improved.

We use panel data models covering 278 municipalities and five moments in our democracy's history: the local election periods from 1992 to 2009, thus the 1993, 1997, 2001, 2005 and 2009 elections.

This was a period in which politicians could accumulate terms in office in an unlimited way, which led to the an average number of mandates of 3 by 2009 and the accumulation of such number of terms as 10 in two municipalities, by 2013: Braga and Vila Nova de Poiares. In the 2013 election this extended tenure as mayor became no longer possible after the 2005 3 terms limit law became binding.

As it is, it becomes important to analyse this period in order to understand the effect of the incumbent's number of terms on the local economic performance.

4.1) 2-Stage-Least-Square Estimation

The Per Capita Purchasing Power, for instance, is one of the most tangible economic indicators picked, so the risk of endogeneity is most likely high, in the form of reverse causality. That is, if it is legitimate to assess the effects of the number of terms on local economic development, using the Per Capita Purchasing Power as a proxy, it is certainly plausible that there is a causal relation between the number of elections won by the mayor (that translates into number of terms) and the economic development perceived by local citizens under the form of Per Capita Purchasing Power.

The method picked up to tackle this reverse causality problem was the use of instrumental variables. The incumbent's age was used as an instrument. In IV estimation, amongst other conditions, the instrument should be independent from the error term of the regression. Also, the instrument should not affect the dependent variable when the instrumented explanatory variable is held constant (exclusion restriction). Since, intuitively and empirically[10], the exclusion restriction is respected regarding the relationship between age and the dependent variables analysed. Weak instrument testing is run later on this work. As it is we follow a 2-Stage-Least-Squares regression:

$$Term'_{it} = \alpha + \beta_1 Age_{it} + \beta_2 X_{it} + \varepsilon_{it}$$

$$\propto_{it} = \alpha + \beta_3 Term'_{it} + \beta_4 X_{it} + \varepsilon_{it}$$

"Age" accounts for the age of the mayor in the moment of election, α is a constant, "Term" is the number of terms accumulated at the date of election, " Term' " is the explanatory variable regressed on the instrument. β_1 is the coefficient representing the average effect of "Age" on "Term ' ", X_{it} is a vector of control variables, β_2 represent the effect of this vector on Age of the mayor and, more importantly, β_4 represents the effect of this vector on $\propto_{it}$, (Per Capita Purchasing Power and various fiscal variables). β_3

[10] see Apeendix 8.3

represents the effect of our instrument, mayor's age on the $\propto_{it}$ and ε_{it} is an error term, for each municipality (i) and moment in time (t).

The vector X_{it} includes:

i) variables associated to the mayor's personality: a dummy controlling for an ideological effect on per capita purchasing power in the case of the mayor belonging to leftist parties (*Left)* and a dummy controlling for possible positive effects in the municipal development arising from potential increased competence if the mayor has completed High Education (*High_Education*)

ii) one control variable associated to population characteristics: the dependency ratio (*Dependency*), which describes the percentage of citizens economically and socially dependent from other citizens (i.e. elderly or children).

4.2) Specific Time Effects and Random Effects

In order to apply the correct framework and have consistent estimates and valid inference a panel unit root tests should be carried out considering the unbalanced panel data set we have. The rejection of the null hypothesis means that at least one of the series i is stationary. Thus, it is possible that only one municipality is stationary and, still, the null hypothesis of all series being non-stationary is rejected. Non-stationarity can cause spurious estimates while estimating a panel model without a lagged dependent variable.

As will be explained in the estimation results, we included specific time dummies in our regression, for each election year, resulting in the following Second-stage 2SLS regression equation and random effects term:

$$\propto_{it} = \alpha + \beta_3 Term'_{it} + \beta_4 X_{it} + \emptyset\, t_j + v_i + \varepsilon_{it}$$

$\propto_{it}$ is a vector of economic performance variables. *t* represents the specific year effect on $\propto_{it}$, for j=1,…,5 (corresponding to each of the five elections' year analyzed), being $\emptyset$ its coefficient. v_i is between-entity errors effect. The within-entity error is represented by ε_{it} This difference in the composition of the error term denotes that a random effects analysis was carried out to the detriment of the fixed effects approach (used in Alt, Bueno de Mesquita, and Rose 2011), according to the Hausman test rule (deeper detail in the estimation results). This allows for consistency of the estimation, assuming that the error term is uncorrelated with the estimators. Another advantage of random effects is that we are allowed to include time invariant variables (such as our control for High Education) without having its effect captured by the intercept.

