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Political Economic Cycles in Electoral and Non-Electoral Years in Local Government in Portugal

A Case Study

Marta Alexandra Rico Pereira,*
Maria Manuela Santos Natário, Amândio Pereira Baía*****

* MA student, Instituto Politécnico da Guarda, Guarda, Portugal, e-mail: martaricopereira@gmail.com

** Associate Professor, Departament of Management and Economics, Instituto Politécnico da Guarda, CICF, GOVCOPP, Guarda, Portugal, e-mail: m.natario@ipg.pt

*** Associate Professor, Departament of Management and Economics, Instituto Politécnico da Guarda, Guarda, Portugal, e-mail: baia@ipg.pt

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Abstract: This article aims to assess the existence of opportunistic behaviour among mayors during election years within the framework of Political Economic Cycles (PEC). Therefore, the trajectory of some public expenditure over four electoral cycles is analysed in the municipalities belonging to the Intermunicipal Community of Beiras and Serra da Estrela (CIMBSE) in Portugal. The study covers the period from 2008 to 2022 in a data panel that encompasses the fifteen municipalities belonging to CIMBSE. The data includes total, current, capital and investment expenditure, and it has been statistically analysed to compare spending trends in election years and non-election years. The empirical tests carried out showed the existence of opportunistic behaviour among mayors during election years, manifesting itself in terms of municipal spending, namely total and current spending, both overall and per capita. Nevertheless, no cases of opportunistic behaviour have been identified with regard to capital and investment expenditure.

Keywords: local finances, municipal budget, Political Economic Cycles, electoral cycles, public expenditures

Corresponding author: Maria Manuela Santos Natário

1. Introduction

Though there is no consensus on the origin of municipalities, it is clear that they play a fundamental role in the governance of the state and the functioning of society, and they establish a crucial proximity between economic agents and the population. Local government is widely recognised as a key driver of economic growth and business activity, which is well illustrated by its resilience in the face of regime change, maintaining levels of organisation and administration over several centuries.

In Portugal, local autonomy is regulated by the Constitution,[1] which endorses the principle of administrative decentralisation and financial autonomy in accordance with Articles 237 and 238. It is in this context that this article seeks to consider whether this autonomy is being well managed by political decision-makers. And by being well managed, we understand their actions being guided by the criteria of efficiency and economy (Rodrigues, 2021).

Financial autonomy gives local governments the freedom to manage their assets and finances without interference. In Portugal, the current system of municipal budgeting is regulated by the so-called Local Finance Law.[2]

In the full exercise of their competences, and given the financial autonomy they enjoy vis-à-vis central government, local authorities are required to draw up an annual budget. This document must systematically set out the revenue forecasts and expenditure allocations to be implemented throughout the financial year. However, as the budget is a provisional instrument and, by nature, dynamic, it is accepted that, during its implementation, adjustments may be made to the amounts initially entered, whenever circumstances so warrant (Félix, 2020).

These mechanisms ensure fiscal adaptability and allocative efficiency, while safeguarding transparency, accountability and compliance with public finance law.

However, studies have shown that the performance of municipalities in public finances is influenced by political cycles as well (Veiga & Veiga, 2004). Different objectives of political agents in conducting public spending in PEC have been discussed, giving rise to two major trends in the literature. The opportunistic aspect of PEC was developed by Nordhaus (1975), Rogoff and Sibert (1988), and Rogoff (1990), who proposed that public resources would be used to re-elect the manager. And the opposing view was presented by Hibbs (1977) and Alesina (1987), who argued for the existence of partisan PEC. In this model, public spending would be directed towards agendas prioritised by specific electoral groups, to ensure party succession in elections (Correia & Casonato, 2018). Although these dynamics have been subject to intensive study, with reference to Portugal, there is very limited analysis.

It is for this reason that this study aims to analyse whether electoral cycles in local governments translate into changes in budget management, i.e. whether mayors engage in

[1] Constituição da República Portuguesa. Online: https://www.parlamento.pt/legislacao/documents/constpt2005.pdf

[2] Law n.º 73/2013 of 3 September, updated by Law n.º 82/2023, Chapter V of 29 December. Online: https://diariodarepublica.pt/dr/detalhe/lei/-835864042-836144091

electioneering behaviour during election years by manipulating total, current, capital, and investment expenditure to signal a higher level of competence to the electorate.

