Political Factors and Municipalities Debt: An empirical assessment in Portugal

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Abstract

This paper explores the relationship between municipalities debt, measured by debt per capita and different political factors, for the 308 Portuguese municipalities, from 2014 to 2018. This study adds to the scarce prior research about Portuguese municipalities' debt and constitutes an original approach in the sense that these issues will be explored with more recent data, under the Local Finance Law (LFL) of 2013, implemented after the Local Administration Reform. We do not find evidence of an electoral cycle effect nor an ideological effect on the level of debt per capita. Only the coincidence of the political parties between the Local Executive and Central Government appeared to be relevant in medium/large municipalities. New insights about the relationship between political factors and debt are pertinent, mostly when Portugal started a decentralization process, with more competencies being assigned to local governments and more financial resources being requested, which could lead to an increase in the debt levels.

Keywords: political factors, debt, municipalities, panel data

Resumo

Este artigo explora a relação entre a dívida dos municípios, medida pela dívida per capita e diferentes fatores políticos, para os 308 municípios portugueses, de 2014 a 2018. Este estudo vem juntar-se à escassa investigação anterior sobre a dívida dos municípios portugueses e constitui uma abordagem original no sentido que essas questões serão exploradas com dados mais recentes, no âmbito da Lei das Finanças Locais (LFL) de 2013, implementada após a Reforma da Administração Local. Não encontrámos evidências de um efeito de ciclo eleitoral nem de um efeito ideológico sobre o nível de endividamento per capita. Apenas a coincidência e partidos políticos entre o Executivo Local e o Governo Central se mostrou relevante nos municípios de média/grande dimensão. Novas perceções sobre a relação entre fatores políticos e dívida são pertinentes principalmente quando Portugal iniciou um processo de descentralização, com mais competências atribuídas às autarquias e mais recursos financeiros solicitados, o que poderá potenciar um aumento do nível de endividamento.

Palavras-chave: fatores políticos, dívida, municípios, dados em painel.

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1. Introduction

Based on public choice theory and on the idea that politicians may behave opportunistically to increase the chances of re-election, extensive literature has emerged relating political factors and financial indicators of municipalities' management.

Nevertheless, in Portugal few papers address this issue. Past research relating municipalities' debt and political factors include Veiga and Veiga (2007); Ribeiro and Jorge (2015) and Bohn and Veiga (2019a, 2019b). This paper particularly investigates this topic under the Law 73/2013 framework. As far as we know, is the first empirical attempt exploring the relationship between political factors and municipalities' debt, using the definition of indebtedness of art. 52, from the LFL of 2013.

The focus of this paper is the debt level of each municipality, measured by debt per capita. Debt was measured under the LFL of 2013 and was obtained from the DGAL[1] reports on municipalities' indebtedness. Political factors explored include the existence of an electoral cycle effect, political ideology using the usual left-right orientation, and the coincidence of "colors" between the local government (LG) and the Central government.

The indebtedness of municipalities is a relevant matter either at a macroeconomic level, to keep under control public accounts and to attain the goals established in the Stability and Growth Pact; but also at the microeconomic level, where the central issue is that situations of financial imbalance cannot jeopardize the supply of municipal goods and services considered essential to the citizens' well-being. Cases of excessive and chronic indebtedness are problematic and bring high risks for public bodies and, above all, for future generations, particularly when there are delays in debt repayment with extremely high financial costs (João, 2014).

Although only one electoral cycle is analyzed here (municipal elections took place in 2013 and 2017), important insights may be obtained concerning the relationship between political factors and municipal debt. In addition, this exploratory analysis can enrich the study of the potential effects of decentralization, when more information starts to be available, in a near future. Decentralization "officially" begins in 2018 with the publication of the first legal diplomas. Several advantages may be pointed, namely, greater adjustment between the population needs and the policies adopted; greater transparency and accountability of municipalities towards local citizens. However, concerns also emerged, in particular the fear that decentralization could lead to even stronger asymmetries between municipalities. Not all municipalities have the same capacity to collect their own revenues and, in addition to transfers from the Central government, the resource to debt will be an option to be considered. Although the effects of decentralization are not analysed here, given the time span of our study, to understand how political factors affect LG debt is important, and may provide clues for the future management and control of debt.

As mentioned in Ferreira (2011), historically, the increasing transfer of responsibilities from the central government to the municipalities has not always been accompanied by transfers of

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[1] DGAL – *Direção Geral das Autarquias Locais* (General Directorate of Local Authorities).

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sufficient financial resources and patrimony, or by adequate means of action. In this situation, municipalities tend to use credit (debt) to ensure the pursuit of the public interest.

A balanced panel dataset was used with data on the 308 municipalities, from 2014 to 2018. The time span was dependent on the availability of DGAL data and includes all possible years. The empirical approach was based on fixed effects estimation.

