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DEBT AND POLITICAL BUSINESS CYCLES IN PORTUGUESE MUNICIPALITIES

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HAD I the heavens' embroidered cloths,
Enwrought with golden and silver light,
The blue and the dim and the dark cloths
Of night and light and the half-light,
I would spread the cloths under your feet:
But I, being poor, have only my dreams;
I have spread my dreams under your feet;
Tread softly because you tread on my dreams.

William Butler Yeats (1865-1939)

Abstract

The concept of *Political Business Cycles* considers the relationship between politics and economic policies. International and national empirical works have sought to establish which, if any, of two forms of political business cycles exist: opportunistic or partisan.

The objective of this work is the study of political business cycles (PBC) at *local government* level through *debt* based on a set of *Portuguese* data. Traditionally, political business cycles are observed through budgetary variables, in particular, investment. Expenditure relates with municipal financing mechanisms, one of which is debt.

In order to attempt to discover political business cycles in the behaviour of debt, we have built an econometric generic model, supported by a set of variables that has been used in recent studies to capture opportunistic cycles. This model was applied to data for the period 1978-2002, covering seven municipal elections in the years 1979, 1982, 1985, 1989, 1993, 1997 and 2001. An ideological variable was included to study its interaction with the dependent variable on a set of fifteen individual municipalities where partisan cycles were analysed. The model was estimated through OLS linear regressions for a set of data which included three levels: i) the municipalities of Continental Portugal; ii) the Lisbon district, which is composed of 15 municipalities; and iii) those fifteen individual municipalities.

We conclude, on the basis of our results, that opportunistic cycles occur in the first two of the three above-mentioned levels.

Key words: *Political Business Cycles, Debt, Local Government, Portugal.*

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I dedicate my work to my Mother and Father.

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Carla Oliveira da Silva

Introduction

The concept of political business cycles (referred to in this work as PBCs) considers the relationship between politics and economic policies and can be approached from two theoretical perspectives. According to *opportunistic theory*, politicians stimulate the economy before elections with re-election as the main objective. On the other hand, *partisan theory* asserts that politicians implement their base constituencies' preferred policies.

Many authors have advocated the relevance of analysing politicians' behaviour, not only at macroeconomic level, but also at local government level. PBCs gain further relevance when we take voters' rationality into consideration. It would be expected that politicians would be unable to deceive rational voters, since the latter look not only to the past, but also anticipate patterns of behaviour for the future.

International and national empirical works have sought to establish which, if either, of the two forms of PBCs exists, opportunistic or partisan.

Much debate on PBCs continues to take place in the scientific community, with some authors, like William Nordhaus, supporting their unequivocal existence, while others do not accept it with enthusiasm. The expansion of research on the theme to local government level produced a new series of empirical works that found, with greater or lesser significance, indicators of their presence.

In Portugal, local government has recently come under the spotlight. Not only are municipalities being questioned about their capacity to supply goods and services, and the extent of their efficiency when doing so, but they additionally face new legislative challenges which raise the question of activity finance at the highest level of government.

Traditionally, PBCs are observed through budgetary variables, specifically categories of expenditure. Recent national empirical works have found that opportunistic cycles exist in the case of many of these budgetary variables, in particular investment. Investment is a key variable for municipalities, because it reflects the more "visible" actions of an elected council. It is expected that if policies are influenced by political issues, then the results obtained must create in voters the assurance that their elected councils possess the capacity to govern.

The objective of the present work is to investigate and examine evidence of PBCs at local government level through debt. In order to spend, municipalities must have revenues. Expenditure relates to forms of municipal financing, one of which is debt. The latter is an issue which has gained new importance in recent times due to rising national concern over both private and public indebtedness. Because debt is a mechanism to feed expenditure, and evidence of PBCs has been observed in expenditure, we can ask whether debt itself reflects a form of PBC in its cyclical behaviour.

In order to identify PBCs in the behaviour of debt, we have built an econometric generic model, supported by a set of independent variables that has been used in recent studies to capture opportunistic cycles. This model was applied to data for the period 1978-2002, covering seven municipal elections in the years 1979, 1982, 1985, 1989, 1993, 1997 and 2001. An ideological variable was included to study its interaction with the dependent variable on a set of fifteen individual municipalities in which partisan cycles were analysed.

We used three dependent variables: debt, total outstanding debt and short-term debt.

The model was estimated through OLS linear regressions for three levels of data: i) the municipalities of Continental Portugal; ii) the Lisbon District, consisting of 15 municipalities, which was considered not only important as a proportion of the country's total, but also, representative of the heterogeneity of contemporary Portuguese local government; iii) the fifteen specific municipalities which comprise the Lisbon District, which were in turn divided into two groups: *Group I* includes those municipalities that have never experienced an ideological shift in power between the left and right since the Revolution of 25th April 1974; *Group II* includes those municipalities with a frequent pattern of party alternations between left and right over the same period. Our aim was to discover opportunistic behaviour and observe partisan behaviour at the individual municipality level.

The thesis is structured in three chapters.

In Chapter 1, we present a survey of the literature on PBCs, focusing on theoretical approaches (presented in section 1.1) and empirical works on the subject (section 1.2). Empirical works are in turn sub-divided into international research and national research.

Chapter 2 includes a brief characterisation of the Portuguese municipalities in terms of political organisation (section 2.1), financial instruments (section 2.2) and management and strategic planning mechanisms (section 2.3).

Chapter 3 presents our contribution to the subject. In section 3.1, we approach general aspects of our empirical tests; the model is presented in section 3.2; sources and data are explained in section 3.3; empirical results for the three levels of study are presented in section 3.4; in section 3.5 we summarise the model's findings.

A final chapter presents our overall concluding remarks.

Chapter 1 – Literature Review

In this chapter, we shall survey some of the literature on political business cycles. The chapter is divided into two sections: in section 1, the major theoretical developments will be considered and in section 2, we summarise a series of international and national empirical works on the theme.

1.1 Theories of Political Business Cycles

The literature on Political Business Cycles (PBC) was initiated in the field of macroeconomics as an investigation into the relationship between politics and economic policies.

The political analysis of intervention in economics by central powers was based on the pioneer works of Hotelling (1929) and Key (1966), who created the *Ideological* or *Partisan Model*, and Downs (1957), who developed the *Opportunistic Model.*

For these authors, the relationship between macroeconomic variables and government decisions and policies was unequivocal, although both approaches start out from different hypotheses:

i) According to *Opportunistic theory*, politicians stimulate the economy before elections, in order to be re-elected;

ii) According to *Partisan theory*, politicians' principal motivations are the development and implementation in society of their own programmes, basically corresponding to each of the two dominant contemporary ideologies: left-wing parties will favour unemployment, while right-wing parties favour inflation control.

The introduction into both theories of rational expectations created two more theoretical fields, summarised below in Table 1.1.

Table 1.1 – Summary of PBC Theoretical Fields

Voters' Characteristics	*Theories*	
	Opportunistic Theory	***Partisan Theory***
Voters with Adaptive Expectations	In this approach, voters have adaptive expectations and parties are opportunistic in their behaviour. Seminal works: Nordhaus' model (1975) and Lindebeck (1976)	This model considers that voters have adaptive expectations and parties intervene on an ideological basis in macroeconomics. Seminal works: Hibbs (1977), Frey and Lau (1968)
Rational Voters	Voters are rational and parties display opportunistic behaviour. **Seminal works:** Rogoff and Sibert (1988) and Rogoff (1990)	Voters are rational and parties display ideological behaviour in their interventions on macroeconomic variables. **Seminal works:** Alesina (1987) and Alesina and Sachs (1988)

Source: Adapted from Martins (2002:4)

In the preceding table, two ratios are observed. In the first, the theoretical approaches are divided by motivation (be re-elected or implement policies) and in the second, by the assumption or not of the hypothesis of rational voters.

1.1.1 Before Rational Expectations

Following Table 1.1, the first approach to explore the relationship between policies and economic variables was the *Opportunistic Theory*, the theoretical basis of which was developed by Nordhaus (1975). He created a model for macroeconomic variables and inter-temporal choice, in which a choice exists between present and future welfare, influenced by government policies and investment decisions. This choice resulted from the periodical voting process, whose outcome is a direct consequence of the incumbent party's performance.

Nordhaus assumed that whilst there is a trade-off between inflation and unemployment, voters are sensitive to both variables but ignore the relationship between them[1], only being able to think in terms of their representatives' past performance. Voters have expectations as to these macroeconomic variables and when election periods occur and economic conditions deteriorate relative to expectations, individuals will vote against the incumbent or vice versa.

This theoretical model predicted that as a result of the PBC, the politically-determined policy would bring lower unemployment and higher inflation than the optimal, and that the optimal party policy would lead to a PBC, with unemployment and deflation in the early phase of the governing party's term of office, followed by an inflationary boom as elections approached.

Two years after Nordhaus' study, Hibbs (1977) developed the partisan aspects of political intervention. Like Nordhaus, he considered the most important problem of macroeconomics to be the trade-off between inflation and unemployment; variables which he believed could reveal partisan behaviour.

Hibbs constructed two dynamic unemployment models for the United Kingdom and the United States, based on a post-war time-series, with which he tested partisan manipulation[2].

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[1] Voters are "myopic".

[2] Hibbs constructed the Phillips curve of 12 industrial economies between 1960 and 1969, concluding that an inflation/unemployment trade-off existed. The trends, cycles and stochastic fluctuations of unemployment were estimated by Box, Jenkins and Tiao's econometric "intervention analysis" and autoregressive effects were captured using an ARMA model. ARMA models are an econometric development of autoregressive and moving average processes, where the dependent variable is lagged, assuming the form $\Phi(L)\, y_t = \theta(L)\, u_t$.

He concluded that aggregated data supported the hypothesis that macroeconomic outcome systematically co-varies with the government's political orientation: Socialist and Labour parties attached far greater importance to full-employment than to inflation; business-oriented Conservative parties held the opposite view.

With these works, the theoretical foundations of both opportunistic and partisan approaches were developed. The theories would experience new evolutions with rational expectations.

1.1.2 After Rational Expectations

The introduction of rational expectations expanded the research path for both opportunistic and partisan theories.

In 1987, Alesina constructed a theoretical model based on three assumptions:

i) Different parties' policies result from differences between the intrinsic properties of their economic policies[3];

ii) The belief that parties care about their policies' effects;

iii) Wage-setters are rational and forward-looking[4].

Alesina's model involved a two-party system[5] and used game theory to introduce rational expectations to partisan theory, leaving it to future empirical studies to answer the question of what approach, opportunistic or partisan, was more accurate to countries' realities.

[3] The parties represent the interests of different constituencies and "assign different weights to unemployment and inflation as economic "bads"" (Alesina, 1987:653).

[4] Voters are not myopic, that is, they are also capable of projecting expectations for the future, based on their observations.

[5] This approach was explored in depth by Alesina (1988).

With rational and forward-looking agents and two parties that are not interested only in being elected, a dynamic inconsistency would be created. This inconsistency resulted from the parties' behaviour. Both of them will present convergent policies in their manifestos in order to win elections, but if they are independent from their base platforms of support, they will implement the policies which they prefer.

Rational voters are aware of this behaviour. If interaction between voters and parties is an infinitely repeated game, the full convergence of policies occurs only when parties are completely indifferent to the quality and impact on society of their policies. If both parties adopt a cooperative, consensual policy rule, the constituencies of both will be better off in the long run, because economic cycles are avoided.

The author concluded that these ideas were contrary to the literature, since they theoretically proved that "ideologically-motivated" politicians did not exist, or in other words, that politicians were not faithful to their electoral platforms. His partisan view of macroeconomic policy received support in data for the USA and other industrialised economies, where the findings concluded that leftist parties were more averse to unemployment, while rightist parties were more averse to inflation.

Within the domain of opportunistic theory, Rogoff and Sibert (1988) developed a new approach in which asymmetric information replaced voters' myopia. Cycles in such macroeconomic variables as taxes, government spending and money growth, are driven by temporary information asymmetries, since governments have a privileged knowledge of the economic realities and thus are aware of the probable consequence of their performance on the electorate[6]. Incumbents cheat voters when information is extremely favourable or unfavourable. Voters prefer more competent governments, or governments that spend less revenue to provide a fixed level of services.

[6] To the authors, a vote-conscious incumbent has an incentive to indicate his competence through economic variables, this behaviour being designated the "signalling process".

For the authors, models based on the Phillips curve assumption concluded that governments would exploit, in the short run, the relationship between inflation and unemployment for electoral purposes. Rogoff and Sibert (1988) were the first to broaden the application horizon of PBC models, asserting that they could be applied both to national and local elections.

The previous work was continued by Rogoff (1990), whose theoretical model assumed that politicians and voters were rational and utility-maximising agents. He concluded that by increasing money supply growth prior to an election, government leaders could temporarily raise output and employment; consequently, voters responded positively by re-electing the incumbent, failing to recognise that after the election, the positive effect on those variables would diminish. Rogoff proposed that *empirical studies* should focus on testing electoral cycles on *transfers* and *governments' consumption expenditure.*
He redefined the concept of PBCs, emphasising fiscal policy rather than output and inflation and concluding that during election years, governments (at all levels) would often engage in a consumption 'spree', in which taxes were cut, transfers were raised and governments public spending was distorted in favour of projects with high *immediate visibility*. This new approach to PBC was described by the author as Political Budget Cycles. The *political budget cycle* would arise due to temporary information asymmetries regarding the "incumbent leader's 'competence' in administering the public goods production process, even though voters were rational"[7].

Alesina and Cukierman (1990) described the two areas of research on PBC as a trade-off between the policies that maximise chances of re-election (Opportunistic) and policies that are supported by the party's constituency (Partisan). They developed the

[7] Rogoff (1990:21).

Alesina (1987,1988) model for two periods, in which voters are rational but do not possess full information[8] on the incumbent's preferences and in which the incumbent retained information and maintained a certain degree of ambiguity in its actions, being able to manipulate the imperfectly informed electorate with promises. Since voters are not perfectly informed, politicians will, in a first period, implement a policy that improves their chances of re-election. After re-election, a second period will begin during which the incumbent's ideal policy will be followed.

The authors' theoretical model enabled them to conclude that in a two-party system, voters' views and election preferences are a function of the parties' policy outcomes; when they are in office, politicians choose policies that represent a compromise between their core ideological values and the opposing party's positions[9]. The final conclusion leads us to believe that ambiguity may have benefits, particularly when voters are more risk-averse; in such a case, the incumbent finds it advantageous not to reveal its true ideological position.

They also derived from their model that politicians' actions are influenced by public opinion. The authors stress that this conclusion is supported by their practical observations that suggest that politicians prefer to remain vague in order to obtain more votes.

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[8] If voters had perfect information, they would not believe politicians' promises, locking them in their "ideological positions". To be locked in their ideological positions means that parties announce the implementation of policies which are a commitment to their constituencies' ideological preferences.