4.3) Same Model, Different Controls

The same model is used to study potential opportunistic behavior from mayors looking for reelection. Based on the strong evidence of opportunistic manipulation of local finances in Portugal (Aid, Veiga and Veiga 2011; Veiga and Veiga, 2007), we check if the occurrence of opportunistic behavior in pre-electoral years varies according to mayors' tenure.

$$Term'_{it} = \alpha + \beta_1 Age_{it} + \beta_2 X_{it} + \varepsilon_{it}$$

$$\propto_{it} = \alpha + \beta_3 Term'_{it} + \beta_4 X_{it} + \emptyset\, t_j + v_i + \varepsilon_{it}$$

In order to grasp the electoral-cycle characteristic increment in $\propto_{it}$ (investment, IMI or deteriorating budgetary performance preceding elections), we control for different variables. Thus, the vector X_{it} accounts for:

i) political control variables: *Left,* a dummy that assumes the value of 1 is the mayor is ideologically close to the left of the partidary

specter; *Reelected or Same Party*, a dummy that assumes the value of 1 if the incumbent is running for reelection or is supporting a fellow candidate from the same party.

ii) socioeconomic control variables: *Resident*, that describes the number of residents in the municipality.

$\propto_{it}$ is kept from the previous specification, as well as the random errors term. The vector $\emptyset\ t_j$ is also kept in an effort to capture potential year specific fluctuations.

Having our model defined we have to deal with heteroscedasticity and auto-correlation. The fact that we are running a random effects model already allows to account for non-independent residuals. Besides, we correct standard errors with cluster by municipality, by bootstrapping the standard errors in order to avoid cross-sectional interdependence. This way observations in each municipality are truly independent. Since we only have 5 time periods in a longitudinal panel data set, already having time specific dummies in our analysis, standard errors are not clustered by year.

5. Estimation Results

5.1) Descriptive Analysis: Reduced Forms and Age at Retirement

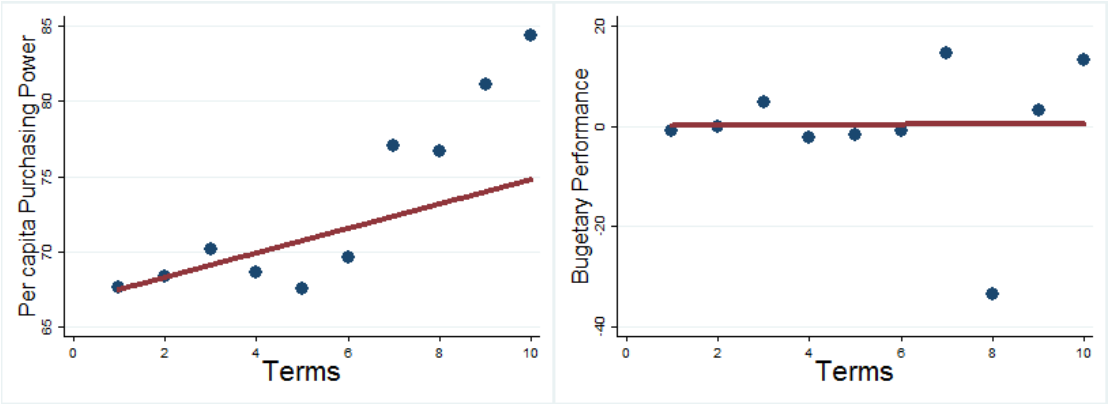
Mayors' retirement age density function is relatively well-behaved. This Kernel Density function indicates roughly 50 years as the average retirement age.