This paper is structured as follows. Section 2 provides a brief description of the institutional and legal context of Portuguese municipalities. Section 3 presents the theoretical background, reviews the literature and derives the main hypotheses. Section 4 explains the research method. Section 5 details and discusses the results. Finally, Section 6 draws the main conclusions and shows the limitations of the research.

2. Portuguese local governments context

According to the Portuguese Constitution, there are three types of local governments (LG): parishes (*freguesias*), municipalities and administrative regions. From these three types, municipalities assume more importance, considering their political decision power and means of financial expression (Costa, Veiga and Portela 2015). Parishes are small jurisdictions with few own competencies and administrative regions are not yet implemented in Portugal mainland.

There are currently 308 municipalities. 278 are located in Portugal mainland, and the remaining 30 are overseas, belonging to the autonomous regions of Azores and Madeira. By population size, the majority of the municipalities are small (≤ 20 000 inhabitants): 187 (60.7% of the total). Medium municipalities (> 20 000 and ≤ 100 000 inhabitants) are 97; and large (> 100 000 inhabitants) are 24.

In terms of organizational structure, each municipality has an Executive Council and a Municipal Assembly. The Mayor and the Executive Council have executive power, whereas the Assembly is a deliberative body that approves the overall framework of local policies and monitors the activities of the Executive Council (CEMR, 2016).

These three governance bodies have a four-year mandate. Local residents are called upon to vote for party or independent lists in the same day in every municipality. The Hondt method is used to get the final results of the elections, transforming votes into mandates (Castro and Martins, 2011).

Local governments in Portugal have their own budgets and property, and are all subject to the same legal and institutional framework. With the Local Administration Reform implemented in 2012, a number of legal reforms were introduced changing significantly the financial, control and reporting framework of Portuguese municipalities. The most significant legal diplomas are the Local Finance Law (hereinafter LFL), Law 73/2013 of 3 September, and Local Authorities Law - Law 75/2013, of 12 September. Recently, Law 51/2018 republishes the LFL of 2013, but maintains the indebtedness' definition and its limits, ensuring stability in the national legal framework.

With the LFL of 2013, a new concept of municipal indebtedness was established (art. 52), as the total debt of budgetary operations. Total debt includes all the municipal group's liabilities, and excludes non-budgetary debts as well as the contribution to the Municipal Support Fund (FAM).[2]

Local authorities are responsible for the management of local public resources in order to meet the needs and interests of local populations. Law No. 75/2013 guarantees legal and institutional autonomy in the pursuit of their goals. Their main competences are defined in art. 23, and include Education, Maintenance of roads and parks, Social facilities for children, youth and seniors, Culture and sports, Environment, Housing and urban planning, Health Care, Community protection (municipal fire departments for example), Local residence permits, and Infrastructure (water, waste, etc.), among others.

The definition of these attributions is based on the principle that the level of government closest to the population, knows best its problems and needs and therefore, are in better position to provide these services. This idea is at the heart of the process of decentralization, which supports the increasing transfer of duties and powers from the Central Administration to the municipalities.

Recent years have witnessed a progressive trend of decentralization of competencies from central government to local authorities. However, the weight of local governments in general government finances is small compared to other European countries. As mentioned in Fernandes, Camões and Jorge (2019), local expenditures of Portuguese municipalities in 2018 accounted for only 12.6% of the total public expenditure and local revenue for 14.2% of total public revenue. This is very low compared to the European averages of 23.8% and 24.3%, respectively. Otherwise, the weight of local investment in total public investment (52%) is higher than the European average (36.1%), which suggests a greater intervention of Portuguese municipalities in public investment, comparing with their European counterparts (Fernandes *et al.*, 2019).

The main sources of municipalities' funds are central government transfers and their own revenues. The financial independence of each municipality is measured by the proportion of Own Revenue over Total Revenue. According to Fernandes et al., (2019), in 2018, financial independence in large and medium-sized municipalities was 67.5%, and 51.2%, respectively. A higher proportion of own revenues exist in larger municipalities, due to the higher volume of property taxes collected (IMI and IMT)[3]. In small municipalities, financial independence was only 30%, with the largest share of revenues coming from transfers from the Central Government (66.2%). In Portugal there is no municipal bond market, therefore all the additional funds (debt) comes from banks and other financial institutions.