[9] In the authors view, their model reconciled voters' rationality with voters' retrospective analysis, a result similar to Rogoff and Sibert (1988) and Rogoff (1990).

The perspectives of opportunistic and partisan theories were extended in the two latter-mentioned studies. In both cases, voters are rational, but in Alesina's approach, politicians are prospective, in the way that they seek to unveil the possible consequences of their policies and the impact they will produce on voters and on economic conditions.

From the last four studies reviewed, we can conclude that the rationality of politicians has nothing to do with the implications of their policies, which result exclusively from the need to be re-elected. Whilst the voters are rational and their thought process is based on considerations of competence, they can never achieve total knowledge as to politicians' intentions, since full information is not at their disposal.

1.1.3 The Theories Revisited

The theories exposed in the last two sub-sections were subject to validation by several authors. Lucas (1980:697-8) considered that the developments in PBC theory had three sources:

i) The purely technical developments that enabled researchers to construct models that emulated economic relationships[10];
ii) Changes in the questions that should be answered by the models, or in the phenomena that we seek to explain;
iii) The increased amount of research conducted by economists specialised in the field.

[10] These technical developments occurred both in mathematical methods and the advances in computational capacity.

Empirical results created a divergence of views among the scientific community that remains evident at the present time. While a number of researchers have come to accept one or the other of the two approaches on PBC theory, other authors have not accepted it completely. We shall next present two studies, the first that supports PBC theory and the second whose author, while finding empirical evidence of PBCs, does not totally accept their existence.

Nordhaus (1989) revisited the theme of PBC and synthesised the research carried out until that time. He identified the key elements of PBC theory as: 1) voters, specifically if they behave rationally, are well-informed and are backward- or forward-looking; 2) parties and their motivations; 3) economic structure, its design and the ways to affect economic outcomes through policy; 4) shocks, in particular how they influence politics and the economy; and 5) competence, that is, to know if parties' objectives are pursued efficiently.

These central factors in PBC theory led researchers to develop five main approaches to its investigation. Nordhaus divided them into five models, only four of which shall be considered in this work[11]:

Model 1: *Opportunistic parties and non-rational voters (Opportunistic Cycle)*

In this approach, voters examine performance retrospectively and incumbents choose policies to maximise their chances of winning elections. This model assumes a Phillips curve trade-off between inflation and unemployment and that parties stimulate the economy before elections (periods with higher inflation rates) in order to win re-election.

[11] The fifth model, considering differences in competence, can be found in Nordhaus (1989:6).

Model 2: *Ideological parties and non-rational voters (Ideological Cycle)*

This model assumes that parties represent an identifiable ideology and voters choose the one that they endorse.

Model 3: *Ultra-rational voters*

In this conceptual design, voters are not only rational, but also possess the same information as parties and are forward-looking. In this setting, parties cannot manipulate voters, and therefore, they cannot induce a political cycle.

Model 4: *The economic shocks are external to the political system*

If shocks are external to the political settings and voters are ultra-rational, voters will know that shocks are not the fault of the government, so policy response is independent of the party in power. If parties are ideological, voters respond by electing the party that they feel is most able to alleviate the shocks.

After developing these considerations on the PBC models, Nordhaus tested for the ultra-rationality of voters using a US presidential performance poll of 1000 individuals. He concluded that: i) in post-elections periods, voters tend to overvalue the policies of the incumbent, thus violating the ultra-rationality hypothesis; ii) the evaluation of parties by ultra-rational voters is not predictable; and iii) a strong suggestion emerges that voters do not evaluate future economic events, or in other words, they were not forward-looking.

Based on this evidence, Nordhaus concluded that *voters are not ultra-rational*, yet they are rational, since they do vote, even if they support high opportunity costs when doing so.

In his overview of the literature on PBCs, Nordhaus observed that some empirical findings[12] support the existence of opportunistic and partisan cycles in the USA and other countries.

[12] A survey of empirical results that found cycles in fiscal and monetary policy is presented in Nordhaus (1989:43-49).

In his opinion, empirical studies allow us to observe that political cycles reflect a "wide variety of party behaviour – ideological or opportunistic or both or neither – depending upon the electoral regime and individual personalities"[13]. Ideological models are usually misperceived in studies, since parties can find advantages in moving towards the centre in order to win elections[14].

Based on his analysis of electoral dynamics and data through the second half of the 20th century (from 1946 to 1998) in the United States, Nordhaus accepted the existence of PBCs, which he considered an evolving force, destined to emerge in the future in new and unknown forms and dynamics, finding both opportunistic and ideological cycles in fiscal policy. In monetary policy, Nordhaus rejected political cycles on the basis of his empirical work on the Federal Reserve discount rate.

Drazen (2000) analysed 25 years of theoretical and empirical investigation on PBCs, starting his work by stating that there was less evidence of opportunistic behaviour in developed countries, but a clearly partisan effect in the USA and other OECD countries, with researchers in some disagreement over the underlying mechanisms.

Drazen argued that there was some implausibility on key assumptions: the assumption of the seemingly expectations of voters and the reliance on monetary policy as the driving force in models. In general, he asserted that the traditional opportunistic assumption (in particular in Nordhaus' model) of politicians affecting monetary policy was inconsistent with the independence of the monetary authority and criticised the central role of the Phillips curve (leaving no role for fiscal policy), though transfers and other types of fiscal policy appeared to play an important role in pre-electoral manipulation.

[13] Nordhaus (1989:41).

[14] This argument is also found in Alesina (1988) and Alesina and Cukierman (1990).

In his survey conducted at macroeconomic level on a universe of the USA and OECD countries, Drazen observed phenomena common to the results of *opportunistic studies* and other phenomena common to the findings of *partisan studies.* Among the *opportunistic studies*, he found that (2000:11-23): 1) aggregate economic conditions (per-capita output, income growth and, to a lesser extent, inflation) had a significant effect on voting patterns; 2) there was no significant pre-electoral increase in aggregate economic activity; 3) in many countries, there was a clear post-electoral increase in inflation; 4) there was evidence of a pre-electoral increase in money supply growth rates in many countries.

In the studies conducting *partisan empirical analysis*, he noted the following common findings: 1) there was a clear partisan effect on economic activity in the USA, this being significantly higher under Democrats than Republicans during the first half of their terms; 2) there was no consensus on the role of monetary policy or inflation surprises in the drive of partisan effects; 3) there was some evidence of pre-electoral increases in transfers and other fiscal policy instruments in a number of countries.

He concluded that from an empirical point of view, even though there were a number of clear electoral effects on macroeconomic variables, each of the traditional models of PBC had conceptual and empirical shortcomings, some more than others. Drazen thought that it was fair to say that none of the PBC models received overwhelming support from the data[15].

[15] This conclusion led him to create a new approach to PBCs - which he named the Active Fiscal – Passive Monetary Model - which considered fiscal policy as the driving force and where the incumbent uses fiscal policy to win re-election, monetary policy is independent and guided by a monetary authority and voters are rational and heterogeneous.

In conclusion, it can be asserted that evidence of PBCs has been found by some empirical work, answering in a positive way the question posed by Nordhaus (1989)[16]. However, a generalised consensual opinion on PBCs has not yet materialised.

1.2 Testing Political Business Cycles

In this section of the chapter, we make an approach to empirical works on both opportunistic and partisan theories discussed in the first section.

The section is divided into international and national studies. International studies include a survey on PBC testing and also complementary areas related with debt, revenues and expenditure and with local management. National studies will be presented according to the object of their analysis: macroeconomic level or local government.

1.2.1 International Empirical Research

This sub-section presents a journey through empirical studies that tested opportunistic or partisan PBCs, debt and complementary studies that allow us to introduce new approaches.

1.2.1.1 Testing Opportunistic or Partisan models

Blais and Nadeau (1992:389) started their study on PBC by affirming that few "assumptions are as deeply embedded in the (...) popular folklore of politics as the

[16] Nordhaus asked if "(...) political business cycles exist, or are they but a statistical illusion like the décolletages or head-and-shoulders that chartists see in the stock market?" (1989:43).

notion that when in office, politicians will seek to manipulate government activities so as to increase their chances of re-election".

The authors analysed empirically the satisfaction of the "electoral cycle" thesis: both expenditure and deficits are lower in non-election periods and higher in election year; considering that theoretically, the PBC hypothesis seems impossible to sustain when voters are rational and that in practice, governments also face "rigidities and delays" which greatly reduce possible manipulation manoeuvres.

The object of the study was the expenditure behaviour of 10 Canadian provinces, over the period between 1951 and 1984, focusing on PBC analysis through the budget. The five dependent budgetary variables were total expenditure, social security payments, and expenditure on roads and agricultural activities and governments' surplus/deficits. A set of dummy variables was included in order to capture election and non-election periods and ideological behaviour[17].

Blais and Nadeau chose Canadian provinces because: i) Canada has a parliamentary system, considered by the authors as representative of western liberal democracies; ii) electoral mandates are not fixed in time; and iii) the provinces maintain within their domain policy areas which the literature considers as political manipulation targets (namely social services, roads and agriculture).

Their findings indicated that right-wing governments tend to spend less and have lower deficits than left-wing governments.

Opportunistic behaviour on a small scale was also found, it being proved that expenditure and deficits are lower in non-election years.

The general conclusion was that "one should not dismiss the common sense view that politicians' timing of budgeting decisions is affected by the electoral cycle"[18].

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[17] Electoral behaviour had three dummies: T_1 (equal to 1 in post-election year), T_2 (equal to 1 in the middle of the term year) and T_3 (equal to 1 in pre-election year). The partisan dummy equalled 1 when the province was governed by a right-wing party.

[18] Blais and Nadeau (1992:401).

An important application of PBC at the *local level* was made by Rosenberg (1992) for 10 Israeli municipalities between 1964 and 1982.

Politicians' interest in re-election implied that they had adaptive expectations, which led Rosenberg to ponder on the way that they think about their individual futures. He analysed local government, considering it a good barometer to measure politicians' behaviour, since in view of the difficulty in gaining re-election, they would be obliged to find new jobs in the public or private sectors.

His model was based on a regression where the dependent variable was development expenditure. Assuming that voters are not myopic or have adaptive expectations, Rosenberg incorporated the incumbents' utility maximisation, taking into account the possibility of non-re-election[19] and considered two time periods: pre- and post-election for local government office, as a consequence of the assumption that an incumbent determines the budget for the post-election period.

The hypotheses tested were: 1) that local governments' expenditure would be allocated between pre- and post-election periods so that the pre-electoral expenditure would exceed the post-electoral[20]; and 2) if incumbents were not to run for re-election, inter-temporal asymmetry in expenditure patterns would be greater than those originated when they intended to run again for office.

Rosenberg concluded that empirical results contradicted theory at the local government level. His findings supported the hypotheses of the rational political behaviour model, where asymmetric inter-temporal expenditure is a consequence of the incumbent's perception of his probability of being re-elected; or his decision to withdraw from political life. In pre-election periods, local government development expenditure deviates significantly from its normal levels. Another finding was that incumbents not

[19] The behaviour of politicians was captured using a probability-based determination of the inter-temporal pattern of expenditure.

[20] This is consistent with the hypotheses of both voters' myopia and adaptive expectations, and rational voters.

seeking re-election deviated far more from the expenditure budget than incumbents seeking re-election, with the expenditure gap between the two types of incumbents statistically significant.

Galli and Rossi (2002) focused on the existence of electoral and ideological cycles in state governments' budgets for the eleven West German Länder (sub-national).

In these authors' view, literature on PBCs in Germany has been mostly concentrated on federal macroeconomic variables and policy instruments. They propose that West Germany is worthy of analysis because it is a federal system; the Länder have local fiscal authority; the policy areas that literature suggests are more liable to political manipulation come within the Länders' jurisdiction, i.e., administration[21], health, education, roads and social security benefits.

Even though German states are heterogeneous, budgeting processes and fiscal institutions are homogenous and elections are exogenously determined, thus enabling the testing of the opportunistic hypothesis[22]. Galli and Rossi analysed the Länder using statistical data during the period 1974-1994, with a model based on different types of budgetary expenses: total expenditure, budgetary surplus/deficit, administration expenditure, health care, education, roads and social security benefits.

The opportunistic hypothesis was based on the model of Blais and Nadeau (1992) and Alesina, Cohen and Roubini's (1992) model[23] for the creation of opportunistic dummies. The partisan hypothesis was based on Alesina, Cohen and Roubini (1992)[24].

[21] Administration expenses are those related to the internal functioning of the Länder, such as expenses on personnel and acquisition of goods and services.

[22] Despite these arguments, Galli and Rossi verified that few authors have investigated local PBC at a disaggregate level because the data was often inconsistent and not always complete.

[23] Alesina, Cohen and Roubini (1992) used a dummy (T_0) equal to 1 in the election year, testing whether expenditure was higher during the election year. This hypothesis is also used by Galli and Rossi (2002).

[24] The partisan dummy variable equals 1 for a right-wing majority.

Their results showed that the party variable does not generally play a systematic role in expenditure decisions. This was not surprising to the authors, due to the fact that German economic policy is well known for its sound fiscal approach and less prone to ideological influences, at both federal and local level. Econometric results showed that rightist governments tended to spend less than leftist. Leftist governments tended to favour a counter-cyclical expenditure policy, spending more on education and health; rightist governments spent more on administration.

The authors found some evidence of an opportunistic cycle. Total expenditure, individual expenditure categories and budgetary deficits were all lower in non-election years. Independent of their ideological orientation, governments were anxious to be re-elected and therefore increased expenditure in the election year. Furthermore, the results indicated that the extra expenditure was absorbed into higher deficits, rather than requiring tax increases and that the electoral effect was confined to the election year. In other words, the only relevant phenomenon was the effect of the upcoming election on the government expenditure trend in that specific year.

Pettersson-Lindbom (2003) studied the Opportunistic Model based on the assumptions that politicians are opportunistic and voters have adaptive expectations. The author found surprisingly little systematic evidence for the traditional electoral-cycle hypothesis, while in recent years, some studies have claimed to find support for an electoral cycle in fiscal policy. Recent literature proposes explanations for electoral cycles in fiscal policy based on voter rationality. The name given to the models employed in this literature is "political agency models"[25].

[25] *Political Agency Models* are divided between Rogoff's (1990) model, which emphasises reputation-building on the part of office-seeking politicians, and Besley and Case (1995), who stress the electoral accountability of rent-seeking politicians. Both models imply different fiscal behaviour: good politicians are associated with lower taxes, although in Rogoff's model, good politicians are associated with higher levels of spending. Pettersson-Lindbom's analysis adopts the model of Besley and Case (1995).

Traditional and rational electoral models both predict that expenditure would, on average, be higher in election years than non-election years. Pettersson-Lindbom aimed to discriminate between the traditional electoral cycle model based on voter myopia and the model based on rational expectations, thus taking account of voters' behaviour. He developed a three-step empirical methodology to test: 1) the existence of electoral cycles in fiscal policy; 2) how such cycles should depend on election outcomes as suggested by recent political agency models; and 3) the electoral success on the basis of fiscal policy.