The empirical study analyses the expenditure of all the 15 CIMBSE municipalities between 2008 and 2022. CIMBSE is located in the Central Region of Portugal, covering a vast area along the Spanish border, and it comprises of 15 municipalities, namely: Almeida, Belmonte, Celorico da Beira, Covilhã, Figueira de Castelo Rodrigo, Fornos de Algodres, Fundão, Gouveia, Guarda, Manteigas, Mêda, Pinhel, Sabugal, Seia and Trancoso. It is experiencing demographic decline and low population density, where demographic ageing continues to accelerate. In terms of its economy, it has also been losing ground at national level, with a competitiveness index below the national average, a predominance of micro-enterprises, and also with a cohesion index below the national average (Marques et al., 2022).

We have selected the CIMBSE region as the subject of our study because it provides an ideal framework for testing hypotheses related to electoral cycles, and because no prior study has been conducted with reference to budgetary management on the region (for an analysis of demographic and socio-economic aspects see Marques et al., 2022).

Though doubtlessly the article has certain internal limitations, we believe its findings remain relevant. It contributes to a broader understanding of the functioning of local executive and political bodies by examining whether these institutions exhibit electoral behaviour during election years. In particular, the study aims to assess whether there is evidence that local policymakers strategically adjust public expenditure, namely total, current, capital, and investment spending during electoral periods as a means of signalling greater competence to the electorate.

2. Literature review

2.1. Political economic cycles

The idea that economic performance is manipulated by political objectives is one of the most controversial and relevant themes in contemporary economic analysis. The relationship between the economy and the political system has long been a topic of interest to economists, as political decisions have a natural impact on economic policies and consequently on economic performance (Snowdon & Vane, 2005).

Several studies associate economic fluctuations to political events, proposing the existence of a nexus between the electoral calendar and economic cycles (Preussler, 2001). This approach to economic cycles is known as the PEC theory. It studies the existence of manipulation of economic variables during pre-election periods to influence voters' decisions (Castro et al., 2016). Different approaches to this theory have emerged, with some studies considering only opportunistic aspects and others including the possible ideological aspect of manipulation in their analysis. But the PEC theory has its origin rooted in the works of Marx, Keynes and Schumpeter (Coelho, 2004).

Marx (1887) argued that the dominance of the capitalist class over the working class generates cycles of economic expansion and depression. In turn, Keynes (1936)

demonstrated that government can manipulate the economy through the use of monetary and budgetary policies. Finally, Schumpeter (1939; 1942) acknowledged that political factors are implicit in economic fluctuations, proposing instead a model in which political elites compete in a "political market" for voters' support, with the primary aim of gaining and maintaining power.

Research into the behaviour of economic policymakers in relation to the electoral calendar began with the work of Downs in the 1950s. Downs (1957) states that in a democracy, political parties formulate policies primarily to win votes, serve interest groups, and formulate policies to gain power. Thus, in a democracy, the government's social function of formulating and executing policies is fulfilled as a by-product of its private motive of gaining income, power, and prestige from being in office. This hypothesis suggests that the government always acts to maximise the number of votes it will receive (Downs, 1957). According to Downs (1957, p. 137), the government "is a company that sells policies for votes rather than products for money". And he assumes that voters act rationally, i.e. each person sees elections as a method of selecting the government that will benefit them most.

Following Downs's critique in the mid-1970s, the discussion on PEC began. The opportunistic theory (Nordhaus, 1975), emerged, giving rise to the opportunistic model. Since then, a significant amount of literature has been published to test models that verify the aforementioned theory (Fernandes, 2015).

2.1.1. Nordhaus's opportunistic model

Nordhaus's (1975) study investigates a simple model of public intertemporal choice in which decisions are made within a political framework. The specific problem analysed is the choice between inflation and unemployment. In other words, the opportunistic model proposes a macroeconomic trade-off between inflation and unemployment, demonstrated by the Phillips curve (Nordhaus, 1975).

Nordhaus (1975) assumes that economic agents have the aggregate rates of unemployment and inflation in their preference functions and that they prefer stable prices and low unemployment rates to high inflation and unemployment rates, i.e. they follow expansionist policies that generate economic growth and low levels of unemployment. This fact, combined with the 'short-sightedness' of the electorate, creates favourable conditions for the government to maximise its chances of re-election (Azevedo, 2012). After the elections, the government is faced with a high inflation rate and implements austerity measures, which increase unemployment (Nordhaus, 1975).

The manifestation of the PEC proposed by Nordhaus (1975) can be seen when the unemployment rate falls over the course of the mandate, but immediately after the elections, the elected leader pushes the economy to the right of the Phillips curve, increasing the unemployment rate to combat inflation and change voters' inflation expectations. It turns out that, even at the time of the elections, if inflation is high, the incumbent will be able to be re-elected, since voters only have to be satisfied with the low unemployment rate, according to the Nordhaus model (Siqueira, 2016).