Law 73/2013 has brought tighter rules in the financial regime of municipalities. Municipalities are allowed to run budget deficits, but they are subject to limits regarding the stock of
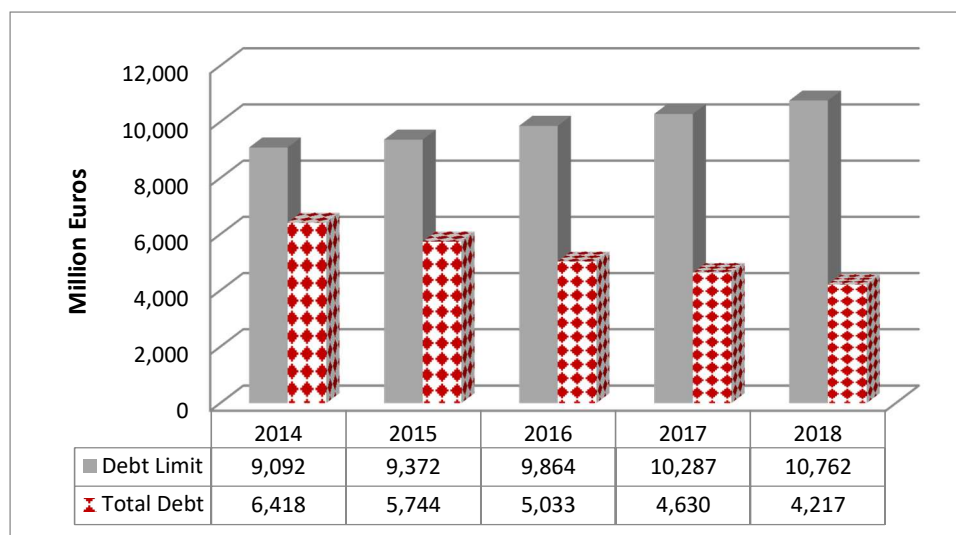
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[2] FAM – *Fundo de Apoio Municipal*.

[3] IMI – *Imposto Municipal sobre Imóveis* and, IMT – *Imposto Municipal sobre as Transmissões Onerosas de Imóveis*

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municipal debt. LFL stipulates that gross debt should not exceed 1.5 times the average current revenues of the last 3 years and a municipality whose debt is above the legal limit is obliged to reduce the excess debt by 10% each year. LFL was applied from 1 January 2014, onwards. Since then the municipalities' indebtedness (in global terms) has been decreasing (Figure 1).

Figure 1: Global debt limit and total debt for the 308 Portuguese municipalities

	2014	2015	2016	2017	2018
Debt Limit	9,092	9,372	9,864	10,287	10,762
Total Debt	6,418	5,744	5,033	4,630	4,217

Source: Based on DGAL data

The analysis of Figure 1 shows that the average indebtedness level (Total debt) is decreasing and enlarging the distance from the global debt limit established for every year. In 2014, total indebtedness represented approximately 70% of the total debt limit, and in 2018 only represented 39%. Despite significant improvements over the years, these results conceal asymmetries between municipalities. If the dimension of the municipality is considered and grouping by size, debt per capita is also decreasing, but in small municipalities, the average values are higher than in medium/large municipalities (Figure 2).

Figure 2: Debt per capita by municipality size
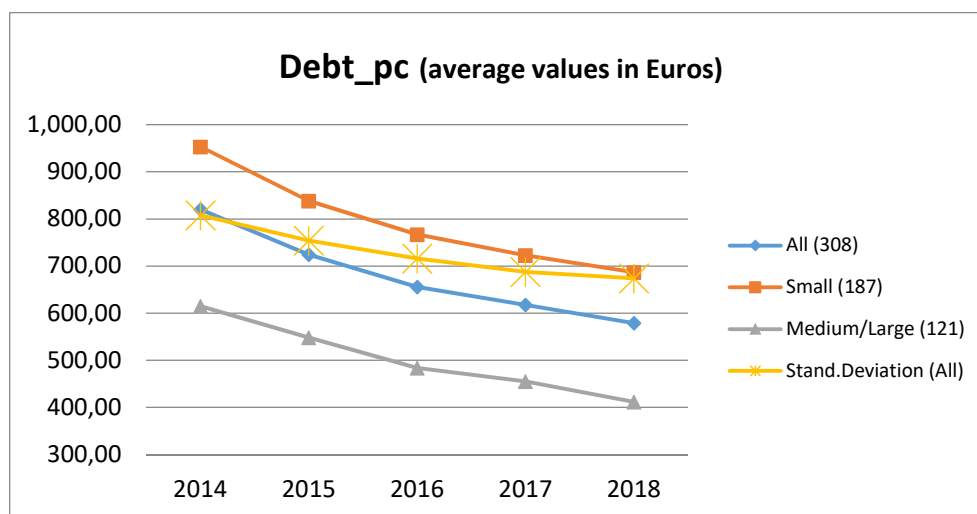
Source: Based on DGAL data

Also, noticeable is an increase of variability of the debt per capita level, among municipalities, meaning that differences are becoming more expressive.

3. Theoretical framework and hypotheses development

The issue of indebtedness, public spending and other public choices due to electoral political factors started to be discussed by Downs (1957), establishing the bases of the Theory of Political Cycles (Baldissera and Araújo, 2021).