These tests were applied to a panel of Swedish local government authorities, with 288 observations of 288 municipalities in election periods, between the years 1974-1998. Swedish municipalities share characteristics which make them homogeneous: elections are exogenously set, the fiscal year corresponds to the calendar year, local authorities are independent from the central government, have no restriction on borrowing and have no regulations requiring balanced budgets.

The study concluded that with regard to local government: i) expenditure was raised and taxes were cut in election years; ii) spending was higher for the municipal council would probably be re-elected than for the council that was probably facing defeat; iii) in the post-election year, expenditure was higher and taxes were lower for re-elected governments than for newly-elected ones; iv) re-elected councils spent less and taxed more in the post-election year, compared with the election year; and v) conditional on taxes, expenditure was positively related to electoral success.

Pettersson-Lindbom's findings are consistent with Rogoff's equilibrium budget cycle model[26]. The partisan tests showed that left-wing councils spend and tax more and right-wing councils spend and tax less.

[26] The council demonstrates its competence through cycles in fiscal policy: rational voters use a retrospective analysis to filter out competence and reappoint the incumbent today if it raises the probability of presenting a more competent council tomorrow.

A study by Sakurai and Gremaud (2004) analysed the fiscal behaviour of São Paulo (Brazil) municipalities, depending on the election calendar and different political parties. The authors considered that both voters and politicians have a divergence of interests, which alters the political decision process and results in inefficient or efficient (depending on the greater or lesser degree of divergence, respectively) allocation of public resources.

They constructed an econometric model using the components of the budget for 645 municipalities of the State of São Paulo between the years 1989-2001, in order to study total expenditure behaviour. They found evidence of positive impulses in municipal expenditure in electoral years between 1992 and 1996 and differences between the parties with respect to different economic classes of expenses, proving that both opportunistic and partisan hypotheses applied.

Rosenberg's results showed that in pre-election years expenditure is higher, particularly in the cases in which the politician previously elected is not running for office for a second term. This perspective is contrary to Pettersson-Lindbom's findings, who found that expenditure was higher when local government officers were aiming to be re-elected. This growth in expenditure would, in turn, be prolonged throughout the post-election year, which is in contrast to the conclusions of Galli and Rossi, in which the period of expenditure expansion was confined to the electoral year itself. A partisan effect was found in the last three studies reviewed in this sub-section.

1.2.1.2 Empirical Analysis on the Strategic Use of Debt

Pettersson-Lindbom (2001) investigated the strategic use of debt after discovering a gap in empirical studies at the local level for debt-use behaviour. This work was based on his 1999 study, in which he defined debt as the process of borrowing money and creating a debt service. The use of debt was summarised as a necessary instrument of governments because of economic reasons or political economy arguments. However, he emphasised that debt can mean that governments are simply unable to manage their resources, cut expenditure or raise taxes.

The purpose of this study was to link the stock of debt at a certain moment to past and future policies. Debt becomes a strategic instrument when governments face the probability of defeat. In order to influence their successors' policies, they ensure that future revenues are committed to the servicing of the debt.

Pettersson-Lindbom used data from Swedish local councils between 1974 and 1994 and tested two models of debt use: the Alesina and Tabellini (1990) hypothesis and the Persson and Svensson (1989) hypothesis. In the first approach, councils have different preferences on the composition of expenditure; debt is used to commit the successor to a certain spending direction. In the second approach, in a two-party system, both parties have different views on the value of expenditure; debt is used to constrain the level of future spending.

The author concluded that right-wing councils accumulated more debt during their term of office if the probability of being defeated was large; left-wing councils decrease the level of debt the higher that probability. Moreover, the larger the debt, the more a newly-elected council has to reduce its expenditure and raise taxation. His results were consistent with the Persson and Svensson model.

1.2.1.3 Empirical Works on the Revenues-Expenditure Nexus

Inter-temporal links between council expenditure and revenues can be modelled according to three hypotheses: i) revenues change concurrently with expenditure; ii)

taxes change before expenditure in order to feed its growth process and iii) expenditure changes before taxes, which consequently feed the new expenditure.
This relationship is designated the revenues-expenditure nexus.

Holtz-Eaking, Newey and Rosen (1989) considered the role of grants as the starting point to analyse the relationships between expenditure, revenues and grants at the local government level.
The authors used data on 171 US municipalities between 1972 and 1980 and applied vector auto regression (VAR) techniques to find the revenues-expenditure nexus.
The results indicated that dynamic movements on expenditure and revenues could be captured through two-year lagged variables and that there were important inter-temporal linkages between expenditure, taxes and grants. Furthermore, no proof was found for the model in which revenues change concurrently with expenditure. Finally, local evidence that past revenues help predict current expenditure, whereas past expenditure did not alter the future path of revenues, was contrary to central government data, a fact that the researchers attributed to possible differences in the decision process.

Dahlberg and Johansson (1998) studied local government revenues and expenditure in Sweden. The authors developed a dynamic econometric model to analyse 265 Swedish municipalities between 1974 and 1987[27]. A dynamic model enabled them to capture variations in fiscal policies[28] and to introduce time-varying parameters of the expenditure equation.
Dahlberg and Johansson tested four models: 1) tax-and-spend: where expenditure adjusts, upwards or downwards, to the level that can be supported by revenues; 2)

[27] The Swedish case was chosen due to the important role in the public sector of municipalities, in addition to the homogeneity of the sample. These factors also led Pettersson-Lindbom to base his study on Sweden.
[28] Using lagged variables.

spend-and-tax: it is proposed that spending takes place prior to the taxation moment; 3) revenues change concurrently with expenditure, marginal costs and marginal benefits thereby being balanced; and 4) revenues and expenditure change independently of each other.

The conclusions pointed to expenditure and grants causing own-source revenues, while grants, but not own-source revenues, caused expenditure. The authors found that their results were coherent with the growth tendency of municipal employees and the accompanying increase of local taxes during the period covered by the data. On the other hand, they found that own-source revenues were related to municipalities' areas of operation and transfers from the central budget[29]. Furthermore, extra subsidies from the central budget could be generated by municipal expenditure.

1.2.1.4 Other Empirical Works on Local Government

Not testing any particular hypothesis of opportunistic or partisan theories, the next three studies are dedicated to complementary analysis of politicians' or voters' behaviour at local government level.

In Glaser and Denhardt's (2000) study, the initial position was to consider that citizens do not have a good understanding of local government and do not assess it objectively. This question related to the hypothesis of rationality and the prospective abilities of citizens, the latter being unable to evaluate local government performance. The authors constructed an econometric model based on two types of variables: controllable and

[29] An important implication was derived from the empirical results: in order to influence municipalities' expenditure, central government should change grants and not local governments' resources to taxation and fees.

non-controllable[30]. The data was obtained through surveys of registered voters in Orange County, Florida in 1995.

Step-wise multiple regressions were used to produce a series of predictors of performance, ordered by their econometric power. Controllable variables were defined according to a Likert-type measure[31], while the non-controllable variables were transformed from a Likert measure to a dummy.

The findings indicated that the concern over the breach between citizens and local government constitutes a real problem and that many of the variables that citizens use to evaluate the performance of their local councils are not under the direct control of the elected officials. This means that citizens have greater expectations concerning local government intervention than can realistically be fulfilled.

Bronchi (2003) focused on Portuguese public management reality at national and sub-national levels. She observed that Portugal's local government spending is lower in comparison to the European Union average. According to the author, emergency measures to correct public expenditure are a mere result of "weaknesses in the budget process".

Based on macroeconomic data, comprehended between 1980 and 2004, Bronchi identified the major pressures with regard to public expenditure (2003:6-10):

i) Pressure on the personnel payroll; historically, the fastest growth rate of public expenditure has occurred since the late-1990s, a contributory factor being the increase of expenses on personnel, as a result of expanding public-sector

[30] Controllable variables are those affected by the local authorities, such as information flows, nature of the relation between citizens and the municipality and its response abilities; non-controllable variables are trends and events that affect citizens' perceptions of local government performance, but that are beyond the authority's control, due to their being linked to global economic issues, quality of life and social issues.

[31] Measured as follows: 1= Strongly Disagree, 2= Disagree, 3= Agree and 4= Strongly Agree.

employment since 1995. Total personnel employment in Portugal has been superior to the OECD and EU averages since 2000;

ii) Pressure on the demand for social services, deriving mostly from an ageing population, in addition to the introduction of some measures aimed at poverty reduction (such as the guaranteed minimum income);

iii) Low levels of productivity and large, state-owned firms that obtain resources through transfers in order to finance their chronic deficits.

The main problem was identified by Bronchi as inadequate expenditure control, resulting from serious deficiencies in the preparation of forecast documents, such as the central State budget.

Budgetary-process deficiencies were found to be a consequence of the insufficiency of regulations designed to control expenditure, little macroeconomic analysis prior to the elaboration of the State budget; archaic accounting, control and evaluation processes, and finally, a lack of coordination between central and local governments. The author found that recent measures to improve budget coordination and control of sub-central debt have been inadequate.

With reference to local government, Bronchi found that there is no legal structure to implement the decisions to increase expenditure and increase resources (financing process), the State budget remains the main source of financing municipalities and there are no incentives to cut expenditure.

In conclusion, Bronchi found that the efficiency of expenditure in the domain of public goods was not easy to measure, in particular in areas of high expenditure levels, such as education, health and social welfare. Moreover, little effort is made to improve efficiency. The author lists a series of recommendations to improve both efficiency and effectiveness, namely, strengthening control over the budget process, increasing efforts to match resources to local governments' areas of responsibility, implementing management by objectives and encouraging the expansion of the relationship between public and private sectors.

French (2004) related the form of government and per-capita expenditure in small cities and towns of the United States. He distinguished between the council-managed form of government[32] and non-council management[33]. French expected to find that per-capita expenditure of non-council managed cities was significantly higher than per-capita expenditure of council-managed cities. An econometric model was constructed in order to link per-capita expenditure with the form of government, median household income, the number of services offered by the municipality, population and demographic variation, geographic region and metropolitan status of the city.

He concluded that the form of government was significantly related to expenditure levels: council-managed cities and towns exhibited significantly higher per-capita expenditure levels than cities and towns under non-council government, which was the contrary to the expected finding.

1.2.2 National Empirical Research

Recently, there has been a growing interest in studying PBCs in Portugal, particularly at the local level, with papers produced by researchers like Martins (2002), Veiga (2002), Veiga and Veiga (2004), Baleiras and Costa (2004) and Coelho (2005).

We shall divide them into macroeconomic and local government studies. Together with local government studies, we include a study on efficiency, which, whilst being a topic beyond the scope of PBCs, is of great relevance to the country's problems.

[32] In this case, an appointed manager is responsible for administrative functions defined by the council. The council concentrates strategic political and policy responsibilities.
[33] This is a form of government that results directly from elections and where an elected official is responsible for administrative functions.

1.2.2.1 Macroeconomic-Level Studies

The survey of Portuguese studies first considers Martins (2002), who tested the four PBC approaches, as presented earlier in Table 1.1 (section 1.1). This work was based on the general assumptions regarding PBCs:

i) Voters react to economic variations through the ballot-box. higher unemployment, inflation, less income and less growth are expected to be reflected in the government's castigation at election time, and vice-versa;

ii) Politicians' behaviour is endogenous: they must know what affects voters' decisions in order to remain in power.

The author sought to answer two questions. Firstly, if Portuguese politicians manipulate the economy prior to elections, can they win re-election? Secondly, are there any systematic differences between the economic performance of the PS (main left party) and the PSD (main central-right party)? The variables analysed were the budget deficit series, the GNP growth rate, the unemployment rate, the inflation rate and money supply.

Martins applied graphical analysis and an OLS econometric model to study data for the Portuguese economy in the period between 1977 and 2000[34].

Results demonstrated the inexistence of partisan effects and the existence of punctual opportunistic behaviour when observing budget deficit series graphically. Martins found no econometric evidence for opportunistic behaviour in budgetary policy. However, opportunistic behaviour was found in unemployment and in monetary policy[35].

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[34] Data consisted of trimester observations of the growth of real GNP, inflation rate, and unemployment rate as other measures of monetary and budgetary policies. Partisan behaviour was included in the model from 1985 onwards and was analysed by taking into account the government party.

[35] According to the author, evidence of monetary policy can raise the question of the Bank of Portugal's independence.

1.2.2.2 Local Government-Level Studies

Veiga (2002) analysed in an opportunistic context the influence of political factors on municipal expenditure decisions. The author started by identifying three main findings that emerge from the international literature:

i) Most authors find evidence in favour of partisan theory, with strong support for rational models;

ii) Partisan effects are stronger in countries with stable governments and clear ideological differences between competing parties;

iii) Evidence in favour of opportunistic business cycles is weak.

Next, the author built an econometric model from a dataset of capital expenditure accounts of all the mainland municipalities (278 local governments) from 1979 to 2000. The researcher concluded that local politicians increase capital expenditure before elections, particularly on items that are highly visible to the electorate, such as the construction of roads. When the Mayor's party had an overall majority in the Municipal Assembly, there was a greater probability that the dominant party would approve the budget and an activity plan that reflected its preferences, although the dimension of the opportunistic cycle did not depend on whether the Mayor's political party had a majority in the local assembly.

The econometric results indicated that capital expenditure is higher in the second half of the mandate, above all in election years, which suggests that Portuguese local government incumbents are opportunistic in their behaviour. The expenditure is accentuated in favour of items of great visibility, like roads and complementary works. Veiga (2002) found no evidence of partisan behaviour, or that left-wing parties spend more on investment items that favour poorer groups of the population.

Veiga and Veiga (2004) expanded Veiga's work, testing for the existence of Rational Political Business Cycles, using a large array of information on continental Portuguese municipalities, based on the Rogoff and Sibert (1988) assumptions.

They summarised the characteristics of Portuguese municipalities which make them an interesting object of study as follows: homogenous legislation, procedures and accounting, homogenous policy instruments and institutions, election dates exogenously determined, very detailed data on public expenditure that allow tests on particular expenditure categories and long time-series which allow more reliable conclusions.

The econometric tests performed examined investment expenditure choices of 278 local government municipalities over six electoral periods (1978-2000), verifying whether incumbent politicians increased municipal expenditure in pre-election periods. Furthermore, they investigated whether expenditure choices are related with the Mayor's ideology, the support for the Mayor from the Municipal Assembly and his decision to run for another term in office.

Veiga and Veiga assumed that local politicians have more freedom to manipulate expenditure than revenues, that current expenditure is rigid and capital expenditure is flexible. The findings supported rational opportunistic cycles, similarly to those of Rogoff and Sibert (1988). Veiga and Veiga concluded that there was clearly the existence of opportunistic behaviour by local governments, with an increase in pre-election periods of high-visibility expenditure. This suggests an effort to signal competence and improve chances of re-election.