Figure 1

Taking a look at the reduced forms of some of the relationships we are assessing, we start by analysing how accumulation of mandates affects a set of 6 variables: the per capita

purchasing power, the budgetary municipal speravit/deficit, the investment share, the IMI share, the investment per capita and the IMI per capita. This allows for a quick identifications of patterns and trends.

Figure 2 and 3: Per Capita Purchase Power and Budgetary Performance



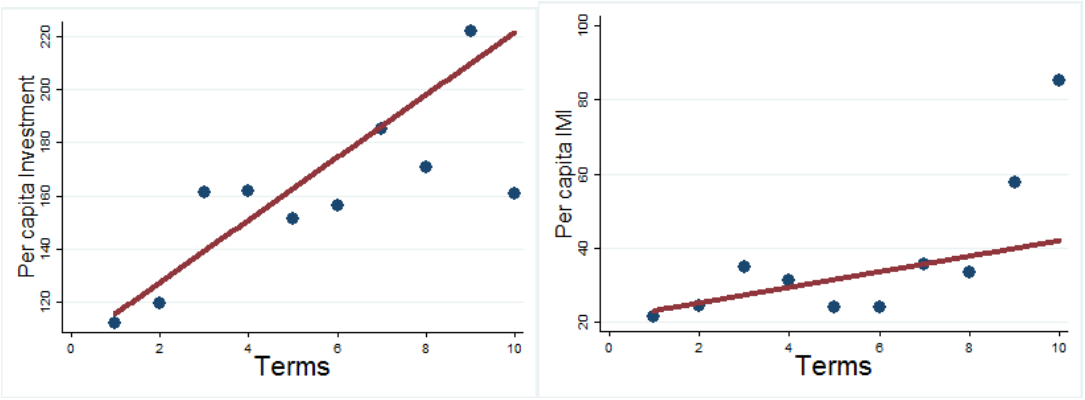
The per capita Purchasing Power increases with the number of mandates (Figure 1). The budgetary performance, measured per capita in the old Portuguese currency, "contos" fluctuates around 0 until the 6th mandate. From then on, the reduced number of observations make the results highly volatile and exposed to specific municipalities' effects. Interestingly enough, there is a common deterioration, both in the Purchasing Power and in the budgetary deficit from the 3rd to the 4th mandate. We cannot infer through the observation of this binned scatter lots whether this variation is due to an exogenous event or an effect caused by mandate accumulation.

In fact this is a very raw analysis, which does not enable causal inference, because of issues with the data that will be addressed later on.

The investment per capita and IMI per capita have similar functional shapes describing the relation of this indicators and mandate accumulation. The discontinuity follow the

2nd mandate could indicate that this is a point perceived as crucial by mayors that are looking forward to being re-elected.[11]

Figure 4 and 5: Per capita Investment, IMI and accumulation of terms



However, it is difficult to tell for sure. While analysing the relationship between mandates and our dependent variables, two concerns must be kept in mind: endogeneity arising from potential reverse causality and unobserved heterogeneity, as we exclude time-specific and trend effects linearly correlated to the number of mandates as an explanatory variable.

Since the number of mandates of mayors is linearly correlated to the time variable, it is plausible to affirm that our variables are non-stationary and have a trend, so we proceed to a stationarity test.

1.2) Fisher-type Unit Roots, Hausman and Weak Instrument Tests

Table 3 provides the panel unit root rest results of the variables in study at level. The Fisher-type panel unit-root test, based on Phillips-Perron is valid for unbalanced data and

[11] See 8.4 in the Appendix for an analysis of the investment share and the IMI share. The investment share suffers a clear downfall after the 6th mandate. The negative 3rd mandate effect also denotes itself, even if in a shy fashion. On the opposite, the IMI weight on municipal revenues increases throughout mandates, as it became a increasingly important source of revenue for municipalities.

tests the null hypothesis that all panels contain a unit root. For a finite number of panels, the alternative is that at least one panel is stationary.