The Theory of Political Cycles argues that politicians try to influence the results of elections, behaving opportunistically; as such they act in their own interest and not pursuing social well-being. Governments make use of some temporary asymmetric information and try to signal competence before elections by reducing taxes and/or increasing spending (thus getting into debt) in order to increase their re-election probability (Galli and Rossi, 2002; Bastida, Beyaert and Benito, 2013).

Studies about LG debt have generally been framed in the theory of public choice and of fiscal illusion. The fiscal illusion theory first emerged with Puviani (1903) and was later also developed by Oates (1989). With regard to debt, Oates (1989) states that politicians are motivated to finance their activity through indebtedness, as a way to hide from voters the true direct costs of programs. It will be easier to voters know the true costs of government programs if they are funded through taxes (Ribeiro, Jorge & Cervera, 2012).

Next, we present the political factors considered in this analysis.

- ▪ *Electoral cycle*

Several empirical studies address this issue, namely Baber and Sen (1986), and Clingermayer and Wood (1995), showed that EUA governments raise debt in election years. Ashworth, Geys and Heyndels (2005) analyzed 298 Flemish municipalities between 1977 and 2000 and found that indebtedness decreases after the elections and increases when it is close to the elections. Likewise, Geys (2007) studying Flemish municipalities found evidence that in the electoral year the level of debt is higher.

Shi and Svensson (2006) explored the difference between developed and developing economies. They observed that the deficit increases in electoral years, being more expressive in countries whose voters are less informed, in line with the assumption of asymmetric information. Bastida et al. (2013) using 238 Spanish municipalities, from 1992 to 2005, showed that the electoral cycle influences municipal debt per capita.

But not all empirical research led to the same conclusions. For instance, Baldissera and Araújo (2021), using panel data from Brazilian states from 2000 to 2016, estimated the effects of political and electoral characteristics on indebtedness. The results revealed that the electoral year does not influence the indebtedness of the Brazilian states.

In Portugal, Veiga and Veiga (2007) showed that in pre-electoral periods, LG increase total expenditures and change their composition favouring items that are highly visible to the

electorate. Ferreira (2011) explored the drivers of indebtedness using panel data for the years 2003 to 2007. An electoral cycle effect was reported: in the years after elections, there is a retraction of the debt ratio (tightening the accounts) to give greater margin of manoeuvre in the pre-election years. In the election's year, in order to prove their competence, mayors increase the level of indebtedness. Also, Veiga and Veiga (2014) used an extensive dataset from 1979 to 2012, revealed that budget deficits and debt increase in the electoral year. In the same line, Ribeiro and Jorge (2015) provided empirical evidence that municipalities debt increases in election years, using evidence from Portuguese municipalities in the period 2004 to 2013. More recently Bohn and Veiga (2019a, 2019b), with data from 2002 to 2014, showed that governments have an incentive to increase fiscal manipulations when a recession is expected and compromise re-election chances. Clear evidence for this behaviour is found in Portuguese municipalities. In election years, budget deficits go up even more when a recession is expected and moreover, this behaviour is further emphasized for highly indebted local governments. In line with previous empirical literature, we expect a positive effect of the electoral year on debt. It should be noted that in Portugal, LG elections occur in the end of the year. Affecting our research, LG elections were held on September 29, 2013; and, October 1, 2017.

H1: Municipalities' debt is higher in election years.

Additional political factors addressed in the literature include political ideology, if the political party of the local Executive is the same as the one in Central Government and political fragmentation (also called, political strength).

▪ *Political ideology*

Typically, the study of debt associated with political ideology is usually related to differentiation between left-wing/progressive and right-wing/ conservative parties (Ribeiro and Jorge, 2015), which is also called in the literature as the partisan theory (Bastida *et al*. 2013). Political ideology may influence indebtedness because left-wing governments tend to be in favour of a large public sector and to be less rigorous in the municipal accounts and budgetary issues (Seitz, 2000; Allers, Haan and Sterks, 2001; Tellier, 2006). However, the empirical results could not fully validate this assumption. For instance, Lago and Lago (2008), Ferreira (2011), and Bastida *et al*. (2013) did not find this variable statistically relevant. Favouring the majority of the literature, the following hypothesis was established:

H2: Municipalities with left-wing governments have higher debt.

▪ *Coincidence of the political party between the local Executive and the Central Government*

If the party of the LG is coincident with that of the central government, there may be a tendency to give financial benefits, namely increasing transfers and inducing a lower necessity to resort to debt (Baldissera and Araujo, 2021). Although transfers from the Central Governments to LG may only occur according to what is defined in the LFL, Ribeiro and Jorge (2015) argues that concerning Portuguese LG there is an expectation that Central Government will favour certain municipalities, when the same party is in power. In the same line, we expect:

H3: Municipalities with the same political color as the Central Government have lower debt.