The Nordhaus model (1975) provoked various reactions, which were eventually criticised based on empirical theory. With the rational expectations revolution came the rational model.

2.1.2. The rational model

The basic notion behind the so-called 'rational models' of political cycles suggests that rational behaviour on the part of the public, particularly the voters, implies a perfect understanding of the political-economic environment, leading in the long term to an anticipation of the government's actions and decisions, which would consequently result in the adjustment of expectations as the public anticipates them, which would make it impossible for longer political cycles to exist (Fialho, 1999). There is no short-term Phillips curve that political decision-makers can exploit.

The first two contributions to the field of rational expectations theory were put forth by Rogoff and Sibert (1988) and Rogoff (1990), both following Nordhaus's assumptions and extending the opportunistic model to incorporate rational expectations.

Over the years since the PEC theory was established, numerous studies have been conducted across different countries, providing evidence of political opportunism in the context of re-election incentives. Table 1 summarises the main conclusions drawn from the studies analysed below.

Although not directly related to public expenditure, Stein and Streb (2004), in their study of the rational political budget cycle (RPBC) model for an open economy, highlight the role of elections in shaping the timing of nominal exchange rate movements. Their framework extends previous models in two main ways: first, by incorporating the effects of elections on exchange rates, previously overlooked in closed-economy settings, and second, by introducing incomplete information not only about government competence but also about its degree of opportunism. This results in a partially pooling equilibrium in which opportunistic and less competent governments deviate from optimal policies, reducing devaluation rates prior to elections and increasing them afterwards.

The study by Drazen and Eslava (2010) develops a political budget cycle (PBC) model in which incumbents seek to influence voters by altering the composition of public spending rather than its overall level. The authors argue that rational voters may still support incumbents who increase targeted spending before elections, as such actions can signal both opportunistic behaviour and genuine policy preferences. Using data from Colombian municipalities, the findings reveal a clear pre-electoral increase in targeted expenditures, accompanied by a reduction in other categories of spending, as well as a positive voter response to these targeted allocation strategies.

The significant impact of electoral systems on fiscal policy has been analysed by Persson and Tabellini (2003), who show that majoritarian systems tend to produce smaller welfare states, lower levels of public spending, and reduced budget deficits compared to proportional systems. According to these authors, empirical evidence supports these predictions indicating that a shift from proportional to majoritarian rules can substantially decrease government expenditure, welfare spending and deficits as a share of GDP.

Table 1
Summary table, political economic cycles

Authors	Main conclusions
Rogoff and Sibert (1988)	They concluded that with information asymmetry, politicians have a lot of information that voters do not have, and this time lag creates opportunities for electoral manoeuvres.
Rogoff (1990)	In order to appear competent, political decision-makers tend to prioritise more visible programmes and transfers over public investment, i.e. the visibility of public spending is particularly associated with current expenditure rather than capital expenditure.
Blais and Nadeau (1992)	Total spending and the deficit increase slightly in an election year. Specific areas indicate that a substantial part of this extra spending goes to social services and roads.
Rosenberg (1992)	He concluded that the manipulation of public spending could be aimed at increasing employment opportunities in the private sector or even transferring rewards.
Schuknecht (1998)	In conclusion, increases in public spending are the favoured vehicle for policymakers to boost their popularity ahead of elections. Public investment spending is the favoured policy of a cross-section of developing country governments seeking re-election.
Block (2001)	The results indicate that in an election year, public spending shifts towards more visible current expenditure and away from investment spending.
Shi and Svensson (2006)	They concluded that the budget deficit increases by one per cent of Gross Domestic Product (GDP) during elections, and political budget cycles are greater in developing countries.
Alt and Lassen (2006) (cited by Klein & Sakurai, 2015)	They concluded that election-year deficits are higher in developed countries.
Katsimi and Sarantides (2012)	The authors conclude that elections shift public spending towards current expenditure to the detriment of public investment.
Balaguer-Coll and Brun-Martos (2013)	The results show that, in general, increases in local public spending, particularly increases in capital spending, have a positive effect on the likelihood of re-election.
Castro and Martins (2018)	They concluded that the components of public spending identified as being significantly manipulated in election years are: public services, education, social protection and some items of health expenditure.
Wyse et al. (2022)	The results suggest that opportunistic political cycles increase the effect of spending on municipalities' public debt. However, it can be said that the effect is more significant in pre-election years.

Source: Compiled by the authors.

Overall, electoral rules are identified as a key determinant of fiscal outcomes in modern democracies, with institutional reforms likely to lead to significant changes in the size and scope of the public sector.