	Level form	
	Constant	**Constant and Trend**
Purchasing Power (per capita)	-6.27***	-17.6527 ***
Investment share	0.7769	-11.8209***
IMI share	4.0556	-8.8749***
Investment (per capita)	18.2238	2.6690
Budget Results	-18.7482***	-26.4977***
Mandates	-5.6245***	2.9362
Resident	-6.4225***	-7.9416***
Dependency Ratio	7.2286	-19.6840***

Table 3 - Fisher-type panel unit-root test. *** , ** and * indicates significance at 1%, 5% and 10%, respectively. The Null Hypothesis is such that all panels contain unit roots, against some panels being stationary.

This test provides evidence of provide evidences of potential first order integration of some variables (since they are non-integrated of order 0) such as the investment share and per capita, the IMI[12] share or even the dependency ratio. On the other hand, per capita purchasing power, the number of residents per municipality and the budgetary surplus appear to have integration of order zero. Since inference is not valid if variables have different orders of integration, it is unlikely that we can extract accurate conclusions for a model with the variables at level form, thus a first-differencing procedure could be carried out. However, this would translate into distorted conclusions, which do not match neither our research question nor the characteristics of our variables, thus we do not perform the Fisher-type panel unit-root test, based on Phillips-Perron, for first-difference analysis.

To overcome this issue, we include time-specific dummies in our model. It is useful to bear in mind that, since we are evaluating the impact of one additional term in economic

[12]Portuguese Municipal Tax on Real Estate (see Appendix 2 for detailed information)

variables but also on pre-electoral fiscal variables, five year dummies are enough to cover the electoral periods covered from 1993 to 2009. These dummies capture year-specific effects that are of interest to our analysis of the evolution of political business cycles which are proved to exist in the case of Portuguese municipalities (Veiga and Veiga 2007). Since the analysis comprehends gaps in-between electoral years and the analysis is restricted to 5 periods we expect the year-dummies to comprise the time-varying effects. Nevertheless, since the data is not first-differenced, one should be cautious with the inference made.

Given the longitudinal characteristics of the data, one should choose the best model considering the properties of the data and the results of criteria tests, in this case the Hausman test, allowing for a distinction between fixed effects and random effects.

Hausman	***Prob>chi2***	**Purchasing Power**	**Unemployment**	**Invest. Share**	**Invest. p/capita**	**IMIShare**	**Budget Superavit**
		0.3927	0.0609	0.8276	0.9242	1.0000	0.9997

Table 4 – Hausman Test. *** , ** and * indicates significance at 1%, 5% and 10%, respectively. The Null Hypothesis is such that difference in coefficients is not systematic.

The Hausman test fails to reject the null that the difference in coefficients is not systematic, therefore, favoring random effects over fixed effects.

Random effects assume that the entity's error term is not correlated with the predictors which allows for time-invariant variables to play a role as explanatory variables. In random-effects one needs to specify those individual characteristics that may or may not influence the predictor variables. The problem with this is that some variables may not be available therefore leading to omitted variable bias in the model, which is a limitation of the analysis carried out in this work, as potential explanatory variables are left out due to data limitations.

Nevertheless, we focus on the rationale of the relation of tenure with economic variables, not holding that the model presented has a perfect goodness of fit and complete specification. Random Effects analysis allows to generalize the inferences beyond the sample used in the model.

$$\propto_{it}{}' = \alpha + \beta_3 Term'_{it} + \beta_4 X_{it} + \emptyset\, t_j + v_i + \varepsilon_{it}$$

Purchasing Power	Unemployment	Invest. Share	Invest. p/capita	IMIShare	Budget Superavit
0.3927*	0.546	0.011**	0.001***	0.057*	0.001***

Table 5: Weak Instrument Analysis. *** , ** and * indicates significance at 1%, 5% and 10%, respectively. The Null Hypothesis is such that mayors' Age is a weak instrument, not holding a significant correlation with the number of terms.

Since we carry out an instrument variable analysis, an analysis of the quality of Age as instrument is fundamental. As table 5 shows, we reject the null hypothesis in the case of every dependent variable analyzed with the exception of unemployment (for which inference becomes invalid through 2SLS)[13]. As it is, we move on to a 2SLS estimation with random effects.