▪ *Political fragmentation*

Political fragmentation or political strength was used in several studies, for instance, Ashworth et al. (2005), Borge (2005), Geys (2007), Zafra-Gómez *et al.* (2009), Ribeiro and Jorge (2015). The idea is that coalition governments, in order to meet the different interests, being more fragmented and less strong politically, will resort more to debt. The existence of several parties in a coalition can lead to more public spending and greater indebtedness, due to the attempt of each party to satisfy its electorate. This dominant explanation relies on the common pool resource theory—the more coalition partners there are, the higher the spending (Pavlović and Xefteris, 2020). In the same vein, Borge (2005) finds that a strong political leadership has an advantage in opposing the common-pool problem caused by competing interest groups representing different service sectors. Given the previous exposition, we expect that LG ruled by majorities to have lower debt than LG ruled by coalitions.

But exploring our data, as a result of LG elections held in September 2013, 89% of the municipalities were ruled by majorities (274). This percentage was almost not changed with the results of the elections of October 2017, with 88%. These high values show little variability and hence, we exclude this factor from the empirical analysis that follows. Relatively few LG are found to be led by a minority.

▪ *Control variables (socio-economic context)*

As control variables, two socio-economic factors are used whose influence has been tested in previous studies, namely population and the economic level (García-Sánchez, Mordán and Cuadrado-Ballesteros, 2014).

The number of inhabitants is a key factor that determines the growth of government, especially at the LG level (Bastida *et al.*, 2013). The larger the population the greater will be the need for the municipality to provide goods and services and have adequate infrastructure, which may imply a greater need to use debt. Larger LGs receive higher demands for public expenditures from its citizens (Ashworth *et al.*, 2005; Zafra-Gómez *et al.* 2009).

The economic level (measured by disposable family income) causes a higher demand for infrastructures and other types of expenditures (Hulten and Peterson, 1984). A positive relationship between income and the demand for public goods and services is expected (Benito and Bastida, 2004; Cabasés *et al*, 2007).

4. Research method

4.1. Population

The population of this study comprises all Portuguese local governments (308) for the years 2014 to 2018. The timeframe includes all the years for which there is available information, under the LFL of 2013. It should be noted that a higher time span including years prior to 2014 was not feasible, given the lack of comparability among the indebtedness measures.

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We perform the analysis using all the 308 municipalities, but because small municipalities (below 20 000 inhabitants) are the majority (60.7%), we disentangle the group using two sub-samples – small municipalities (187) and medium/large municipalities (121). Large municipalities may have structural differences compared to small municipalities as showed by Bastida, Guillamón, and Benito (2017), Lara-Rubio *et al.* (2017), Rodríguez-Bolívar *et al.* (2016), among others, therefore justifying a separate analysis.

Moreover, taking into account the Portuguese reality, Figure 1 already showed a similar evolution of debt per capita from 2014 to 2018 in all municipalities. But debt levels were systematically higher in small than in medium/large municipalities. This is also a consequence of the financial independence of each municipality that is greater in large /medium compared to small municipalities, as mentioned in Section 2.

It was not possible to split further the group into medium and large municipalities, because large municipalities with more than 100 000 inhabitants are only 24, not justifying a separate analysis.

4.2. Dependent, independent and control variables

The dependent variable is the Municipal Total Debt per capita, measured by the total debt of budgetary operations (defined in art. 52, nº 2, LFL: loans, leasing, other forms of indebtedness, with financial institutions and debts to third parties arising from budgetary operations) divided by population: per capita debt level (DEBT_pc). The independent variables of interest are political factors, namely: Electoral Year (ELEC_YEAR), Political Ideology (LEFT) and Political party coincidence between LG and Central Government (COLOR). Control variables are Population (POP) a numerical variable that represents the number of inhabitants governed by each local government; and Income Level (INC) to measure the economic level of each municipality.

Table 1 summarizes the independent and control variables used and the expected effect on the debt level per capita, considering the theoretical arguments presented.

Table 1: Independent Variables definition

Dimension	Hipothesis	Variable	Definition
Political **Factors**	H1	**Elec_year**: Electoral Year **(+)**	A dummy variable: 1 if it is an election year, 0 otherwise.[4]
	H2	**Left**: Political ideology **(+)**	A dummy variable to represent the political ideology of the municipality: 1

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[4] Some authors used the pre-election year. We follow the majority of the studies about the Portuguese reality and use the election year (Bohn and Veiga, 2019a, 2019b; Ribeiro and Jorge, 2015). Municipal elections take place generally at the end of the year, therefore justifying this option.

		for left-oriented local governments, [5] 0 otherwise.
H3	**Color**: Political color **(-)**	A dummy variable to account if the municipality belongs to the same party of the Central Government: 1 if it is of the same party (color), 0 otherwise.
Control variables	**POP**: Population **(+)**	The number of inhabitants of each municipality, in logarithms.
	INC: Income Level **(+)**	Average monthly income in each municipality, in EUR.