Recent contributions to the literature on PBC reinforce the persistence and diversification of these dynamics in contemporary contexts. For instance, Asatryan et al. (2026) show that governments may rely on a broader set of fiscal instruments, including state-owned enterprises, to influence electoral outcomes. Similarly, Shmuel (2025) finds that PBCs tend to be more pronounced under populist leadership, particularly in weaker institutional settings. In addition, Budzeń and Wiśniewski (2023) provide empirical evidence at the local level, confirming the existence of such cycles and their effects on the financial structure of municipal governments.

2.2. Political Economic Cycles in Portugal at the local level

In PEC models at the local level, budgetary policy is the most important financial instrument for signalling competence to voters (Miguel, 2020). The fact that the provision of local public goods is the fundamental economic activity of local authorities means that these activities play a central role in influencing budgetary policy (Cardoso, 2012).

Of the few studies on PEC in local government in Portugal, the most important is that by Baleiras and da Silva Costa (2002; 2004), who propose a new explanation for PEC: the incumbent's concern for their own well-being in the event of victory or defeat. Political officeholders who are not re-elected generally have no prospects of being hired for other positions in the public sector. These political decision-makers will have to find a job if they are not re-elected. Therefore, rational public office holders will take external income into account in their budgetary decisions (Baleiras & da Silva Costa, 2002). According to Baleiras and da Silva Costa (2004), the study's data highlights the role of political and economic determinants of local government investment spending, such as the electoral calendar, re-election decisions, political cohesion and intergovernmental capital transfers. The study concluded that the majority of local investment goes towards highly visible infrastructure: roads, sewers and water pipes, social empowerment, schools and sports. It follows that the manipulation of public spending also aims to increase employment opportunities in the private sector by transferring funds to companies through the award of contracts.

This was followed by the studies of Veiga and Veiga (2004), who analysed the existence of PEC in the budgetary policies of municipalities in mainland Portugal between 1979 and 2000. The findings reveal the presence of opportunistic behaviour among mayors who, in the run-up to elections, seek to signal greater competence by increasing public spending, particularly in categories that are highly visible to the electorate, notably investment-related expenditure. There is a clear intention on the part of mayors to gain popularity before the elections, which confirms the existence of PEC.

The study carried out by Veiga and Veiga (2005), in addition to the expenditure mentioned in Veiga and Veiga (2004), adds the variable of local employment. They assess the impact of political factors on employment in Portuguese municipalities, finding significant effects particularly in sectors related to construction and public works. In short,

Portuguese mayors manage economic policy instruments and try to improve the performance of the local economy (which translates into an increase in municipal employment) to demonstrate greater competence before elections.

Coelho et al. (2006) also analysed municipal employment using an unexplored dataset covering all municipalities on the continent between 1985 and 2000. They found strong evidence of PEC. Employment increases just before elections. Employment increases are particularly high in the construction and public works sector, as well as in community, social and personal services. By improving local economic conditions just before elections, mayors can signal their competence to voters and increase their chances of re-election.

In Portugal, increases in investment spending and changes in the composition of spending that favour highly visible items are associated with higher vote shares for incumbent mayors seeking re-election (Veiga & Veiga, 2007). The results, therefore, clearly support the hypothesis that opportunism pays off.

In 2011, Aidt et al. (2011) proposed a new model in which they investigated the implicit bidirectional interaction between the importance of opportunistic distortion and the margin of victory. The results show that opportunism pays off, leading to a greater margin of victory for the public office holder.

Since mayors have less control over municipal revenues, it is easier and more predictable to manipulate expenditure items, which are then more susceptible to political manipulation (Rodrigues, 2021). Therefore, and in line with PEC theory, it is important to note that the measures adopted by local governments to maximise political popularity with a view to re-election are associated with the manipulation of public resources (Rodrigues, 2021).

3. Methodology

This study aims to analyse the variations in current, capital, total, and investment expenditure in the electoral and non-electoral years of the 15 municipalities belonging to CIMBSE to determine whether there is evidence to support the presence of political budget cycles (PBC), during four election periods in Portugal: 2009, 2013, 2017 and 2021. It should be noted that elections were held in 2025, but it is not possible to include the most recent electoral cycle because the data on the various types of expenditure for the year 2026 are not yet available from the DGAL. For this purpose, the period from 2008 to 2022 was considered, covering the different types of expenditure of the CIMBSE municipalities.

The relatively small sample size is justified by the high degree of homogeneity among the 15 municipalities within the CIMBSE, as they share similar socio-economic, demographic, and geographic characteristics typical of inland regions, ensuring the validity and consistency of the findings.