1.3) Effect of tenure in local development: are dinosaurs beneficial for the local economy and do they get opportunistic over time?

Table 6 presents the estimations of our 2SLS model with random effects.

$$Term'_{it} = \alpha + \beta_1 Age_{it} + \beta_2 X_{it} + \varepsilon_{it}$$
$$\propto_{it} = \alpha + \beta_3 Term'_{it} + \beta_4 X_{it} + \emptyset\, t_j + v_i + \varepsilon_{it}$$

The effect of an additional term becomes largely insignificant regarding all the fiscal variables analysed and also our proxy for local economic development, the per capita purchasing power: the average effect of one additional term over the per capita purchasing

[13] See figure 8 in the Appendix 8.4 for a graphical intuitive evaluation of Age as an instrument for the number of terms.

power, with the number of terms changing across time and between municipalities is of 3.487, which is non-significant regarding the bootstrapped standard-error of 7,424. According to this estimation, tenure holds no effect on opportunistic behaviour, as it can be confirmed through the non-significance of all variables with the increment in one term in o office by mayors.

High education remains insignificant, suggesting that the level of education of the leader of local government does not show a clear effect on local economic performance. This was expected in a data set containing numerous "dinosaurs", mayors that successfully

	(1) Purchasing Power	(2) Investment Share	(3) Investment Per Capita	(4) IMI share	(5) Budgetary Surplus
Terms	3.487 (7.424)	0.0028 (0.018)	-0.101 (26.16)	0.0222 (0.037)	2.193 (5.82)
Left	1.126 (1.936)	-0.027* (0.016)	-11.51 (10.98)	-0.0029 (0.0056)	4.091 (2.85)
High Education	1.553 (1.47)				
Dependency Ratio	-0.629** (0.2617)				
1997. Year	2.279* (1.31)	-0.38*** (0.007)	5.77 (3.76)	0.0105*** (0.003)	3.213 (2.67)
2001. Year	8.186** (3.27)	-0.013 (0.01)	23.21*** (8.44)	0.00710 (0.01)	-0.992 (2.75)
2005. Year	13.45** (5.692)	-0.114*** (0.014)	246.66*** (20.85)	-0.000378 (0.026)	10.92* (6.21)
2009. Year	13.69** (6.116)	-0.184*** (0.016)	228.43*** (23.3)	0.0268 (0.025)	-16.23** (6.72)
Same Political Party or Re-election		0.017 (0.11)	3.89 (8.79)	0.0041 (0,004)	-0.787 (3.48)
Residents		-0.00*** (1.10e-07)		0.00** (2.12e-07)	-0.00 (0.00002)
_cons	86.86*** (20.126)	0.434 (0.043)	0.434*** (7.14)	-0.0191 (0.079)	-6.928 (13.31)
N	1260	1267	1266	1266	1267
R2	0.1949	0.3317	0.497	0.1324	0.0259

Table 6 – Tenure Impact Analysis: *** , ** and * indicates significance at 1%, 5% and 10%, respectively. The Null Hypothesis is such that the coefficients equal 0. Bootstrapped robust standard errors under brackets.

accumulated various terms. The relatively low renovation of political leaders in our municipal system could be correlated with this results, if, for instance, younger talented individuals do not get the opportunity to reach a top role in the political hierarchy, such as the mayor. Also, there is no clear evidence in the literature of increasing political governance performance arising from the level of education.

The dependency ratio has a small but, but yet statistically significant, expected negative coefficient on investment and a positive one on municipal taxes. Citizens dependent from other citizens (mainly elderly, those suffering from impairing health condition and children) cannot contribute to the local economy, so an increment the dependency rates cause the aggregate per capita purchasing power to decrease, and thus the per capita purchasing power.

Politicians associated to left parties do not seem to have any specific tendency to increased opportunistic behaviour: the pre-electoral investment share is even significantly lower for this group of mayors by almost 3%.