Note: Each variable presents, in brackets, the expected effect on the dependent variable

Different sources of information were used. The information on each municipality debt was obtained from *Portal Autárquico*, (www.portalautarquico.dgal.gov.pt/). Political variables were computed by the authors based on the results of the municipal elections of 2013 and 2017, and for the variable *Color*, crossing with the results of the legislative elections that took place in 2011 and 2015, available from the Ministry of Internal Affairs (https://www.eleicoes.mai.gov.pt/). The remaining socioeconomic variables were obtained via online INE (Statistics Institute of Portugal) and PORDATA databases.

4.3. Empirical approach

This research aims to ascertain if political factors affect municipalities' debt using a panel dataset for the 308 Portuguese municipalities from 2014 to 2018. The natural choice is to use panel data methods. Our panel is balanced, because the information is available for all the municipalities in the five years.

Panel data presents several advantages, namely, to control for variables not observed or measured (it accounts for individual heterogeneity), more accurate inference of model parameters and more accurate predictions. Panel data usually contain more degrees of freedom and more sample variability than cross-sectional or time series data, thus improving the efficiency of econometric estimates (Baltagi, 2005).

As a starting point, three models were estimated: the pooled OLS (POLS), the fixed effects (FE) and the random effects model (RE).[6] The appropriate model was chosen through the F statistics for fixed effects, the Breusch and Pagan Lagrangian multiplier test for random effects, and the

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[5] Socialist Party (PS), Portuguese Communist Party (PCP), Left Block (BE) and Ecology Party "Greens" (PEV) were considered left-wing parties. The "other" includes right-wing parties - Social Democratic Party (PPD-PSD), CDS – Popular Party (CDS-PP) and Popular Monarchist Party (PPM) - and independent.

[6] All the estimations were conducted using STATA 14.

Hausman test to compare FE with RE (see, more details in appendix A). The results pointed to the adequacy of FE, model that will be presented next:

$$Y_{it} = X_{it}\beta + \alpha_i + \mu_{it} \quad \text{for} \quad t = 2014,\dots 2018 \quad \text{and} \quad i = 1,\dots,308$$

Where:

Y_{it} is the dependent variable (debt per capita) where i = entity (each municipality) and t = time (2014-2018);

X_{it} is the time-variant 1x 5 (the number of independent variables) regressor vector;

β is the 1 x 5 matrix of parameters;

α_i is the unobserved time-invariant individual effect (is the unknown intercept for each municipality);

μ_{it} is the error term.

5. Results and discussion

Next table (Table 2) presents the summary statistics for all the variables.

Table 2: Descriptive statistics of the variables

Variable	All Municipalities (308)					Small Municipalities (187)					Medium/Large Municipalities (121)				
	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max
DEBT_pc	1540	679.42	734.68	0	6473.52	935	793.73	843.61	0	6473.52	605	502.75	472.53	17.09	3375.92
ELEC_YEAR	1540	0.200	0.400	0	1	935	0.200	0.400	0	1	605	0.200	0.400	0	1
LEFT	1540	0.598	0.490	0	1	935	0.624	0.485	0	1	605	0.559	0.497	0	1
COLOR	1540	0.497	0.500	0	1	935	0.505	0.500	0	1	605	0.486	0.500	0	1
POP	1540	4.206	0.504	2.662	5.707	935	3.873	0.266	2.662	4.320	605	4.720	0.318	4.308	5.707
INC	1540	920.74	171.71	693	2331.2	935	878.38	171.44	693	2331.2	605	986.19	150.37	708.40	1791.50

Debt_pc average is significantly higher in small municipalities, exhibiting also a higher variability comparing with large/medium municipalities. Not surprisingly, the average income level is higher for large/medium municipalities. Concerning political variables, on average 50% of the municipalities share the same party (color) with the Central Government with no evident differences related to municipalities' size. However, 62.4% of the small LG are ruled by left-oriented parties (on average), contrasting with medium/large municipalities with 55.9% (on average, taking into account the five years of analysis).

To check for collinearity problems, a correlation matrix was computed (results in Appendix A) with no high values of pairwise correlation (the highest is below 0.40). In addition, a statistical test was performed using the variance inflation factor (VIF) confirming the absence of any problems. Mean VIF was 1.11, being the highest value related to the INC variable (1.20).[7]

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[7] VIF is an indicator of how much of the inflation of the standard error could be caused by collinearity. As a rule of thumb, values above 10 should be a cause for concern and must be corrected.