The budget data relating to each municipality's expenditure was collected from the website of the General Directorate of Local Authorities (DGAL, 2024). Demographic

indicators relating to the total population were taken from Pordata databases (Pordata, 2024).

The budgetary variable (expenditure) analysed in this study was selected as it constitutes the most direct indicator for assessing mayoral opportunism (Miguel, 2020). The model by Rogoff (1990), Block (2001), and Katsimi and Sarantides (2012) suggests that elections shift public expenditure towards current expenditure at the expense of public investment, since capital investments are often long-term projects and their completion can be difficult to coordinate with elections. Rosenberg (1992) and Veiga and Veiga (2004), meanwhile, identified capital expenditure items, particularly investment items, as the most visible categories.

Thus, the budgetary variables analysed in this study were:

- Total Expenditure
  - Current Expenditure
  - Capital Expenditure
    - Investment Expenditure

It should be noted that, in accordance with the budgetary classifications of local government in Portugal,[3] the categories are organised as follows. First, there is the Capital Expenditure (Group). This is the broadest category, encompassing all expenditure that results in an increase in non-financial assets or a reduction in financial liabilities. It includes 1. investments, that is, acquisition or construction of capital assets (e.g. buildings, roads, vehicles); 2. capital transfers, the funds provided to other entities (e.g. Parish Councils) to enable them to make investments; 3. financial liabilities, i.e. repayment of bank loans; and 4. other capital expenditure, that is, other transactions that affect net assets.

And there is the Investment Expenditure (Sub-group), which refers specifically to the direct acquisition of capital assets (fixed assets) by the Council itself. In the municipal budget, these expenses are detailed in the Multi-Annual Investment Plan (PPI), which identifies each specific project and action.

Thus, capital expenditure is broader in scope, and to provide further detail in this case, investment expenditure is also used.

If mayors adopt an opportunistic attitude in terms of public spending, as the election draws nearer, the more they will have to spend to signal competence to the electorate. Thus, the political variable is the election year. It is recognised that the municipalities belonging to CIMBSE have a disparate population distribution, so the population density over the period of analysis is incorporated into the study to eliminate as much statistical noise as possible, allowing the relationship between the variables to be determined with greater relevance (Miguel, 2020).

[3] Sistema de Normalização Contabilística para as Administrações Públicas, Decreto-Lei n.º 192/2015, de 11 de setembro. Online: https://tinyurl.com/bdh9dhma

This study is restricted to local finances, and the following hypotheses have been formulated:

H1: Municipal expenditure increases in election years relative to non-election years.

Sub-hypotheses:

- H1a: Total expenditure increases in election years.
- H1b: Current expenditure increases in election years.
- H1c: Capital expenditure increases in election years.
- H1d: Investment expenditure increases in election years.

Per capita variables were also used to take into account scale effects and enhance the robustness of the empirical results.

In this study, expenditure was analysed in nominal terms, and no deflation procedure was applied. This option is justified not only by the lack of consistent and comparable price indices for NUTS III (Intermunicipal Community) for the period under review, but also by the low level of inflation observed, which was below 2% in most years and, in some cases, negative. In this context, it is considered that the impact of price changes on the values analysed is limited and does not significantly compromise the interpretation of the results. Furthermore, given that the focus of the study is primarily on the comparison between regions over a specific period, rather than on the temporal evolution in real terms, the use of nominal values is methodologically appropriate.

To verify whether there are significant differences between the budgetary variables in election and non-election years, a set of tests is carried out to identify whether mayors seek to signal competencies in the election year, such as an increase in some budgetary expenditure (Miguel, 2020).

Data were analysed using IBM SPSS Statistics (version 29) and Microsoft Excel.

In order to facilitate the comparison of expenditure figures over the period under study, based on both election and non-election years, parametric tests will be used, namely the t-test for two samples with two quantitative variables that follow a normal distribution.

4. Analysis and discussion of results

4.1. Analysing expenditure in absolute values

The simplest budget indicator is total expenditure. Total expenditure is the sum of current expenditure and capital expenditure. Current expenditure generally reflects expenditure on goods and services, salaries, subsidies and other current transfers, consumed in the current year to meet social and collective obligations and needs, and affects the non-durable assets of the municipality (CFP, 2024). Capital expenditure is all expenditure that alters the municipality's durable assets, produces goods or services, and involves the creation or increase of assets (Carvalho, 1996).