The cycle is influenced by ideology in one aspect: left-wing mayors tend to behave more opportunistically than right-wing mayors. Right-wing oriented mayors register greater deficits and capital expenditure, while total expenditure is higher among left-wing oriented mayors, although there is no evidence of ideology effects in investment expenditure. Veiga and Veiga concluded that is not possible to draw conclusions on the character of partisan effects in municipal finances. Similarly to the results of their previous study, the opportunistic cycle does not depend on whether the Mayor's party has the majority of deputies in the municipal assembly or on whether he is running for another term in office. Having the majority in the municipal council induces greater investment expenditure. Mayors increase expenditure in parliamentary election years, in order to influence a better outcome for their parties at the national level. In municipal election years, there are larger budget deficits and higher total capital and investment expenditure than in other years of the electoral cycle.

The Portuguese researchers, Baleiras and Costa (2004) conducted a study concerned with short-run local government behaviour within election dates, attempting to ascertain if economic policy was related with inter-temporal patterns of terms of office.

The authors assumed that local government has less discretionary power over policy instruments, and that politicians have no prospects of employment after leaving public service.

They tested opportunistic PBCs at local government level, considering that agents were ultra-rational and fulfilled the following criteria:

a) Voters evaluate governments on the basis of their expected future performance, have rational expectations and possess all the information available;
b) The policy-makers know exactly how voters behave;
c) There are no information asymmetries between players.

The authors hypothesised that PBCs could be the outcome of an "ultra-rational set-up where information is fully and symmetrically distributed" and that "all players optimise". Hence, the optimal policy of a PBC is the one in which "public outlays before elections exceed those after elections"[36].

[36] Baleiras and Costa (2004:669).

They based their work on an econometric model in which real per-capita investment expenditure was linked with election and non-election periods, with a majority on the town council supporting the Mayor and with the log of capital transfers per-capita. The authors used a time-series sample of 30 continental Portuguese municipalities, from 1977 to 1993.

Within this framework, their hypothesis was validated. In addition, they found that ideological PBCs were less likely to arise at the local level, since a very significant proportion of expenditure is rigid. Moreover, an interesting phenomenon was observed: there was an alteration in the trend from 1986 onwards that showed improved results in the regression's determination coefficient, which implied that structural funds from the European Community after Portugal's adhesion were an important source of funds for investment.

The years between 1977 and 1986 do not obtain a high regression value. The authors believe that this was a consequence of the fact that the Portuguese people were still discovering the democratic process after the demise of the ultra-conservative dictatorship.

Coelho (2004) also tested opportunistic and partisan behaviour at local government level. To many economists and political scientists, the major issues underlying government behaviour are the existence of ideological incentives or opportunistic incentives. Therefore, the author sought to understand if these incentives created policy and economic bias in the current period, which might constrain policy and economic performance of future periods.

Coelho assumed, similarly to Veiga and Veiga (2003), that the Mayor has more power to influence expenditure than revenues. Following this trend of thought, analysis was focused on the occurrence of PBCs in the capital expenditure of town councils, considering that this constitutes the most visible expenditure in the eyes of the electorate.

Opportunistic and partisan behaviour was tested on components of local government expenditure (as proxies for economic policies) between 1979 and 2000, and on local employment growth (as a proxy for economic outcome) between 1985 and 2000.

The analysis employed a panel dataset of 86 municipalities in the northern region of Portugal (classification NUTS II).

The researcher concluded that local governments adopted a opportunistic behaviour, observed both in instruments and outcomes. There was statistical evidence of opportunistic behaviour in the electoral year and in the preceding year – total, current, and capital expenditure were larger than in the other years, with opportunistic behaviour of a greater magnitude evident in the year before elections. There was no evidence of partisan behaviour whatsoever, but the author did find that left-wing local governments' budgets surpass their right-wing counterparts (a conclusion similar to the results obtained by Veiga and Veiga (2002, 2004.)

One other aspect of PBCs was captured through employment by Coelho, Veiga and Veiga (2005). The authors attempted to test for the existence of PBCs in employment for all the continental Portuguese municipalities between 1985 and 2000. The model considered employment as a dependent variable of a set of variables related to opportunistic behaviour, partisan behaviour and to population fluctuations.

The findings revealed strong evidence of PBCs in local employment. The authors noted an indirect way to generate jobs in local firms through municipal expenditure manipulation.

All studies point to the non-existence of partisan business cycles at local level. Veiga and Veiga's conclusions are in contrast to what they identify as the main results deriving from international research. Portugal presents opportunistic PBCs, rather than the partisan form, particularly with regard to investment expenditure (which has a high degree of visibility). Portuguese incumbents also demonstrate forms of signalling competence that are similar to the ones described by Rogoff and Sibert (1988).

Baleiras and Costa (2004) tested for the prospect of incumbents' future employment when they did not intend to run for office[37] and found no evidence of partisan form cycles. The Coelho, Veiga and Veiga (2005) study found evidence of cycles in local employment due to an opportunistic manipulation.

We present a final national study which focused on efficiency rather than on PBCs. Afonso and Fernandes (2003) analysed the expenditure efficiency of local government when having to implement the new decentralisation policies, since in their opinion, studies on the subject were scarce in Portugal. They followed the Tiebout model, which applied the notion of competitive markets to the local government sector and assumed that local governments employ public resources in a cost-minimising way to fulfil local public interests.

The analytical framework was based on input/output efficiency as constructed by microeconomic theory, assuming that municipal performance is the result of local public policies, while municipal expenditure efficiency is the outcome of expenditure inputs. Inputs correspond to expenditure and outputs are the total local services provided.

The data was drawn from a sample of 51 municipalities of the region of Lisbon and the Tejo Valley in 2001.

[37] Rosenberg (1992) also focused on incumbents' future employment prospects.

The authors concluded that the municipalities of this region were relatively inefficient. Moreover, they could have achieved, on average, approximately the same level of local output with about 39% less resources, which means that local performance could be improved without necessarily increasing municipal expenditure. The wasted expenditure was greater in "large municipalities", compared with smaller ones. What is more, spending did not translate into better living standards.

Although this latter work does not stand within the domain of opportunistic or partisan PBC studies, it nevertheless constitutes an important analysis of how efficiently or inefficiently municipalities spend their financial resources.

Chapter 2 – Portuguese Municipalities: A Brief Characterisation

The theory of political business cycles first emerged at macroeconomic level. Its field of research was expanded to sub-national level, that is, local government. Despite being a field in which there are no consensual opinions, we saw in Chapter 1 that international and national researchers have produced studies on the subject that show that PBCs should not be overlooked when analysing local government activities.

Since the object of this work is to investigate for evidence of PBCs in Portuguese local government through debt, the present chapter briefly characterises Portuguese municipalities from the political and financial perspectives, approaching their structure and competences with particular regard to their forms of finance and management tools.

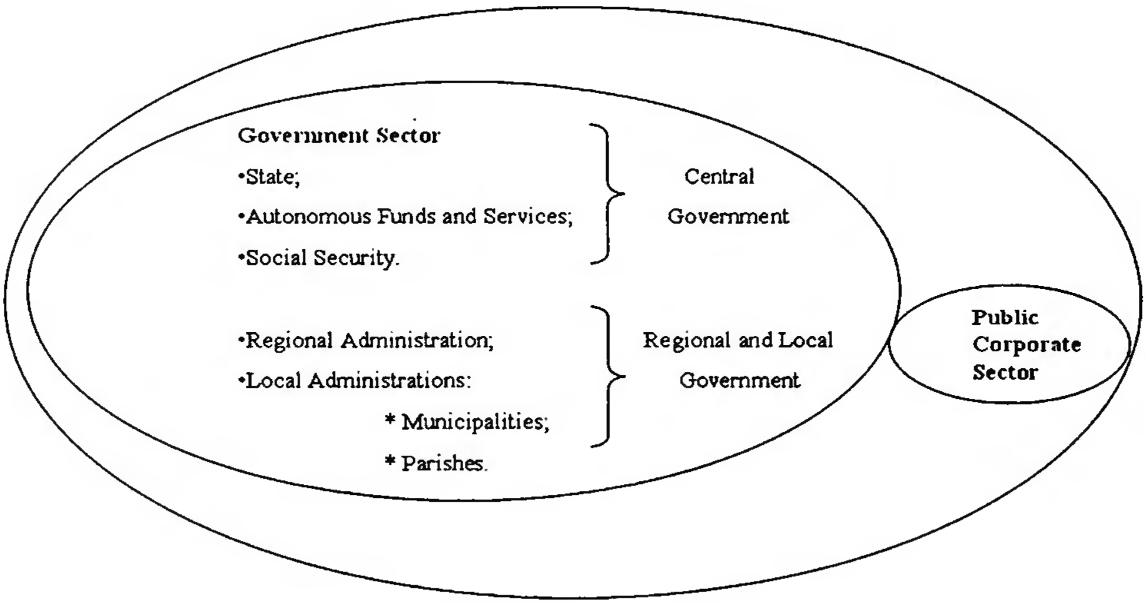
2.1 Municipalities' political characterisation

In a unitary state, such as Portugal, the political unit is the citizen even though intermediate levels of government exist. Local government can be seen as an intermediate body of State management, since it is empowered to exert authority over citizens in a certain territorial area. Municipalities correspond to a level of government with independent powers over political decisions associated with political decentralisation[38]. Political autonomy implies budgetary independence[39].

[38] Political decentralisation is related with the government's vertical structure (different territorial levels of government). The vertical levels are composed of the central, regional and local governments. For an extended analysis on the subject, see Pereira (1998:73) and Pereira, Afonso, Arcanjo and Santos (2005:304).
[39] Pereira, Afonso, Arcanjo and Santos (2005:346).

In Portugal, the regional and local government authorities are organised on the basis of parishes, municipalities and administrative regions. The schema of the government sector can be observed in Figure 2.1.

Fig. 2.1 - Schema of the Portuguese Public Sector



Source: Adapted from Afonso and Fernandes (2003:6).

Our analysis concentrates on municipalities, the political organs of which are the municipal council (executive power) and the municipal assembly (deliberative power). The municipal assembly has a broader mission than the town council, specifically in strategic planning, guiding and following up on all activities. The assembly also analyses both qualitative and quantitative data produced by the town council in order to have full knowledge of its management results. The town council has responsibility for current management and puts into practice the municipal assembly's strategic options, in accordance with the assembly's regulations.

The municipalities' first legal framework after 25th April 1974 was established in the Portuguese Constitution, which replaced the earlier Administrative Code, defining a municipality as a public entity with specific organs that pursuit the interests of the population under its jurisdiction.

The first specific law to regulate municipal activity was Law 79/77[40]. This law established the attributions of municipalities in Article 2. These attributions would become the source of inspiration for the design of one of the municipalities' management tools – the Multi-Annual Options Plan[41]. Table 2.1 depicts the areas of municipal activity, which are generally included in the Multi-Annual Options Plan as strategic objectives.

Table 2.1 – Attributions of Municipalities

Area of Activity	Description
Public Safety	Municipal Police (optional).
Education	Construction and maintenance of basic education schools, expenditure on non-pedagogical staff, social support for under-privileged children, school transportation.
Health	Participation and consultation on the planning of national network of public health centres.
Social Care	Cooperation with social care institutions, partnerships with central administration in programs against poverty and social exclusion.
Housing	Promotion of social housing and urban renovation programs.
Culture, Science, Sports and Leisure	Construction of sports and recreational facilities, construction and maintenance of municipal cultural and scientific centres, libraries, theatres and museums, promotion of culture, natural environment and urban patrimony.
Energy	Distribution of low-tension energy, promotion of urban and rural public lighting.
Transport and Communications	Construction and maintenance of roads, viaducts and so on, maintenance of the municipal road network.
Water, Sewage and Sanitation	Distribution of water, construction and maintenance of sewage systems, waste treatment.

Source: Based on Pereira, Afonso, Arcanjo and Santos (2005:361, Table 11.13).

[40] For further information, please see the legislation reference at the end of this work, page 105.
[41] This was described in previous legislation as the Activities Plan.

The first post-25th April 1974 municipal elections were held in 1976. Since then, local elections have taken place in 1979, 1982, 1985, 1989, 1993, 1997, 2001 and 2005. At present, there are 308 municipalities in the country, including the Atlantic islands of the Azores and Madeira.

2.2 Municipal Finance

Since the time-span of our study is from 1978 to 2002, we shall now characterise the evolution of the legal framework of public local finance, highlighting its major modifications during the period.

Municipal finance has always been the subject of specific legislation. The process of financing local authorities' activities plays a key role in current and strategic management and is based on five main principles, which derive from public finance theory.

These structural principles occur at different levels. Provisions for *financial autonomy* are found in the Constitution and in the government's organic laws. Enshrined in the country's fundamental law, this principle becomes the cornerstone of local government action. The *fair distribution of public resources* and the *reduction of inequalities* derive from local finance laws related to financial transfers from the central budget and the distribution of resources in terms of efficiency and equity. Finally, the last two principles derive from the municipalities' juridical and political status.

A summary of municipal finance principles is presented below in Table 2.2.

Table 2.2 – Municipal Finance Principles

Principle	Definition	Legal Framework
Principle of Financial Autonomy	Municipalities have their own resources and assets, with autonomy over their management.	Portuguese Constitution
Principle of the Fair Distribution of Public Resources	Transfers must correspond to the effective costs of the municipalities' attributions. This principle is also known as the "solidarity" or "vertical equilibrium" principle.	Local Finance Laws
Principle of Reduction of Inequalities	Allows for the transfer of funds to help small municipalities to accomplish their attributions; also known as "active equality" or "horizontal financial equilibrium".	
Principle of the Fundamental Freedom of Municipalities to Define Policy	This principle allows municipalities to defineand execute their policies.	Municipalities' Juridical and Political Status
Principle of consultation of municipalities	The means by which public resources are transferred results from consultation; the municipalities' opinion on the process is mandatory.	

Source: the author, based on Rocha (1991:131-135).

In order to fulfil the tasks attributed to their sole competence, as defined by law, municipalities can finance their activities through own source revenues (taxes, fees and tariffs), transfers from central government and credit. Article 240 of the Constitution establishes that municipalities have their own assets and financial system (Art. 240, nr. 1). In addition, the article stipulates that the general laws of municipal finance must adjust the distribution of public resources in order to correct asymmetries between municipalities (Art. 240, nr. 2) and permits them to manage their assets and charge for their services (nr. 3 of the same article). Provisions for the transfers from central government are set out in Article 254, which determines that municipalities "participate, by their own right (…), in the revenues from direct taxation" (at a national level).

While in such countries as Austria and Germany, local governments have direct taxation powers, the financing model for local government in Portugal is indirect, meaning that municipalities are not empowered to create or collect taxes. Tax autonomy is reduced basically to the choice between a transmission tax on non-moveable assets and a tax on firms' profits, called the "derrama". Pereira (1998:62) explains that the "derrama" was initially created to offset partially, in cases of utmost importance, expenditure on investment projects. However, over the course of time, it has become a standard annual municipal application.