Tests were conducted to define the best model to be used. Thus, we perform the test proposed by Breusch and Pagan, to decide between the pooled OLS model and the RE model; and the F-test to decide between the pooled OLS model and the FE model (Park, 2011). Following these tests results, it was concluded by the superiority of RE and FE comparing with pooled OLS. Finally, the Hausman test helps to decide. The rejection of the null hypothesis suggests that the difference in coefficients between FE and RE is systematic. Therefore, RE does not provide consistent estimates and the use of FE is preferred over RE. The final decision is that a FE model best suits our data (details in Appendix A).

The estimation results of the panel data model, controlling for municipality fixed effects, are shown in Table 3.

Table 3: Results of the model estimation

Y= DEBT_pc	All Municipalities	Small Mun.	Medium/Large Mun.
	Coefficient	Coefficient	Coefficient
ELEC_YEAR	-27.886***	-26.03**	-23.487***
	(-3.68)	(-2.17)	(-4.26)
LEFT	61.392	109.219	17.442
	(1.57)	(1.62)	(0.87)
COLOR	-19.534*	-16.09	-26.499*
	(-1.95)	(-1.19)	(-1.93)
POP	8662.82***	9528.73***	3964.30**
	(7.41)	(7.06)	(2.19)
INC	-0.5232***	-0.2993	-1.345***
	(-3)	(-1.27)	(-6.81)
Constant	-35294.7***	-35907.0***	-16873.0*
	(-7.04)	(-6.7)	(-1.96)
# Observations	1540	935	605
# Municipalities	308	187	121
F statistic	27.57 (0.0000)	19.64 (0.0000)	17.41 (0.0000)
Hausman Test	178.69 (0.0000)	151.03 (0.0000)	31.85 (0.0000)

Notes: *, ** and *** indicate significance at a 10%, 5% and 1% level, respectively.
T-statistics based on heteroskedastic consistent standard errors are in parenthesis.

Prior to the analysis of the results of Table 3, it should be noted that given the fact that the Municipality of Lisbon is a very large municipality (with more than 500 000 inhabitants), and could be considered a possible outlier, we ran the regressions, excluding this municipality. However, the results did not exhibit significant differences considering the magnitude and

statistical significance of the coefficients. Therefore, we opt to present the results obtained with the full samples.[8]

Let us begin by discussing the findings for our central political variables. First, to confirm the existence of an electoral cycle, our dummy on the electoral year (ELEC_YEAR) returned statistically significant in all specifications, but with a negative effect. Therefore, it is not possible to validate hypothesis H1.

It should be emphasized that these results are not coincident with those evidenced by most of the literature. In the Portuguese case, the existence of a law that regulates fiscal discipline (LFL) may justify these results, of not using debt as an opportunistic mechanism in political competition. Thus, there is a decrease in the debt level per capita in the year of the elections. As possible justifications, it may represent an effort by politicians to demonstrate to voters their commitment to responsible economic management and thus, to seek electoral support adopting this behavior (Rogoff and Sibert, 1988), or eventually, the existence of a political commitment between current and future governments (Pettersson-Lidbom, 2001). In addition, Bohn and Veiga (2019b) also noted that political budget cycles are context-conditional, they do not occur in all circumstances. It depends on each municipality initial condition on debt and on the phase of the economic cycle (recession or expansion). More consistent results will be possible, as soon as a larger time span for the analysis will be available.

Next, moving to the analysis of political ideology, we cannot confirm H2, as the dummy variable (LEFT) is not statistically significant. There is no evidence of effects on debt arising from differences between left-wing LG or with other political orientation. We may follow the arguments of Bastida *et al.* (2013), that "ideology does not matter" in what concerns LG. At the local level, where citizens' direct needs are at stake, only small differences in financial behavior between left and right governments are expected. The proximity that the municipal governments have with the citizens can make them act more according to the population needs, and not so much based on ideological and partisan grounds. Similar results were obtained by Lago and Lago (2008), Bastida *et al.* (2013) and Ribeiro and Jorge (2015).

As for the variable COLOR to explore the relationship between debt and the political party of the local Executive coinciding with that of Central Government, the results are statistically significant only for medium/large municipalities (and All), presenting the expected negative sign. Debt is lower when the municipalities are ruled by the same partisan color as that of the Central Government. However, we cannot fully corroborate H3. Our results are in line with Rumi (2014), but for Baldissera and Araújo (2021) and Ribeiro and Jorge (2015) this variable returned statistically not significant.

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[8] Results not presented here, for convenience purposes.

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Turning to control variables, the variable population (POP) is statistically significant for all specifications confirming the expected effect, but particularly for small municipalities with a larger coefficient. Population is positively related to growth in local public debts. This is in line with the idea that LG with larger populations demand more (debt-financed) public expenditures. Similar results were obtained by Zafra-Gómez *et al.* (2009) and Geys (2007), which found a statistical evidence of a positive relationship between population and debt.