Table 2
Current, capital, total and investment expenditure in CIMBSE (in million euros)

	Expenditure in CIMBSE (in million euros)			
Year	**Current**	**Capital**	**Total**	**Investment**
2008	132.83	118.44	251.27	65.93
2009	142.60	121.10	263.70	56.80
2010	140.47	122.71	263.18	49.70
2011	149.18	122.25	271.44	68.45
2012	133.73	85.71	219.44	41.62
2013	153.54	124.31	277.84	66.35
2014	135.10	63.88	198.99	22.76
2015	146.00	69.45	215.46	22.74
2016	144.15	84.25	228.40	19.92
2017	148.99	98.39	247.39	22.01
2018	165.75	155.24	320.99	38.96
2019	172.74	81.98	254.73	30.80
2020	188.26	75.97	264.24	38.29
2021	203.38	92.79	296.17	38.55
2022	219.94	93.10	313.04	30.77
Total	2,376.69	1,509.59	3,886.27	613.65

Source: DGAL, 2024

Table 2 shows the values of current, capital, total, and investment expenditure over the period 2008 to 2022 in CIMBSE (DGAL, 2024). In this period, 61.16% of total expenditure was spent on current expenditure and 38.84% on capital expenditure. Investment expenditure represents 40.65% of capital expenditure and 15.79% of total expenditure.

Between 2008 and 2022, total expenditure increased by 24.58%, with current expenditure also increasing by 65.59% and, on the other hand, capital expenditure decreasing by 21.40%. Investment expenditure in this period fell significantly by 53.33%.

In 2008, current and capital expenditure were very close, and by 2022, current expenditure will represent 70% of capital expenditure.

Concerning the evolution of current and capital expenditure in the budgets of the municipalities belonging to CIMBSE over the 15 years analysed, it can be seen that in 2008, current and capital expenditure were very close, accounting for 53% and 47% respectively of total expenditure. However, 15 years on, the financial picture has changed considerably. In 2022, current expenditure represents 70% of total expenditure, and capital expenditure only 30% of total expenditure.

The results of the Shapiro-Wilk normality test (Table 3) indicate that, in the election years, total expenditure [$W(10) = 0.847$, $p = 0.053$] follows the normal distribution unlike current expenditure [$W(10) = 0.695$, $p = 0.001$], capital expenditure [$W(10) = 0.750$, $p = 0.004$] and investment expenditure [$W(10) = 0.837$, $p = 0.041$] which do not follow the normal distribution.

Table 3
Expenditure normality test (election year)

Expenditure (election year)	Shapiro-Wilk		
	Statistic	df	Sig.
Total	.847	10	.053
Current	.695	10	.001
Capital	.750	10	.004
Investment	0.837	10	0.041

Source: Compiled by the authors.

For Total Expenditure, the t-test for two paired samples (Table 4) indicates that there is statistical evidence that total expenditure in election years is higher than total expenditure in non-election years [t(9) = 3.170, *p-value* = 0.011]. This means that there is strong evidence of CPE in relation to total expenditure in the elections of the municipalities belonging to CIMBSE, so sub-hypothesis H1a is validated.

Table 4
Paired samples t-test for the variable total expenditure and investment in election and non-election years

Paired differences								
Expenditure	Mean	Error deviation	Standard error of the mean	95% Difference confidence interval		t	df	Sig. (2 extremities)
				Lower	Upper			
Total – Election year Total – Non-election year	23.977	23.918	7.564	6.867	41.087	3.170	9	.011

Source: Compiled by the authors.

The Wilcoxon test in Table 5 shows that there is statistically significant evidence that current expenditure in election years is higher than current expenditure in non-election years (Z = –2.803, p-value = 0.005), so there is strong evidence of CPE in the elections of the municipalities belonging to CIMBSE (H1b is not rejected). On the other hand, there is no statistically significant evidence to say that capital expenditure in election years is higher than capital expenditure in non-election years (Z = –1.784, p-value = 0.074) (H1c is rejected), and there is also no statistical evidence to say that investment expenditure in election years is higher than in non-election years (Z = –0.459, p-value = 0.646) (H1d is rejected).

Table 5
Wilcoxon two-sample paired test for current, capital and investment expenditure in non-election and election years

	Test statistics[a]		
	Expenditure		
	Currents – Non-election year Current – Election year	Capital – Non-election year Capital – Election year	Investment – Non-election year Investment – Election year
Z	–2.803[b]	–1.784[b]	–.459[b]
Significance Sig. (bilateral)	.005	.074	.646

Notes: a) Test of classifications signed by Wilcoxon; b) Based on positive posts.
Source: Compiled by the authors.

These results confirm the predictions of the Rogoff (1990) model, i.e. public spending in election years shifts towards current expenditure and away from capital expenditure. Contrary to what was reported by Rosenberg (1992) and also by Veiga and Veiga (2004), there is no electoral effect on capital expenditure.