Transfers from central government assume two forms: block grants (which are non conditional to specific projects) or special grants (destined to finance specific projects and expenditure).

Debt constitutes a form of financing projects, as a direct result of current activities and is related to that part of expenses not covered by revenues. Debt will be analysed in Section 2.3.3.

Historically, the first local government finance legislation was Law 1/79. The resources transferred from the central government budget were structured and the transfers' method of calculation was determined, becoming a basis for the forms that remain in force at the present time. The main transfer to municipalities is the Financial Equilibrium Fund (FEF), which constitutes a block grant.

These forms were amended by Law 98/84. The new law withdrew from parishes the right to obtain a share of the "derrama", the tax on businesses' profits. The new law established that the "derrama" could only be applied at municipal level. A new tax was placed at the disposal of municipalities, the Tax on Transportation[42], but was never implemented.

The new legislation's premise was to reinforce municipalities' own revenues, through the application of local fees and tariffs.

The third piece of local government finance legislation was Law 1/87. This law provided the municipalities with two new sources of revenue: the Tax on Property Acquisition, which has served to yield a fundamental proportion of total revenues; and VAT (Value Added Tax), which was introduced into the calculation method of the main transfer from the central administration, known as the Financial Equilibrium Fund (FEF).

The current law 42/98 has broadened the application of the fund's calculation from VAT alone to VAT plus the tax on private individuals' incomes and the tax on enterprises' profits. Furthermore, it has addressed the question of funds from the European Union.

This law substituted the FEF by the General Municipal Fund (FGM) and the Municipal Cohesion Fund (FCM). These funds are calculated on the basis of a series of statistical information indexes compiled on each municipality and applied to 30.5% of the average national revenue from income tax on individuals and enterprises, plus VAT.

A new local government finance law is currently under discussion, for which a draft proposal has been drawn up at the time of writing this text. When approved, the proposed law will become the fifth amendment to the local government juridical

[42] It was intended that this tax was to be collected from enterprises, in order to offset municipal expenditure on roads and transport infrastructures.

framework. The proposed law focuses on the public resources distribution model, creates new revenues and revises the debt regime.

Two new forms of revenue will be created: first, a share for local governments of the total IRS collected at the national level – 2% being a constant share plus a variable share of up to 3%, established by each municipality and deductible from the private individual's IRS taxable income, if not applied up to the full percentage; the second form will be the Municipal Social Fund (MSF). This is aimed to finance education, health and social welfare expenditure.

2.3 Current Management and Strategic Planning

Municipal management is based on two major instruments:

- The Budget (of revenues and expenses),
- The Multi-Annual Options Plan (comprising the Investment Plan and the Relevant Activities Plan).

In theory, the Budget and the Multi-Annual Options Plan form the core of the municipalities strategic planning, since they include a detailed description of activities programmed on a multi-annual basis. These instruments are more than mere operational plans[43], since they integrate a strategic component that results from political options taken by the ruling party.

[43] Operational Plans are usually devised for the short term, based on strategic information on actions to be carried out according to a specific time-table.

2.3.1 The Budget

The Budget is the document in which all programmed municipal expenditure for the next financial year is detailed. Three characteristics of the central budget are adapted to everyday municipal management, transforming the local budget into a financial document (as a forecast of financial activity), a political document (to be formally approved by the political organs, i.e., the town council and the municipal assembly) and a juridical document (defines municipal revenues and expenditure)[44].

Revenues and expenditure may be current or capital in nature.

The budgetary principles of municipalities are adaptations of those that apply to the central budget, taking on a specific meaning when applied to local governments. These principles are presented in summarised form in Table 2.3.

Table 2.3 – Municipal Budgetary Principles

Principle	Definition
Unity	There is only one budget. (a)
Universality	The budget comprehends all the revenues and expenses of the municipality.
Specificity	The budget specifies with maximum detail all revenues and expenses.
Balance	The expenses must always be covered by the revenues. (b)
Non-correspondence	The revenues are not destined to any particular expenditure, they are generic in character, except when predicted by law.
Non-compensation	All revenues and expenses are inscribed in the budget by their full amounts.

Notes:

(a) Means that all municipal services' expenditure is inscribed in a unique document.

(b) At municipal level, this principle means that total expenditure cannot exceed the accounting total of revenues. The cash balance of the financial year must always positive or break even.

Source: the author, based on the Official Local Accounting Plan (POCAL).

[44] Pereira, Afonso, Arcanjo and Santos (2005:369).

The use of budgetary principles allows municipalities to transform strategic intentions into action, accomplishing three functions: forecasting, coordination (precise determination of expenditure values) and control (analysis of execution).

Traditionally, opportunistic or partisan PBCs have been studied through budgetary components. The budget consists of the Revenue Budget and the Expenditure Budget. Revenues and expenditure are characterised according to their financial nature and ordered by classes.

Table 2.4 portrays some details of municipal revenues, organised according to their economic nature and accompanied by a brief description.

Table 2.4 – Financial Classification of Municipal Revenues

Economic Classification	Description
Current Revenues	
Direct Taxes	Integrates municipal taxes established by law, including municipal taxes on real estate sales and ownership, "derrama" and vehicle municipal tax.
Indirect Taxes	Revenues from taxes on corporate sector, reflected in production, sales, purchases or use of goods and services.
Fees and other penalties	Includes taxes, tariffs and fines paid by the municipal residents.
Property Revenues	Includes revenues from financial assets and non-productive assets, e.g. land and non material assets.
Current Transfers	Non-returnable financial revenues received [without any return] and destined to current expenditure.
Capital Revenues	
Sale of Investment Goods	Revenues from the sale of goods, the acquisition or construction of which is considered investment.
Capital Transfers	Non-returnable financial revenues received [without any return] and destined to finance capital expenditure.
Financial Assets	Revenues from sale and amortisation of securities, i.e.bonds, shares and other [participation] forms of investment.
Contracted Debt	Revenues from debt contracted in financial institutions and bonds.
Other Capital Revenues	Residual classification destined to include revenues which are not accounted in other types of capital revenues.

Source: the author, based on the Official Local Government Accounting Plan (POCAL).

Studies such as Afonso and Fernandes (2003) and Veiga and Veiga (2004) note that revenues are very rigid, since the ability of municipalities to "create" positive revenue flows is scarce, usually reflected at the end of the financial year in a low completion rate of projected activities.

Since the recent adoption of the Official Local Government Accounting Plan (Plano Oficial de Contabilidade das Autarquias Locais, usually referred to as POCAL), there are more restrictions on municipalities from implementing budgets in which projected revenues are considered "optimistic" (i.e., over-budgeted). The POCAL obliges municipalities to calculate the figures of certain financial budget classes as an average of the revenues effectively received in the previous 24 months. This methodology of calculating projected revenues applies to one of the municipalities' major sources of income, in particular, direct taxes.

There are some classes of revenues for which locally-elected officers are allowed a certain margin for "optimistic" projections. One such case is "Sale of Investment Assets", in which are mainly included the product from sales of buildings and land, a category that continues to be over-budgeted by many municipalities, despite the tight control exerted by the Accounts Court (the Tribunal de Contas, Portugal's main judicial body of audit control over public entities).

Empirical analysis presented in Chapter 3 will focus on Current and Capital Transfer revenues, which stem from the State central budget, the EU budget and other public or private entities law that expenditure in municipal expenditure on specific projects.

In Table 2.5 we resume the types of expenditure according to their current or capital nature, similarly to our prior exposition for revenues.

Table 2.5 – Financial Classification of Municipal Expenditure

Financial Classification	Description
	Current Expenditure
Expenses on Personnel	Corresponds to expenditure on all personnel, including employees on contracts of various durations. This expenditure cannot exceed 60% of previous year's total Current Expenditure.
Acquisition of Goods and Services	Includes expenditure on the acquisition of durable and non-durable goods not considered to be investments and on all external services, e.g. training courses, external consultations, representation expenditure, publicity and all other expenditure on services provided.
Interest Payments and Other Expenditure	Includes interest payments and other banking expenditure.
Current Transfers and Subsidies	Includes transfers to social care institutions, public utility entities and social solidarity.
Other Current Expenditure	Classification of a residual character that includes other expenditure that is not accountable in any of the other financial classes.
	Capital expenditure
Acquisition of Investment Goods	Investment expenditure refers to the creation or acquisition of durable productive goods, increasing municipal productive assets.
Capital Transfers	Corresponds to its current expenditure counterpart, the sole difference residing in the fact that these transfers are destined to finance the investment expenditure of their recipients.
Financial Assets	This classification is reserved for the accounting of the municipality's financial investments. It includes the principal repayments on loans contracted.
Other Capital Expenditure	Classification of a residual character, which includes other expenses not accountable in other classifications.

Source: the author, based on the Official Local Government Accounting Plan (POCAL).

The Expenditure Budget aggregates investment and transfer expenditure, organised according to their financial nature and which result from decisions of the municipal council. Thus, in terms of strategic planning, these decisions reflect the policy program to be implemented. According to Baleiras and Costa (2004:659), the "Mayor plays a decisive role in the choices made by the municipality and becomes the "protagonist (...) when investment actions are concerned".

In Chapter 3, the expenditure variables to be integrated in the empirical analysis are:

i) Current and Capital Transfers, considered as a potential target for manipulation, because they correspond to direct transfers to organisations;

ii) Acquisition of Investment Goods, which are considered another potential object of manipulation, due to the inherent, connection to the maintenance of supply of goods and services to residents; it includes expenses on public highway maintenance, transportation, maintenance and expansion of public buildings and amenities (such as schools, libraries and museums, among others).

2.3.2 The Multi-Annual Options Plan

The Local Government Accounting Law 341/83 obliges municipalities to produce an activities plan on a multi-annual basis since, implying that all investments and capital transfers are detailed for a specific year and the following four years. The components of the Multi-Annual Options Plan are the Investment Plan and the Relevant Activities Plan. Specific actions programmed by the municipality are numerically classified at four levels: Objectives, Programs, Projects and Actions.

Objectives correspond to generic vectors of activity and are closely related to the attributions of municipalities mentioned in section 2.1 of this chapter and displayed in Table 2.1. Programs and Projects correspond to strategic areas of intervention and general actions to take place, respectively. Actions correspond to the specific tasks that will be carried out in order to execute a strategic option. All of the above classifications result from political options.

The Investment Plan is a list of all actions in which expenditure is considered to be of a capital nature (particularly investment), while the Relevant Activities Plan includes all current expenses[45]. Legislation gives municipalities the power to decide on whether or nor to devise a Relevant Activities Plan, obliging them only to detail investment expenditure. Despite the fact that the Relevant Activities Plan is optional, it is produced by the majority of municipalities, since it constitutes a detailed list of current activities. Expenses on Personnel are not included in either document, occupying instead a specific category in the budget.

2.3.3 Debt and Credit

In this section, we consider the variables that will be employed in our empirical analysis in Chapter 3.

By virtue of their independence from central government, municipalities are free to contract debt in financial institutions. We will briefly analyse/describe below the legal ambit of short-, medium- and long-term debt contraction.

Short-term debt results from expenditure items not paid within the financial year and that will impose a burden on the following year's budget. Its amount does not correspond to any form of financial debt, rather being a residual accounting value, the growth of which reveals that the municipality has acquired a large quantity of goods, services and equipment for which it was not able to pay during the financial year.

[45] Besides current expenses, all actions executed by means of capital transfers are also included in the Relevant Activities Plan.

Short-term debt has always been recognised in local finance law. Legal stipulations oblige municipalities to present a detailed list, sanctioned by both the town council and the municipal assembly, of the bills to be paid during the following year.

Law 79/77 (the first law to regulate local government activity) determined that the municipal assembly should be the organ responsible for approving the contraction of financial debt. Debt could only be contracted to finance specific projects and the municipal council should present to the assembly a detailed plan of such projects, including the projected budget and the costs related to the payment of the principal and interest on the associated loans. The duration of the loans was not mentioned in the law.

Law 98/84 separated the time-span of the loans into short, medium and long term, which is still the case at the present time. The loans are deemed acceptable if their contractual terms represent the best financial conditions available in the market. In addition, municipalities can launch financing operations by issuing bonds.

Short-term loans can only be contracted to make up for shortages of cash and cannot exceed 5% of the annual value of FEF transfers. Medium- and long- term loans can be entered into for one of two purposes:

i) They are destined to finance investment projects;

ii) They can be contracted in order to achieve municipal financial recovery.

Debt servicing (total payments of the principal and interest) of the loans contracted are legally bound not to exceed the greater value, either of 20% of FEF transfers, or 20% of the total investment expenses made in the previous year of loan contraction. These percentages correspond to the first legal limit on indebtedness. Excluded from this limit is all debt servicing resulting from loans contracted to finance projects related to extraordinary expenditure consequence of public catastrophes.

The concept of financial re-equilibrium contracts was first introduced in Law 98/84. These contracts are only to be entered into in order to avoid situations of financial rupture by municipalities. Originally, they could only be contracted between municipalities and the Ministry of Finance. However, subsequent laws have removed the obligation of the Ministry to have the role of guardianship. Therefore, the municipalities are now free to enter into financial re-equilibrium contracts with recognised financial institutions. Similarly to the regulations governing loan contracts, the debt servicing generated by these contracts cannot exceed the limits mentioned in the previous paragraph.

The credit regime established by the next local finance legislation, Law 1/87, was the same as its predecessor, except for an alteration to the limit imposed for short-term loans; they could not exceed 10% of FEF, instead of the 5% stipulated in Law 98/84.

The present local government finance legal framework is provided by Law 42/98. The credit regime designed provisions aimed to update the procedures of recourse to debt. Municipalities are now permitted to contract leasing plans, the legal situation of which was not entirely clear beforehand. The inter-temporal costs of debt should be minimised, as should exposure to foreign exchange risk (when loans are contracted in a foreign currency). Excess temporal concentration of capital payments is to be avoided and the total duration of loans must not exceed 20 years, except when destined to promote projects of social housing. The recourse to debt can only be formalised after consultation with three different financial institutions, the contract chosen being that which offers the most advantageous financial terms and conditions.

Loans contracted by municipally-owned enterprises are now part of the calculation of the debt limit, contracts of financial re-equilibrium can now be entered into with financial institutions (previously, they were drawn up exclusively with the Ministry of Finance) and the concept has been extended to contracts that are intended to solve situations of structural disequilibrium or financial rupture when the debt limit has been reached. Loans for financial recovery are destined to consolidate financial liabilities in cases of general financial disequilibrium and their duration cannot exceed 12 years.

In the proposed new local finance law, which is currently under discussion, the need to control municipal debt leads to the change of methodology by which the indebtedness limit is calculated. The concept of liquid indebtedness[46] has been introduced and designed to be compatible with the Regional and National Accounting European System of 1995.