Contrary to previous studies, the proxy for the economic level - the disposable average income (INC) is only statistically significant for medium/large (and All) municipalities, but exhibiting the opposite sign. Our results show that wealthier municipalities are less indebted. Explanations may be presented following the arguments of Farnharm (1985) and Benito López *et al.* (2004), who postulate that the relationship between income and debt is not straightforward. On the one hand, families with lower incomes prefer municipalities to go into debt, in order to pay fewer taxes, but families with more income are generally opposed to expansionary policies based on debt (Farnharm, 1985). Yet Benito López *et al.* (2004) also state that it will not be easy to establish a relationship with indebtedness, given that, on the one hand, citizens with higher incomes may have greater needs, which may lead to indebtedness. But on the other hand, wealthier municipalities will provide higher LG own revenues and, consequently, less need to use debt as a source of funds.

As a summary, from our empirical results, we do not support the argument of an expressive influence of political factors, considering the variables adopted, on the Portuguese municipal debt level in the years 2014-2018.

6. Concluding remarks

The main contribution of this research is to add to the scarce empirical literature about the Portuguese municipalities' debt levels, particularly exploring the role of political factors. This exploratory study expands prior research about Portuguese LG using more recent data and the indebtedness definition under the LFL (Law 73/2013) framework, which constitutes an original aspect. Several political factors were studied, using evidence from the 308 Portuguese municipalities in the period 2014 to 2018, which includes all the possible years with comparable information. To enrich the analysis, we further explore if noticeable differences exist between small and medium/large municipalities. The relative importance of the source of funds to finance their local activity is different (Central Government Transfers, Own Revenues and Debt), justifying the split into these two groups.

This theme maintains relevance, particularly in the context of the decentralization process that is being implemented in Portugal. More competencies attributed to local governments will mean more financial resources to efficiently meet the populations' needs and this may induce increasing debt levels. The time span of this research do not allow to study the possible direct

effects of the decentralization process on municipalities debt, but provide relevant clues on the relationship between political factors and debt.

Although the LG indebtedness has been improving over the recent years, notably after the Local Administration Reform, it is still important to understand the relationship between political factors and debt. Is there an electoral cycle effect on municipal debt? Does the political partisan ideological affiliation matter to explain municipal debt? Is there an expected financial benefit, if there is a coincidence between the LG party and that of the Central Government?

In summary, this research supports the view that there is no electoral cycle effect on municipal debt. This may be due to an effort by politicians to demonstrate economic and responsible management and signalizing competence in electoral years (debt per capita decreases). Or moreover, may be a consequence of the implementation of the LFL 2013 with stricter rules to limit municipal indebtedness (a decreasing trend on municipal debt levels is evident since its implementation). Regarding the impact of governments' ideology, its impact on LG may be scarce, and this study confirms it. We provide further evidence that at local level "ideology does not matter". Finally, less debt exists in municipalities which are ruled by a partisan of the same political orientation as the Central Government and concerning this variable, results are different considering the size of the municipality. Only medium/large municipalities seem to have a financial benefit, but this result should be interpreted with caution because these municipalities are typically wealthier.

These findings are important to policymakers, as several political factors were identified and should be closely monitored in order to detect some change in their effect and as such, to minimize potential political opportunism.

The current research has limitations that constitute avenues for further research. The first is the time span used, only five years. In future studies, it would be interesting to include a larger period of time to more robustly investigate the electoral cycle effects and the consequences of the decentralization process on municipal debt levels. With a larger time span, it will be possible to adopt different methodological approaches, for instance, dynamic panel models. Second, it is possible to use a different set of dependent/independent variables, and it will probably affect the results, namely if we choose a different measure to account for each municipality debt. Third, the national local finance laws vary considerably across countries. With a focus on the Portuguese reality, our results and policy implications do not necessarily apply to different settings.

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APPENDIX A

Table A.1 – Correlation Matrix

	ELEC_YEAR	LEFT	COLOR	POP	INC
ELEC_YEAR	1				
LEFT	-0.0007	1			
COLOR	0.100	0.2514	1		
POP	-0.0033	-0.0213	-0.0081	1	
INC	0.0481	0.0562	0.0253	0.3997	1

Table A.2 – Panel data tests

	FE (F-test)	RE (B-P LM test)	Teste de Hausman
ALL	127.74	2799.27	178.69
	(0.0000)	(0.0000)	(0.0000)
Small	131.64	1703.29	151.03
	(0.0000)	(0.0000)	(0.0000)
Medium/Large	118.04	1075.29	31.85
	(0.0000)	(0.0000)	(0.0000)

Source: STATA 14 results.