The opportunistic behaviour seen in current expenditure was particularly prevalent in personnel expenditure (37%) and expenditure on the purchase of goods and services (43%) (Figure 1). It should be noted that of the expenditure on goods and services, 78% was spent on the purchase of services.

Investment expenditure represents the total amount spent on the acquisition of goods that contribute to the formation of fixed capital in a given year. It is a part of capital expenditure.

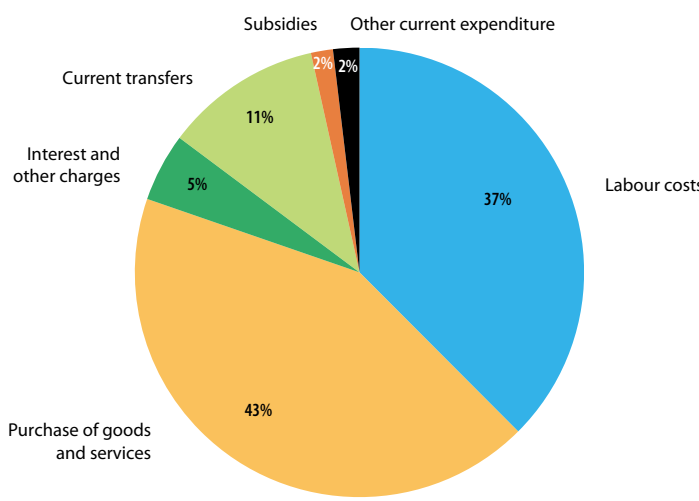

Figure 1
Current expenditure by groupings from 2008 to 2022
Source: DGAL, 2024

Table 6
Volume of investment expenditure for all municipalities

Year	Capital expenditure as a % of total expenditure	Investment as a % of total expenditure	Investment as a % of capital expenditure
2008	47.14%	26.24%	55.67%
2009	45.92%	21.54%	46.91%
2010	46.62%	18.88%	40.50%
2011	45.04%	25.22%	55.99%
2012	39.06%	18.97%	48.57%
2013	44.74%	23.88%	53.37%
2014	32.10%	11.44%	35.63%
2015	32.24%	10.55%	32.74%
2016	36.89%	872%	23.65%
2017	39.77%	8.90%	22.36%
2018	48.36%	12.14%	25.10%
2019	32.18%	12.09%	37.57%
2020	28.75%	14.49%	50.40%
2021	31.33%	13.02%	41.54%
2022	29.74%	9.83%	33.05%
Total	38.84%	15.79%	40.65%

Source: Compiled by the authors.

In the period under review, 38.84% of total expenditure was allocated to capital expenditure, with 40.65% of it going to investment. Although capital expenditure shows a percentage decrease in relation to total expenditure, the percentage of capital expenditure allocated to investment has varied over the years, representing 15.79% of total expenditure between 2008 and 2022. In 2008, investment expenditure accounted for 55.67% of capital expenditure, while in 2022 it accounted for only 33.05% (Table 6).

Per capita variables take into account scale effects and ensure comparability across units of different sizes. By adjusting for population, they capture average individual impacts rather than aggregate totals. This improves interpretability and strengthens the robustness of empirical results.

4.2. Analysing expenditure per capita

According to Miguel (2020), when data is weighted according to population, it is possible to obtain a more accurate representation of the distribution of resources. Therefore, expenditure will be weighted by population to obtain per capita expenditure (Table 7).

Between 2008 and 2022, the population of the municipalities that make up CIMBSE fell by 13.89%. Total expenditure per capita increased by 44.68%, with current expenditure per capita increasing by 92.29% and capital expenditure per capita decreasing by 8.72%. Investment expenditure per capita also fell by 45.81%.

Table 7
Current, capital, total and investment expenditure per capita in CIMBSE (in euros)

		Expenditure *per capita* (in euros)			
Year	**Population**	**Current**	**Capital**	**Total**	**Investment**
2008	243,216	546.12	486.99	1,033.11	271.09
2009	240,674	592.50	503.17	1,095.67	236.02
2010	238,026	590.16	515.52	1,105.69	208.80
2011	235,862	632.50	518.33	1,150.83	290.22
2012	233,394	572.98	367.22	940.20	178.34
2013	230,004	667.53	540.45	1,207.98	288.46
2014	226,732	595.87	281.75	877.62	100.39
2015	223,754	652.52	310.40	962.91	101.61
2016	220,891	652.60	381.41	1,034.01	90.19
2017	218,124	683.06	451.10	1,134.15	100.89
2018	215,573	768.88	720.15	1,489.03	180.73
2019	213,556	808.90	383.90	1,192.79	144.24
2020	212,301	886.78	357.85	1,244.63	180.36
2021	211,162	963.16	439.43	1,402.59	182.55
2022	209,438	1,050.16	444.52	1,494.68	146.91

Source: DGAL, 2024

Table 8 shows the results of the normality test for per capita expenditure in the election years.