When approved, the law will consider debt as a stock with limits. The current methodology by which the limit is calculated is based on the total amount of debt to be serviced. However, in the future, liquid indebtedness will have as a cap amount 125% of the municipality's own resources, which corresponds, for calculation purposes, to the sum of transfers from the central budget, the 2% participation in the nationally-collected IRS and the financial returns on the profits of the municipality's participation in local enterprises.

The new law will oblige local governments that do not respect this limit to reduce their liquid indebtedness by 10% per annum, until the cap value is reached.

[46] Liquid indebtedness corresponds to the difference between liabilities (loans contracted, leasing contracts and debt to suppliers) and assets (cash, financial investments and credits to third parties). The proposed new law also includes in the total liabilities the liquid indebtedness and total outstanding debt of local enterprises and municipal associations.

Chapter 3 – Empirical Tests

In this chapter, we introduce the model used to attempt to identify evidence of political business cycles in debt. The model's specification is presented in section 3.1; the sources and data are characterised in Section 3.2; the empirical results for each level of analysis are presented in Section 3.3; and the chapter's conclusions are summarised in Section 3.4.

3.1 General Context of the Empirical Tests

The recourse to debt as a form of financing projects and activities has always been used by municipal authorities. In recent times, partly as a consequence of a sharp growth in the extent of indebtedness, both of individuals and of organisations (particularly governmental), public interest has focused on the levels of debt that municipalities have incurred and hence, on their ability to support debt servicing while maintaining a sufficient level of supply of goods and services.

Public knowledge of the realities of the situation is of great importance, particularly when we take into account the generally poor esteem in which citizens hold public management, believing that it does not attain a sufficiently high standard of efficiency. In a recent empirical work, Afonso and Fernandes (2003:2) conclude that the municipalities of the Lisbon and Vale do Tejo area are: "characterised as being relatively inefficient", finding that these entities "could have achieved, on average, roughly the same level of local output with about 39 percent fewer resources". Thus, "(...) local performance could be improved without necessarily increasing municipal spending". Rogoff and Sibert (1988) have indicated that voters prefer more competent governments. Competence corresponds to efficiency: The spending of fewer resources to provide the same quality and quantity of public goods and services.

If we accept the notion that the primary objective of elected officials is to win elections, and that in order to win elections, politicians must create in the electorate's mind the perception of a "job well done", they are compelled to supply goods and services that will have a great impact on voters. If winning elections is the main purpose, then politicians must maximise their popularity. This notion corresponds to Alesina's (1988) concept of political manipulation through expenditure.

However, a positive impact on voters does not necessarily signify efficiency; it may just mean more expenditure. Viewed thus, the question of financing activities gains new importance. Portuguese municipalities do not possess fiscal autonomy, therefore they cannot resort to taxation as a means of compensating for possible shortages of cash. In fact, municipalities' fiscal revenues are indirect, being both managed and transferred from the central budget.

In this context, debt becomes an important resource and can be considered from three different perspectives:

i) Its use by municipal councils may reflect their ineptitude in financial management and may conceal an unwillingness, or inability, to cut expenditure[47];
ii) Debt can result from municipalities' intrinsic competences, forced to maintain or increase the level of expenditure due to a popular pressure in favour of the development of the social and economic environment;

[47] Afonso and Fernandes (2003:5).

iii) It represents a deliberate intention to signal competence to the electorate, since borrowing allows the councils a higher level of expenditure[48].

Being revenue, debt corresponds to an amount received in order to be applied to expenditure financing. Portuguese legislation obliges municipalities to use debt as a means to finance investment projects exclusively. Debt contracted to finance current expenditure is prohibited, except in cases of financial rupture and consequent restructuring. Empirical works like Veiga and Veiga (2004) found evidence of PBCs in expenditure, particularly in investment.

When we consider the extremely close relationship between debt and investment, we may question whether debt also reflects political cycle behaviour or if it merely constitutes one form of financing, in which the subsequent decision is related only to issues of economic rationality and which can assume a complementary or substitutive nature.

By 'complementary', we mean a resource that is used simultaneously with the municipal's own resources. 'Substitutive' refers to a resource that becomes available as a consequence of a reduction of the council's main revenues.

Since Portuguese municipalities do not have fiscal autonomy, the question of the strategic use of debt is not as important as establishing whether debt is one of the items found to be linked to political cycles, in addition to investment, as was found in empirical studies by Veiga and Veiga (2004) and Coelho, Veiga and Veiga (2005). As they cannot tax directly, national municipalities cannot choose between an increase in taxes or a cut in expenditure. In the event of local government becoming empowered to levy taxes, debt would become a way of binding future councils of opposing ideologies

[48] As we have seen in Chapter 1, this process of activity signalling was postulated by Rogoff and Sibert (1988) as an effort to demonstrate competence and results, an opportunity arising from the fact that voters do not have perfect information.

to certain policy decisions[49]. Without the power to levy taxes, municipal debt cannot become a strategic means of binding future elected councils' policy decisions.

For the most part, the value of municipal analysis derives from the homogeneity of the samples[50]: the legislation on the budget and accounting is common to all municipalities, the date of elections is exogenously established, the degrees of autonomy and intervention in the community are equal to all councils, so that we can draw conclusions from the hypotheses tested with a certain degree of confidence.

3.2 Model Specification

Our objective is to detect if debt behaviour reveals political business cycles, firstly, of an opportunistic nature in the Portuguese municipal universe and secondly, of a partisan nature for fifteen individual municipalities in the Lisbon District Region.

We saw in Chapter 1 that *Opportunistic behaviour* was first theorised by Nordhaus (1975) at the macroeconomic level and assumes that there is a choice between policies and financial variables with the objective of re-election.

Partisan behaviour, the theoretical approach to which was developed by Hibbs (1977), implicates an ideological choice between those policies and economic variables according to the party's intrinsic, defensible values.

[49] This phenomenon was mentioned in section 1.2.1.2 of Pettersson-Lindbom's (2001) study.

[50] These homogeneous characteristics are emphasised as fundamental to studies on PBCs in local government and are found in international empirical works such as Rosenberg (1992), Galli and Rossi (2002) and Pettersson-Lindbom (2001 and 2003) and national studies, among which we highlight Veiga and Veiga (2002 and 2004).

As a general assumption, we will consider that voters are rational. With rational expectations, it is more difficult for politicians to deceive the voters[51].

According to Nordhaus (1989), voters are not forward-looking; rather, they look into the past in order to find justifications for their voting decisions, but they do not possess perfect information. Veiga and Veiga (2004) consider that the signalling process that may express PBCs derives from the fact that voters have imperfect information, thus they are not ultra-rational (this is an opposite view to Baleiras and Costa (2004), who assumed the ultra-rationality of voters).

Our empirical tests are linear regressions with the following general formulation:

$$\mathbf{Y_t = \alpha_1 + \alpha_i \, . \, X_{it} + \varepsilon_{it}}$$

where i = 1,..., N municipalities and t = 1,..., T_i years and where Y_t is the dependent variable, X_{it} is a matrix of explanatory variables, α_i is a matrix of parameters to be estimated and ε_{it} is the error term.

The model is to be applied to three levels of data:

a) Continental Portugal

At this level, data corresponds to the aggregate values of each variable for the total number of municipalities in the country (excluding the adjacent islands' municipalities[52]) and focuses on capturing *opportunistic business cycles.*

[51] Martins (2002:10).

[52] In Chapter 1, we summarised Veiga and Veiga's (2002 and 2004) empirical tests for local government PBCs, which also excluded the adjacent islands' municipalities from analysis, since, as these municipalities are situated in Autonomous Regions, they have their own legislative status.

b) The Lisbon District

Data corresponds to the aggregated values for the variables of the fifteen municipalities that constitute the district. As a) above, the purpose is to seek evidence of *opportunistic business cycles*.

The municipalities analysed are: Alenquer, Amadora, Arruda dos Vinhos, Azambuja, Cadaval, Cascais, Lisbon, Loures, Lourinhã, Mafra, Oeiras, Sintra, Sobral de Monte Agraço, Torres Vedras and Vila Franca de Xira. Odivelas was not included in the sample due to its fairly recent establishment (1999) signifying an insufficiency of data. The Lisbon district was chosen because it has two principal characteristics:

i) In spite of the fact that it embraces the capital of Portugal (Lisbon), it includes a wide variety of municipalities, with both rural and urban features, constituting a good proxy for the diversity of municipalities that exist throughout the country;

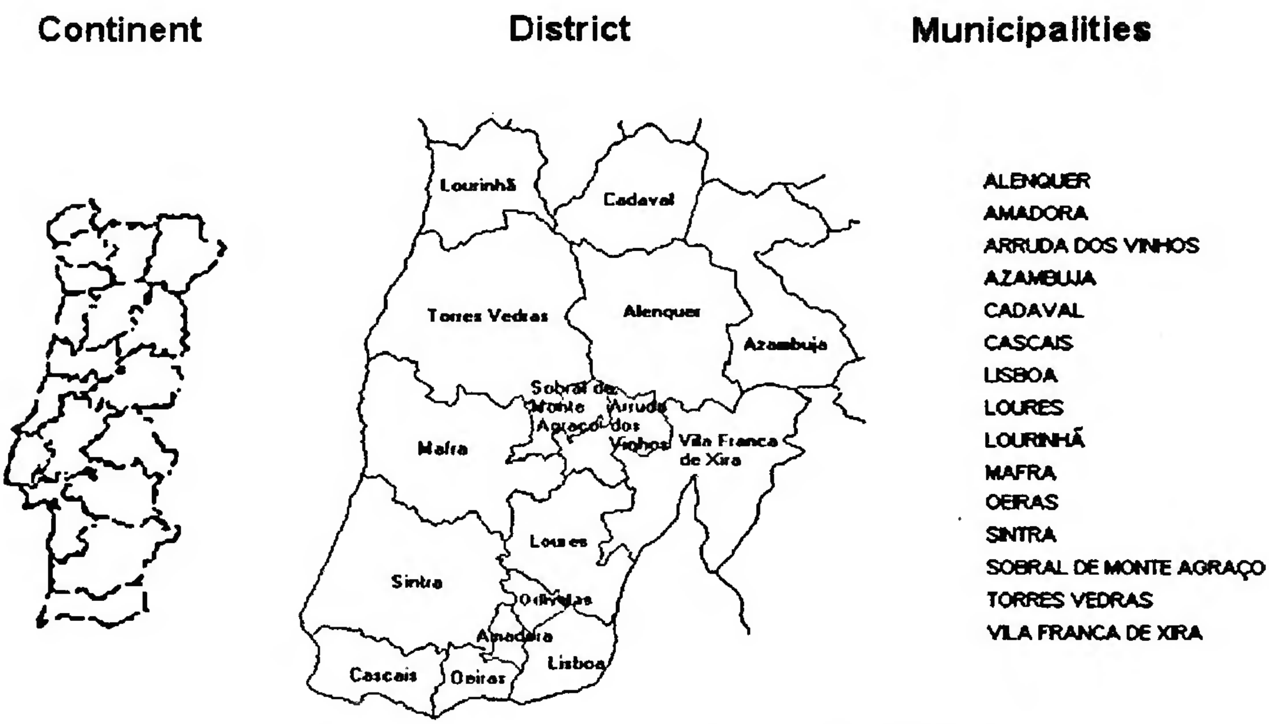
ii) We can find municipalities in the district that have never changed the political orientation of their elected officials since 25th April 1974.

c) Municipal level

At this level, we find the values of the individual variables for each of the fifteen municipalities that constitute the district mentioned in b). Here, we focus on searching for both *opportunist* and *partisan political cycles* and attempt to find possible common traits in the use of debt.

The three data levels can be observed in Figure 3.1 below.

Fig. 3.1 – Levels of Analysis



Source: The author, based on figures of the Portuguese Municipalities National Association (ANMP) available in their web site.

In Table 3.1, we present some indicators of the diversity and relative importance of the district in relation to Portugal's physical and demographic dimensions, in addition to the aggregated main revenues.

Table 3.1 – General Characterisation of the District

Municipality	Area	Resident Population			Own Source Revenues (in 1000 €)	Revenues from Central Budget (in 1000 €)	SDI [a]
	(Km^2)	*1993*	*2006*	Δ %			
Cascais	*97*	152.191	181.444	19,22%	55.911,93	19.239,64	0,9472
Oeiras	*46*	153.668	168.475	9,64%	43.546,06	18.489,72	0,9406
Sintra	*319*	270.825	409.482	51,20%	52.772,56	33.075,21	0,9385
Loures	*169*	323.120	199.321	-38,31%	30.066,10	19.416,45	0,9361
Vila Franca de Xira	*318*	104.610	133.224	27,35%	26.116,69	12.852,79	0,9349
Amadora	*23*	182.673	176.239	-3,52%	22.627,59	19.094,42	0,9305
Alenquer	*304*	34.219	42.932	25,46%	4.919,14	6.253,29	0,9296
Azambuja	*263*	19.557	21.508	9,98%	2.874,82	4.771,86	0,9286
Lisbon	*85*	659.649	529.485	-19,73%	170.649,75	62.736,59	0,9259
Mafra	*292*	43.753	62.009	41,73%	11.157,22	7.214,69	0,9240
Lourinhã	*147*	21.600	24.601	13,89%	2.798,07	4.523,20	0,9210
Torres Vedras	*407*	67.314	75.494	12,15%	9.773,37	10.899,76	0,9082
Sobral Monte Agraço	*52*	7.305	9.789	34,00%	961,56	3.017,84	0,9044
Cadaval	*175*	13.692	14.385	5,06%	1.259,23	4.507,91	0,9042
Arruda dos Vinhos	*78*	9.577	11.210	17,05%	3.445,69	1.637,03	0,9038
District's total	***2.775***	***2.063.753***	***2.059.598***	***-0,20%***	***438.879,77***	***227.730,39***	
Country	***88.619***	***9.375.926***	***9.869.343***	***5,26%***	***1.715.880,21***	***2.178.739,76***	
District/Country (in %)	***3,13%***	***22,01%***	***20,87%***		***25,58%***	***10,45%***	

Notes:

[a] District's average SDI is 0,9252.

Source: ANMP's online statistics and DGAL .

In the left-hand columns, we find the municipalities of the district ordered according to their Social Development Index (SDI) value. This index seeks to capture economic and social aspects of each municipality, reflecting its citizens' overall level of quality of life. The district includes the municipalities which present the highest SDI values in the country (Cascais and Oeiras).

The total area covered by the district corresponds to only 3.13% of the country, but it concentrates 20.87% of Portugal's resident population.

Due to its importance in municipal activity financing, we include in Table 3.1 two columns that show own-source revenues and revenues from the central budget.