The specific-time effects are responsible for a great deal of the explanatory power of our model, favouring the hypothesis of tenure not having a statistically significant impact on local economic development and fiscal policy choices in pre-electoral years.

6. Conclusions, Limitations and Further Research

This work intended to assess if mayors' tenure influenced local economic development and pre-electoral fiscal policy choices. Increasing opportunistic behaviour in the face of

the accumulation of mandates could indicate a self-perpetuating behaviour-detrimental cycle.

The results attained go against the literature that suggests an adverse effect from term limits, since there is no evidence of increased performance arising from prolonged tenure.

We were also interested in understanding if there was increased opportunistic behaviour with the accumulations of several terms in office, which could contribute itself to increase re-election probability. Our estimation does not confirm this assumption.

Specific year dummies end up absorbing much of our model explanatory power. This provides fertile ground for future research of a potential illusion effect of time effects on voters. It could be that voters perceive variations on economic indicators and even fiscal variables as related to mayors' preferences when they are, in fact, due to exogenous shocks and time-varying factors.

The statistical inference carried out has limitations. IV performance in small samples may be poor, which raises concerns about the validity of the analysis. Furthermore, robustness checks could have been beneficial. A Newey–West estimator could potentially be used to try to overcome heteroscedasticity in the error terms (since serial correlation should not be much of an issue in a short longitudinal data set as ours). Testing for cross-sectional dependence and contemporaneous correlation could also be an elucidatory approach.

More variables should be included in this specification in order to tackle a potential omitted variable bias problem. Other identification schemes could provide a better understanding of this research question, such as the Hausman–Taylor estimator for error-components models. IV-GMM estimation or regression-discontinuity and difference-in-difference analysis using the 2013 elections, which were already bidding regarding the term limits law. Due to data restrictions, it was not possible to explore these in this work.