Table 8
Per capita expenditure normality test (election year)

Per capita expenditure (election year)	**Shapiro-Wilk**		
	Statistic	**df**	**Sig.**
Total	0.804	10	0.016
Current	0.722	10	0.002
Capital	0.751	10	0.004
Investment	0.850	10	0.058

Source: Compiled by the authors.

Table 8 shows that the only variable that follows a normal distribution is investment expenditure per capita – election year (*p-value* > 0.05).

Table 9 shows that there is statistically significant evidence that total expenditure per capita (Z = –2.497, *p-value* = 0.013) and current expenditure per capita (Z = –2.803, *p-value* = 0.005) in election years are higher than in non-election years. In other words, the results suggest the existence of PEC in the election years of the municipalities belonging to CIMBSE in relation to this per capita expenditure. As for capital expenditure

per capita, there is no statistical evidence that this expenditure is influenced by the electoral calendar (Z = –1.784, *p-value* = 0.074).

Table 9
Wilcoxon two-sample paired test for current, capital and investment expenditure per capita in non-election and election years

	Test statistics[a] Expenditure *per capita*		
	Currents – Non-election year Current – Election year	Capital – Non-election year Capital – Election year	Investment – Non-election year Investment – Election year
Z	–2.803[b]	–1.784[b]	–2.497[b]
Significance Sig. (bilateral)	0.005	0.074	0.013

Notes: a) Test of classifications signed by Wilcoxon; b) Based on positive posts.
Source: Compiled by the authors.

Table 10 shows that there is no statistically significant evidence that investment spending per capita in election years is higher than investment spending per capita in non-election years [t(9) = 1.494, *p-value* = 0.169]. In other words, there is no PEC in relation to investment spending.

Table 10
Paired samples t-test for investment expenditure per capita

Paired differences								
Investment expenditure per capita	Mean	Error deviation	Standard error of the mean	95% Difference confidence interval		t	df	Sig. (2 extremities)
				Lower	Upper			
Total – Election year Total – Non-election year	20.58	43.54	13.77	–10.57	51.72	1.494	9	.0169

Source: Compiled by the authors.

In short, the statistical tests indicate the existence of opportunistic cycles in the CIMBSE about total and current expenditure, both when calculated in absolute terms and per capita. It also indicates that this expenditure is manipulated by mayors in order to improve their electoral prospects, boosting their chances of re-election. On the other hand, the results do not confirm the existence of opportunistic cycles in capital and investment spending, either in absolute or per capita terms.

The literature presents different results regarding the expenditure components that are manipulated during elections. The model by Rogoff (1990), Block (2001), and Katsimi and Sarantides (2012) states that elections shift public spending towards current

expenditure to the detriment of public investment, unlike Rosenberg (1992) and Veiga and Veiga (2004; 2005), who identify capital expenditure items, in particular investment items, as the most visible items.

In sum, the robustness of the overall results is confirmed, as the per capita analysis yields consistent relationships in terms of direction and significance.

5. Conclusion

This study aimed to verify the existence of PEC in the 15 municipalities belonging to CIMBSE between 2008 and 2022. The budget variables analysed show that total expenditure and current expenditure were the most manipulated in election years in the municipalities belonging to the region. The results obtained are generally in line with previous research into the phenomenon, which has observed an opportunistic tendency on the part of mayors.

In line with the opportunistic cycles mentioned by Rogoff (1990), the mayors of the municipalities belonging to CIMBSE manage public spending in such a way as to show greater competence in election years. Thus, to appear competent, they resort to more visible current expenditure rather than public investment.

However, we must point out certain limitations. First, the relative scarcity of studies on the subject at the local government level in Portugal. And second, we have also identified some limitations in the data collected, which did not provide a sufficiently detailed breakdown to allow a full understanding of the types of expenditure made. The failure to account for inflation when deflating expenditure figures, due to the lack of deflators at the Intermunicipal Community level, also constitutes a limitation, which could be overcome in other studies covering NUTS II regions, or by using proxies or regional adjustments.

With these limitations in mind, it would be an interesting avenue for future research to rethink the econometric strategy by employing panel data regression techniques, and it will be interesting to compare the relationship between mayors' political ideology and opportunistic expenditure management.

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