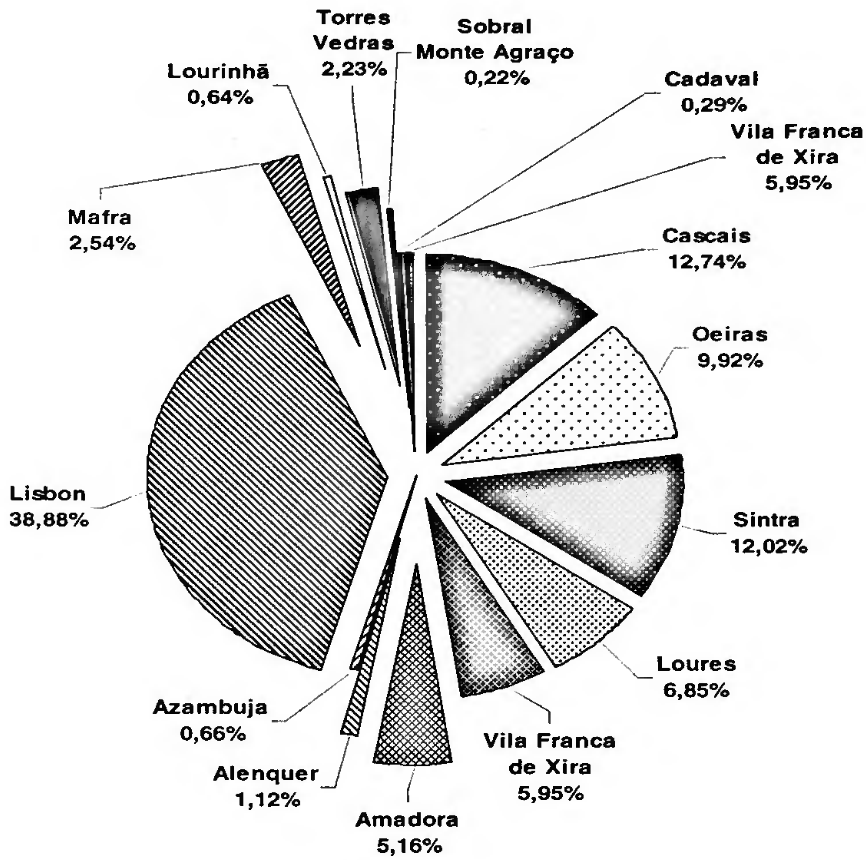
Own-source revenues include real estate transmission and property taxes, municipal vehicle tax and the share of each municipality in its area's total corporate tax revenue, the "derrama"[53]. Whilst these taxes correspond to a revenue classification of "direct taxes", they are in fact "indirect", since municipal authorities have a specific legislative framework for their application, as explained in Chapter 2, and the law establishes cap percentages. These taxes are also managed and transferred by the central government.

Despite its small weight in the total area, the district accounts for 25.58% of these revenues, that is, one quarter of the country's total.

Intra-district distribution of own-source revenues from direct taxes is very heterogeneous. Lisbon has the biggest weight in the total district revenues (38.88%). The relative weight of each municipality in the district's total can be observed in Fig. 3.2.

[53] These revenues are explained in Chapter 2.

Fig. 3.2 –Relative Weights of Municipalities in the Lisbon District's Own-Source Revenues

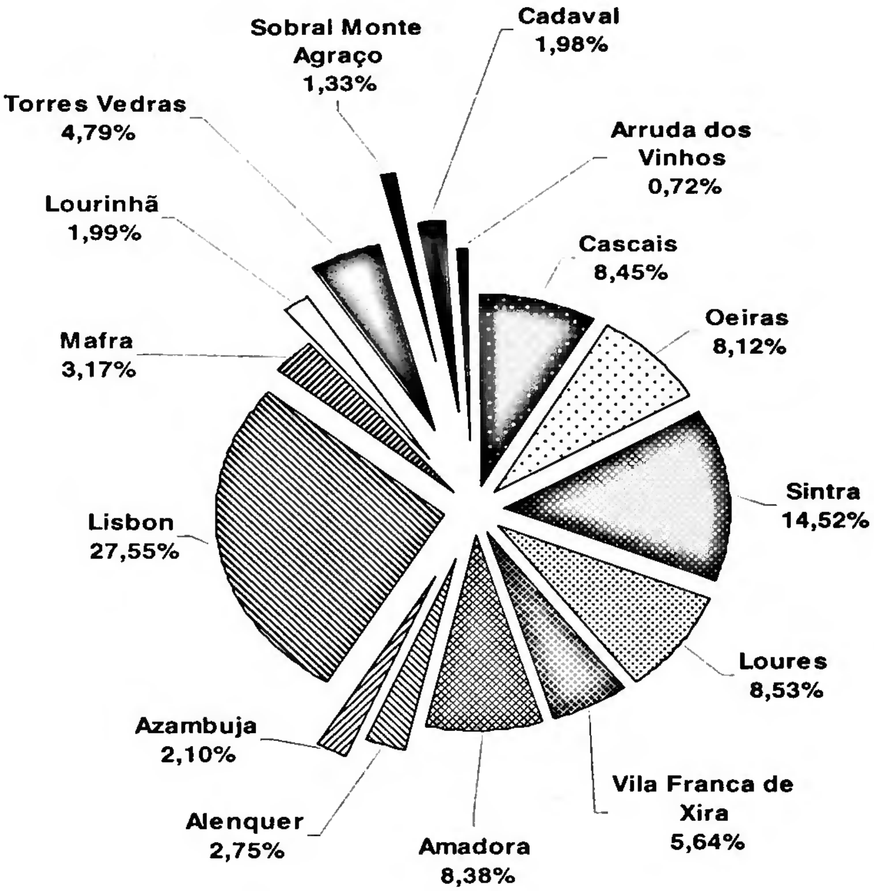


Source: The author, based on Table 3.1.

The revenues from the central budget include the direct transfers defined by law destined to finance municipal activity The Lisbon district receives 10.45% of the total national transfers from the central budget.

Figure 3.3 shows the distribution of the district's funds from the central budget. Lisbon is also the main recipient of these funds.

Fig. 3.3 – Relative Weights of the Municipalities in the Lisbon District's Total Central Budget Transfers



Source: The author, design based on Table 3.1.

3.2.1 Dependent variables

Traditionally, dependent variables in political cycle analysis are taken from expenditure categories. It is assumed that attempts to win re-election lead to the maximisation of the probability of winning, which implies the existence of different patterns of expenditure during a political term[54].

[54] This argument was defended by Rosenberg (1992), who introduced it into his model for local government analysis. Since his study, other authors researching PBCs at the local level have taken this notion as their point of departure. See Galli and Rossi (2002), Pettersson-Lindbom (2003), Veiga and Veiga (2004) and Coelho (2004), among others.

Debt is financial-year revenue that will serve to enable a higher degree of expenditure, in particular, to increase the total level of investment. Two of our dependent variables are classified as revenues and the other is a residual debt variable: short-tem debt.

The variables are:

a) ***Debt (D_t)***

Debt (D_t) signifies those funds received during the financial year of which the source is medium- or long-term loans contracted in financial institutions.

b) ***Total Outstanding Debt (TOD_t)***

This variable is the total outstanding debt of a municipality to financial institutions at the date on which the annual accounts are closed and has a "stock" characteristic, increasing with the contraction of new debt and decreasing as principal payments are made.

c) ***Short-Term Debt (STD_t)***

This corresponds in its entirety to the amount of debt to suppliers (both of goods and services and investment) not paid in the financial year. This debt is carried forward to the following year's budget, thus absorbing resources allocated for that year.

The annual amount of STD is directly linked to the municipality's extent of activity and the treasury's state of health. Baleiras (1994) studied the correlation between revenues and expenses at the municipal level and concluded that revenues of one year are spent during that year. If we assume that the resources of the year are spent in the year, what remains to be paid is a consequence of an increase in expenditure, which can itself reveal political business cycle characteristics.

3.2.2 Independent Variables

The set of independent variables relates with municipalities' budgetary revenues and expenses. Opportunistic and partisan cycles are analysed with the help of dummy variables.

The independent variables are:

a) Revenues from Transfers (RT_t)

RT_t corresponds to the sum of current and capital/investment revenues originating from transfers from the State's central budget, EU funds and other public or private organisations that take part in/contribute to the expenses incurred in specific municipal projects.

These revenues represent the most important proportion of municipalities' total income. A Portuguese empirical study in 1992, referred to in Baleiras (1994)[55], detected the existence of a functional dependence of municipal expenditure on the central budget and EU transfers.

These funds constitute the major source for financing the accumulation of public capital, which is, in the author's view, a positive externality to the municipal level of activity, improving both work productivity and private capital. Baleiras considers these transfers important for two reasons: first, for their intrinsic value; second, because they serve as an indicator for the other source of financing

[55] Baleiras (1994) summarises and explains a model of Barbosa, whose 1992 study sought to shed light on the relationship between municipalities' revenues and expenses.

municipalities' activity, which constitutes (in its different forms) our dependent variable: debt.

RT_t is introduced in order to have a control variable, as described in Veiga and Veiga (2004).

It is expected that its coefficient will be negatively signed: economically, we expect that as the main source of financing increases, the recourse to debt will decrease.

b) Transfer-related Expenses ($ExpTransf_t$)

This corresponds to funds transferred to organisations and institutions of public interest in the municipality's area, their purpose being to finance both current activities and the investment expenses of those institutions.

Rogoff (1990) first proposed that empirical studies should focus on the behaviour of transfers. If elected municipal officials wish to influence voters in order to obtain re-election, they are expected to increase transfers to diverse entities.

Assuming that revenues received in a financial year are spent during that year, municipalities could advance, in the short run, the amounts of debt contracted to finance current expenditure of this type. In the presence of this type of behaviour, the $ExpTransf_t$ coefficient will be positively signed: an increase in transfers would be reflected in an increase of the dependent variables.

c) Investment (I_t)

This variable is related with the supply of public goods and services to the resident population and includes expenditure on public highways maintenance, transportation, maintenance of public buildings and amenities (e.g. schools, libraries, museums, among others). Investment also relates to the expansion of public amenities and has been found to be linked to hopes of re-election[56]. Whilst the Portuguese local government accounting system changed several times during the study's time-span (1978-2002), the financial nature of these expenses was not altered, a fact that is of relevance to the data interpretation process.

For this variable, we expect a positive coefficient: an increase in investment expenditure is expected to increase the value of debt.

d) Lagged Variables

We used the one-year lagged values of debt (D_t), total outstanding debt (TOD_t) and investment (I_t) in order to introduce variables' evolution characteristics in regressions.

These variables are introduced in view of the revenues/expenditure relationship. We follow Hotlz-Eaking, Newey and Rosen (1989) and Dahlberg and Johansson (1998), who use lagged variables in order to capture dynamic time-varying effects.

[56] At the national level, Veiga and Veiga (2004) base their empirical studies on investment, concluding that this variable shows opportunistic behaviour in pre-election years. No partisan effects were found. A summary of this study appears in Chapter 1 of the present work.

e) Dummy Variables

The three dummy variables introduced in order to capture opportunistic and partisan effects are:

e.1) Election Year ($Elect_t$)

This dummy assumes value 1 in election years and 0 otherwise, similarly to that used in Veiga and Veiga (2004) and Galli and Rossi (2002).

$Elect_t$ is intended to capture opportunistic behaviour during election years; it is expected that in the presence of an opportunistic cycle, the variable's coefficient will have a positive value, which would reflect an increase in the recourse to debt in order to finance election-year activity.

e.2) Pre-election Year ($PreElect_t$)

This dummy assumes value 1 in pre-election years and 0 otherwise. This dummy was also inspired by Veiga and Veiga (2004).

Its mission is to capture opportunistic behaviour in pre-election years. In a similar way to the election-year dummy variable, ***e.1***, we expect that an opportunistic cycle will be revealed through a positive coefficient, which would reflect an increase in recourse to debt in order to finance activities during the pre-election year.

e.3) Political Party ($PolPart_t$)

This variable is a dummy that assumes value 1 if a left-leaning political party is in office and 0 if to the right. This ideological dummy derives from the assumption of a two-party system in which parties alternate as described in Alesina (1987). Assuming this logic, Galli and Rossi (2002) proposed a dummy variable with value 1 for a right-leaning majority. Veiga and Veiga (2004) use the same dummy variable, i.e., assuming 1 when the municipal council's majority is to the right.

In this particular case, a positive coefficient will reveal a greater use of debt, whereas a negative coefficient signifies a lesser use of debt by left-wing municipalities.

We have not selected any variables linked with demographic aspects of the country or municipalities. This decision is due to the high correlation between demographic aspects and revenues/expenses categories when both are independent regressors. A high degree of correlation can be found between the population's evolution, including internal age stratification, and the evolution of revenues[57]. Similarly, Transfer-related Expenses show co-linearity effects with demographic aspects.

3.3. Sources and Data

The empirical study focused on a time range between 1978 and 2002.

The study covers the local elections which took place in 1979, 1982, 1985, 1989, 1993, 1997 and 2001. All political data was obtained from the *Technical Staff for Matters Concerning the Electoral Process* (STAPE) and the *Portuguese National Municipalities Association* (ANMP).

Statistical data on continental Portuguese local authorities was obtained from the Direcção Geral das Autarquias Locais (DGAL) in *Finanças Municipais*, published

[57] Legislation on transfers to municipalities provides for increases on the basis of demographic growth.

between 1979 and 2002, and *Estatísticas das Administrações Públicas*, compiled and published by the *Portuguese Institute of Statistics* (INE).

With regard to the statistical data obtained from the publication, ***Finanças Municipais***, no data was available for the district municipalities' regressions in the years 1984 and 1985. Therefore, the variables were treated as missing values in the econometric package used.

Other statistics relating inflation and continental, district and municipal populations were obtained from the *Anuário Estatístico de Portugal* and the *Census*, compiled and published by the *Portuguese Institute of Statistics* (INE).

All numeric data was deflated based on INE's historical inflation rates and transformed from current to constant prices of 1995. All coefficients are expressed in per-capita terms.

3.4 Empirical Results

In this section, we present the model's OLS regression results for the continental, district and individual municipalities. The statistical program SPSS 12.0 was used as the working instrument.

3.4.1 Continental Portugal Tests

To answer the question of whether debt can reveal political cycles, we regressed the dependent variables *Debt* (D_t), *Total Outstanding Debt* (TOD_t) and *Short-term Debt* (STD_t) with the independent variables, *Revenues from Transfers* (RT_t), *Transfer-related Expenses* ($ExpTransf_t$), *Investment* (I_t) and the opportunistic dummies, *Election Year*

(Elect$_t$) and *Pre-election Year* (PreElect$_t$). A constant was included to reflect the sensitivity of the dependent variable to factors not regressed.

The hypothesis tested was: Debt reflects manipulation in pre-election or election year in order to finance expenditure.

In the next sub-sections, we separate the results according to each dependent variable.

3.4.1.1 Debt as Dependent Variable (D$_t$)

The primary statistical analysis of the independent variables, *Revenues from Transfers*, *Transfer-related Expenses* and *Investment* exposed a high level of correlation between them, with an average of 0.80 to 0.94. Thus, in order to avoid multi-colinearity, we transformed RT$_t$ and ExpTransf$_t$ into variables expunged from their joint-variation with *Investment* and divided those variables' data ranges by *Investment*[58].