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8. Non-essential Appendixes

8.1) Table 1 - List of considered Portuguese Municipalities

Abrantes	Benavente	Ferreira do Zêzere	Mirandela	Peniche	Sobral de Monte
Águeda	Bombarral	Figueira da Foz	Mogadouro	Peso da Régua	Agraço
Aguiar da Beira	Borba	Figueira de Castelo Rodrigo	Moimenta da Beira	Pinhel	Soure
Alandroal	Boticas	Figueiró dos Vinhos	Moita	Pombal	Sousel
Albergaria-a-Velha	Braga	Fornos de Algodres	Monção	Ponte da Barca	Tábua
Albufeira	Bragança	Freixo de Espada à Cinta	Monchique	Ponte de Lima	Tabuaço
Alcácer do Sal	Cabeceiras de Basto	Fronteira	Mondim de Basto	Ponte de Sor	Tarouca
Alcanena	Cadaval	Fundão	Monforte	Portalegre	Tavira
Alcobaça	Caldas da Rainha	Gavião	Montalegre	Portel	Terras de Bouro
Alcochete	Caminha	Góis	Montemor-o-Novo	Portimão	Tomar
Alcoutim	Campo Maior	Golegã	Montemor-o-Velho	Porto	Tondela
Alenquer	Cantanhede	Gondomar	Montijo	Porto de Mós	Torre de Moncorvo
Alfândega da Fé	Carrazeda de Ansiães	Gouveia	Mora	Póvoa de Lanhoso	Torres Novas
Alijó	Carregal do Sal	Grândola	Mortágua	Póvoa de Varzim	Torres Vedras
Aljezur	Cartaxo	Guarda	Moura	Proença-a-Nova	Trancoso
Aljustrel	Cascais	Guimarães	Mourão	Redondo	Trofa
Almada	Castanheira de Pêra	Idanha-a-Nova	Murça	Reguengos de Monsaraz	Vagos
Almeida	Castelo Branco	Ílhavo	Murtela	Resende	Vale de Cambra
Almeirim	Castelo de Paiva	Lagoa	Nazaré	Ribeira de Pena	Valença
Almodôvar	Castelo de Vide	Lagos	Nelas	Rio Maior	Valongo
Alpiarça	Castro de Aire	Lamego	Nisa	Sabrosa	Valpaços
Alter do Chão	Castro Marim	Leiria	Óbidos	Sabugal	Vendas Novas
Alvaiázere	Castro Verde	Lisboa	Odemira	Salvaterra de Magos	Viana do Alentejo
Alvito	Celorico da Beira	Loulé	Odivelas	Santa Comba Dão	Viana do Castelo
Amadora	Celorico de Basto	Loures	Oeiras	Santa Maria da Feira	Vidigueira
Amarante	Chamusca	Lourinhã	Oleiros	Santa Marta de Penaguião	Vieira do Minho
Amares	Chaves	Lousã	Olhão	Santarém	Vila de Rei
Anadia	Cinfães	Lousada	Oliveira de Azeméis	Santiago do Cacém	Vila do Bispo
Ansião	Coimbra	Mação	Oliveira de Frades	Santo Tirso	Vila do Conde
Arcos de Valdevez	Condeixa-a-Nova	Macedo de Cavaleiros	Oliveira do Bairro	São Brás de Alportel	Vila Flor
Arganil	Constância	Mafra	Oliveira do Hospital	São João da Madeira	Vila Franca de Xira
Armamar	Coruche	Maia	Ourém	São João da Pesqueira	Vila Nova da Barquinha
Arouca	Covilhã	Mangualde	Ourique	São Pedro do Sul	Vila Nova de Cerveira
Arraiolos	Crato	Manteigas	Ovar	Sardoal	Vila Nova de Famalicão
Arronches	Cuba	Marco de Canavezes	Paços de Ferreira	Sátão	Vila Nova de Foz Cõs
Arruda dos Vinhos	Elvas	Marinha Grande	Palmela	Seia	Vila Nova de Gaia
Aveiro	Entroncamento	Marvão	Pampilhosa da Serra	Seixal	Vila Nova de Póvoa
Avis	Espinho	Matosinhos	Parede	Sernancelhe	Vila Nova de Poiares
Azambuja	Esposende	Mealhada	Paredes de Coura	Serpa	Vila Pouca de Aguiar
Baião	Estarreja	Meda	Pedrógão Grande	Sertã	Vila Real
Barcelos	Estremoz	Melgaço	Penacova	Sesimbra	Vila Real de Santo António
Barrancos	Évora	Mértola	Penafiel	Setúbal	Vila Velha de Rodão
Barreiro	Fafe	Mesão Frio	Penalva do Castelo	Sever do Vouga	Vila Verde
					Vila Viçosa
Batalha	Faro	Mira	Penamacor	Silves	Vimioso
Beja	Felgueiras	Miranda do Corvo	Penedono	Sines	Vinhais
Belmonte	Ferreira do Alentejo	Miranda do Douro	Penela	Sintra	Vise
					Visela

8.2) **"IMI" Calculation**

In order to calculate IMI, we need to know the value of the asset to then multiply by the applicable tax of the respective municipality.

The value of the tax paid of an urban asset is calculated by the following equation:

TAV = GV x A x Ac x Lc x Qc x Oc

Where,

- "TAV" stands for the Taxed Asset Value.
- "GV" stands for the Ground Value of the asset.
- "A" stands for the Area of the asset.
- "Ac" stands for Affectation coefficient.
- "Lc" stands for Localization coefficient.
- "Qc" stands for Quality and comfort coefficient.
- "Oc" stands for Obsolescence coefficient.

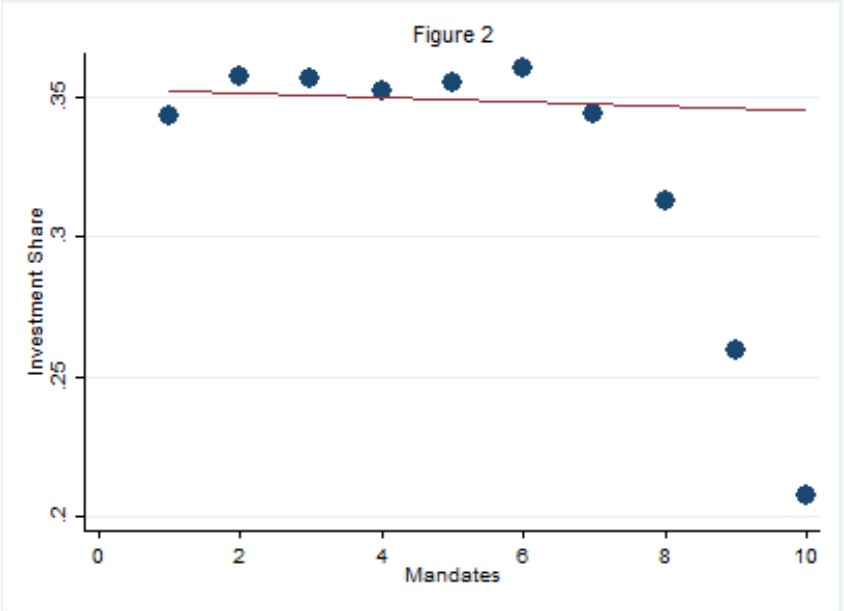
VT is then rounded to the immediate superior ten of euros.

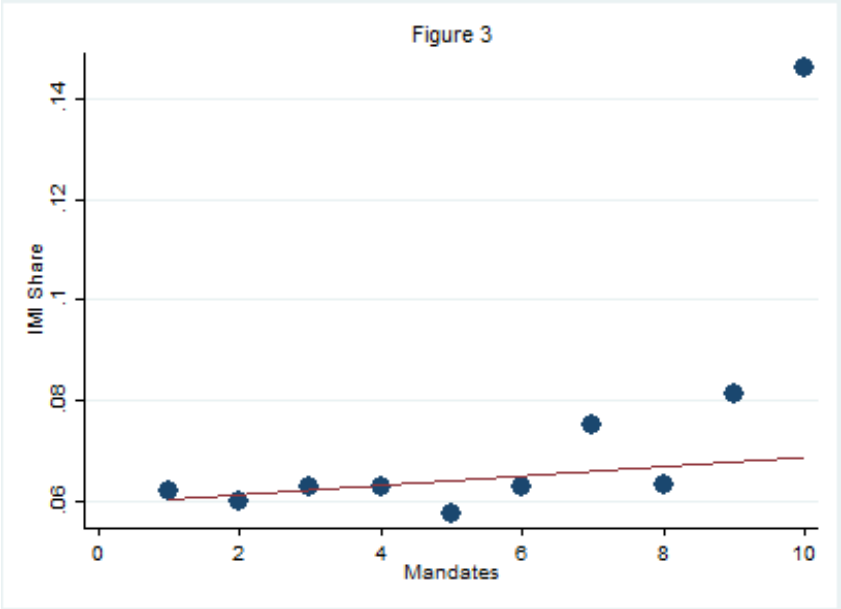
The **municipality rate** (IMI) is then applied on the **Taxed Asset Value**. It can go from **0,3% to 0,5%** for **evaluated urban assets** and from 0,5% to 0,8% for the rest of the assets.

8.3) Table 2 - Correlation Instrument and Dependent Variables – For IV Exclusion Restriction Condition Assessment Purposes

	Age	Purchasing Power per capita	Investment Share	Investement per capita	IMI Share	Unemployment	Budget Results
Age	1.0000						
Purchasing Power per capita	0.1003	1.0000					
Investment Share	-0.0237	-0.2984	1.0000				
Investement per capita	-0.0299	-0.3246	0.7111	1.0000			
IMI Share	0.1408	0.6279	-0.3509	-0.4359	1.0000		
Unemployment	0.0777	0.0792	-0.0914	-0.1515	0.1694	1.0000	
Budget Results	-0.0280	0.0486	-0.0905	-0.2063	-0.0726	-0.0233	1.0000

8.4) Figure 6 and 7 - Mayors' Terms and Investment and IMI Share: Reduced Forms





8.4) Figure 8 – Positive strong correlation between the number of terms and mayors' age