The results for *Debt* (D$_t$) as a dependent variable, are shown in Table 3.2.

Table 3.2 – D$_t$ Regression results for Election Years [(a)]

	(1)	(2)
Constant	-0,773 *(-1,738)*	-0,763 *(-1,856)*
Revenues from Transfers (RT$_t$*)	0,687 *(1,080)*	0,657 *(1,541)*
Transfer-related Expenses (ExpTransft*)	-0,017 *(-0,065)*	
Investment (I_t)	0,982 *(4,790)*	0,970 *(11,437)*
Elect$_t$	0,065 *(0,464)*	0,068 *(0,585)*
Adjusted R^2	0,857	0,864

[(a)] The columns are distinguished by the number of independent variables.

[58] The transformed variables are showed with the same designation, but are signed with "*".

In the left-hand column, we find the independent variables used to regress the dependent D_t. The first line of the table refers to the code number of a specific regression. The first line of each independent variable presents its coefficient and beneath it are the t-statistic values in round brackets.

The results show no evidence of a PBC for debt in election years.

Revenues from Transfers (RT_t*) presents a different sign to what was expected for their coefficient, which may indicate that debt is a complementary form of revenue, rather than a substitute. *Investment* (I_t) and the opportunistic variable, *Election Year* ($Elect_t$) show the expected coefficient signs.

The improvement in the adjusted R^2 of the column (2) regression indicates that debt is not explained by *Transfer-related Expenses* ($ExpTransf_t$). This conclusion implies that municipalities do not spend the revenues from debt on very short-term expenditure, such as *Transfer-related Expenses* ($ExpTransf_t$).

The tests results for pre-election years are shown in the next table.

Table 3.3 – D_t Regression Results for Pre-election Years

	(1)	(2)
Constant	-0,607	-0,605
	(-1,227)	*(-1,372)*
Revenues from Transfers	0,553	0,548
(RT_t*)	*(0,829)*	*(1,235)*
Transfer-related Expenses	-0,003	
(ExpTransft*)	*(-0,010)*	
Investment (I_t)	0,955	0,953
	(4,634)	*(10,981)*
$PreElect_t$	-0,110	-0,111
	(-0,775)	*(-0,831)*
Adjusted R^2	0,860	0,866

The tests for pre-election years do not show any opportunistic effect. In a similar way to the election years' regressions, RT_t* and I_t have positive value coefficients and an improvement is observed in the adjusted R^2 when we desist $ExpTransf_t$* as regressor, which also adds statistical relevance to the RT_t* coefficient.

Contrary to our expectation, debt is reduced in pre-election years.

Since debt is so intimately related with investment and considering that budget variables could reflect a tendency due to series "memory", in particular investment, which usually involves medium- or long-term projects, we regressed the dependent variable with and without a one-year autoregressive lag and with a one-year lag on investment, in order to capture possible opportunistic effects.

An opportunistic effect was found in election years.

The results, which are based on the same methodology as previously used, are shown in Table 3.4.

Table 3.4 – D_t Regression Results with Auto-regressive Factor and One-year Lagged Investment

	(1)	(2)
Constant	-0,144	-1,082
	(-1,642)	*(-2,503)*
One-year Lagged Debt (D_{t-1})	0,361	
	(1,674)	
Revenues from Transfers (RT_t)*		0,944
		(2,175)
Investment (I_t)	-0,145	-0,106
	(-0,307)	*(-0,235)*
One-year lagged Investment (I_{t-1})	0,852	1,228
	(1,504)	*(2,553)*
$Elect_t$	0,240	0,213
	(1,876)	*(1,762)*
Adjusted R^2	0,890	0,899

The results reveal an election-year opportunistic behaviour of great statistical relevance. Although an autoregressive effect was found in debt (the one-year lag has a significant coefficient), the overall results of regression, measured through adjusted R^2, improve when we introduce RT_t* as a control variable. Election-year investment shows a high probability of coefficient nullity, but a different situation occurs when we lag investment.

No effect was found in pre-election years.

These results lead us to draw the following conclusions:

i) Debt is sensitive to factors not regressed: the constant is always significant and negatively signed;

ii) Inversely to what was expected, debt at continental level increases with an increase in revenues from transfers. This implies that at aggregate level, municipalities use debt as a complementary form of financing (which is reflected by a positive coefficient of RT_t) and not as a substitute (which would imply a negative signed coefficient, as had been anticipated);

iii) When linked with the high statistical relevance of the previous year's investment, the conclusion advanced in ii) suggests that municipal growth in investment expenditure is reflected in the following year's debt. This conclusion reinforces the notion of debt as a complement to, and not as substitute for, revenues[59].

3.4.1.2 - Total Outstanding Debt as Dependent Variable (TOD_t)

Total Outstanding Debt (TOD_t) was regressed with the independent variables presented in section 3.3, but also with its one-year lagged value. Autoregressive analysis was conducted, due to the eminent "stock" nature of the variable.

To escape from possible multi-colinearity effects, we used the same variables transformation as for the D_t regressions.

[59] Veiga and Veiga (2004) found opportunistic cycles in investment in pre-election year; this growth in investment expenditure is reflected in debt in the following year.

The results are presented in Table 3.5.

Table 3.5 – TOD_t Regression Results

	(1)	(2)	(3)	(4)
Constant	0,038	0,029	0,028	0,027
	(0,736)	*(1,266)*	*(0,569)*	*(1,103)*
One-year Total Outstanding Debt (TOD_{t-1})	0,840	0,835	0,846	0,845
	(8,989)	*(9,562)*	*(9,044)*	*(9,922)*
Revenues from Transfers (RT_t*)	-0,124	-0,134	-0,135	-0,137
	(-1,725)	*(-2,648)*	*(-1,977)*	*(-2,700)*
Transfer-related Expenses (ExpTransft*)	-0,011		-0,001	
	(-0,203)		*(-0,025)*	
Investment (I_t)	0,189	0,192	0,184	0,185
	(2,419)	*(2,566)*	*(2,358)*	*(2,506)*
$PreElect_t$			0,000	0,000
			(0,002)	*(0,002)*
$Elect_t$	-0,015	-0,013		
	(-0,504)	*(-0,474)*		
Adjusted R^2	0,992	0,992	0,992	0,992

The tests for TOD_t revealed coefficients with the expected sign value. The variable presents, as anticipated, a very strong auto-regressive factor.

The constant reveals the existence of a non-modelled variable to which TOD_t is sensitive.

The results show that TOD_t is strongly related with *Revenues from Transfers* (RT_t*) and *Investment* (I_t). The coefficient of *Revenues from Transfers* translates the expected sensitivity into an increase in that variable's growth (implying a reduction in the overall amount of total outstanding debt), which means that the repercussions of an improvement of RT_t * are captured by the total outstanding debt.

With regard to a possible opportunistic effect, the results show no statistical evidence of the phenomenon, despite the opportunistic dummies' coefficients having the expected sign, with the exception of equation (1).

Adjusted R^2 remains unchanged, independently of using $ExpTransf_t$* or not.

3.4.1.3 - Short-Term Debt as Dependent Variable (STD_t)

The time-span of data available to study short-term debt is very limited. The data for STD_t only covers the years from 1995 to 2002, thus, we can only focus on 2 electoral phases, i.e., the municipal elections of 1997 and 2001. The original variables, rather than the transformed versions, were used in the regressions. The overall model and economic significance of the coefficients were not altered, which led us to exclude multi-colinearity consequences.

The independent variables used in a particular regression of STD_t are shown below.

Table 3.6 – STD_t Regression Results

	(1)	(2)
Constant	1,931 *(5,716)*	1,984 *(5,640)*
Revenues from Transfers (RT_t)	-1,382 *(-3,539)*	-1,428 *(-3,686)*
Investment (I_t)	0,395 *(2,033)*	0,409 *(2,104)*
$PreElect_t$		-0,057 *(-0,384)*
$Elect_t$	0,013 *(0,085)*	
Adjusted R^2	0,655	0,667

The constant reflects the existence of non-regressed variables that increase short-term debt.

The results for *Revenues from Transfers* indicate that when these revenues increase, short-term debt decreases. This conclusion may reflect the use of resources during the year in which they were obtained[60]. Revenues from transfers are an important source of activity financing for municipalities, thus, if RT_t increases, municipal financial capacity is reinforced, bringing about a reduction of STD_t. Statistical evidence for this phenomenon is very strong.

Transfer-related Expenses does not have statistical significance and regressions with its inclusion are not shown due to their redundancy. This result, despite obtaining the positive value of coefficients, as expected, can also be explained within the dependent variable context. This type of expenditure, being destined to finance activities of the receiving organisations, should be paid immediately upon the council's approval.
Coefficients for *Investment* are as expected and all are statistically significant. This means that investment expenditure partly explains STD_t's behaviour.

Assuming a pre-election year increase in expenditure, we were expecting to find a statistically relevant and positive coefficient for the election year dummy, but no evidence of opportunistic behaviour was found. The coefficients for opportunistic dummies show a similar behaviour to continental debt (D_t) regressions, despite a high probability of these coefficients' nullity.

[60] Conclusion advanced in Baleiras (1994).

3.4.2 Lisbon's district tests

At district level, our independent variable is *Debt* contracted in the financial year (D_t).

The dependent variable was regressed with the independents, with a one-year lag of both the dependent and investment variables and finally, with each opportunistic dummy to test their isolated effect.

The results are set out in Table 3.7.

Table 3.7 – District D_t Regression Results

	(1)	(2)	(3)
Constant	-1,451	-2,755	-1,472
	(-1,331)	*(-2,030)*	*(-1,395)*
One-year Lagged Debt (D_{t-1})	*0,075*	*0,084*	
	(0,213)	*(0,248)*	
Revenues from Transfers (RT_t*)	1,004	1,467	1,018
	(1,130)	*(1,616)*	*(1,183)*
Transfer-related Expenses ($ExpTransf_t$*)		1,245	
		(1,514)	
Investment (I_t)	-1,127	-1,280	-1,189
	(-1,474)	*(-1,724)*	*(-1,732)*
One-year lagged Investment (I_{t-1})	3,018	2,895	3,188
	(2,861)	*(2,940)*	*(4,755)*
$Elect_t$	0,596	0,835	0,587
	(1,919)	*(2,470)*	*(1,963)*
Adjusted R^2	0,865	0,875	0,872

Similarly to what was found in the tests for continental Portugal, the constant is negatively signed and always statistically significant.

The lagged dependent variable does not play an important role in the district's debt behaviour.

Revenues from Transfers and *Investment* (both of the year and one-year lagged) present the same behaviour as the tests for the continent. Debt increases with *Revenues from Transfers* (RT_t*) and decreases with *Investment* (I_t). A point in common with the continent tests for D_t is the relationship between D_t and I_{t-1}. We found the same phenomenon of repercussion of an increase in investment in the following year. These results reinforce the idea of debt as a complementary form of financing projects.
An opportunistic effect was found in *Election Year*. This result is in conformity with an opportunistic cycle in investment in pre-election years. Since investment values reverberate in the following year's debt, if investment is increased in a pre-election year, then debt will increase in election year.

The adjusted R^2 shows an improvement when we introduce into the model *Transfer-related Expenses* ($ExpTransf_t$*), which might indicate that, at district level, municipalities' use of debt increases when they are under pressure to increase current expenditure.
No pre-election effects were found.

3.4.3 Lisbon district municipalities tests

Lisbon´s district municipalities are very heterogeneous in both their financial and social-economic characterisations. In addition to these intrinsic differences, another can be found, namely, that some of these municipalities have never experienced an electoral shift between the political left and right. Thus, the traditional approach of introducing a partisan dummy variable with a distinction between left and right parties is redundant.

This fact leads us to divide the fifteen municipalities of Lisbon's District into two groups:

a) Group I: which includes the municipalities in which the political orientation has never changed since 25th April 1974. All these municipalities share a common trait, in that all of them have always been governed by left-wing municipal councils.

This group includes the following eight municipalities which are listed in order according to their Social Development Index ranking: Loures, Vila Franca de Xira, Amadora, Alenquer, Azambuja, Lourinhã, Torres Vedras and Sobral de Monte Agraço.

b) Group II: which includes the municipalities which have experienced ideological power changes since 1976[61] and have seen power alternate between councils of the left and the right.

Group II is composed of the following seven municipalities, again listed according to their Social Development Index ranking: Cascais, Oeiras, Sintra, Lisbon, Mafra, Cadaval and Arruda dos Vinhos.

It has been possible to research partisan cycles in this group.

The objective of analysing individual municipalities was to establish whether different patterns of behaviour exist between the two groups in terms of political cycles.

Information was not obtainable for all the municipalities in respect of their total outstanding debt and short-term debt. Therefore, the dependent variable analysed corresponds to D_t, debt contracted during the financial year. To avoid possible effects of

[61] The first municipal elections after 25th April were held in 1976.

multi-colinearity on coefficients, regressions were made with the transformed variables of *Revenues from transfers* (RT_t*) and *Transfer-related Expenses* ($ExpTransf_t$*).

We found both opportunistic and partisan effects in a very small number of municipalities.

In Table 3.8, we show the results of the Group I regressions for the municipalities that obtained statistically significant coefficients for election and pre-election years, independently of presenting behaviour similar to what was, or was not, expected.

Table 3.8 – Group I Regression Results

	Loures	Vila Franca de Xira	Amadora
Constant	-0,676	1,371	3,426
	(-0,495)	*(1,872)*	*(1,379)*
Revenues from Transfers	-0,216	-9,947	-23,473
(RT_t*)	*(-0,161)*	*(-2,981)*	*(-2,412)*
Transfer-related Expenses	0,521	4,149	9,145
(ExpTransft*)	*(0,859)*	*(1,357)*	*(1,348)*
Investment (I_t)	2,880	6,388	12,484
	(3,947)	*(4,934)*	*(4,920)*
$Elect_t$	*0,831*	-1,637	*-5,945*
	(1,265)	*(-2,156)*	*(-1,883)*
Adjusted R^2	0,569	0,793	0,823

Group I's regressions reveal similar behaviour to what was expected for all the independent variables except election year. In election year, two municipalities, i.e., Vila Franca de Xira and Amadora, display behaviour contrary to that observed in the tests at district and continental levels.

No pre-election year effect was found.

These results point to intrinsic management differences between individual municipalities. Although the municipalities in which effects were found are those with the highest Social Development Index rankings and have a considerable relative weight in the total own-source revenues and central budget transfers, the results do not permit the derivation of general common characteristics.

No evidence was found of opportunistic behaviour among the remaining municipalities.

Table 3.9 presents the regression results for the Group II municipalities.

Table 3.9 – Group II Regression Results

	Lisbon		Mafra
	(1)	(2)	
Constant	0,306 *(0,602)*	0,763 *(1,689)*	-0,349 *(-0,557)*
Revenues from Transfers (RT_t*)	-2,334 *(-1,029)*	-2,179 *(-1,107)*	0,403 *(0,317)*
Transfer-related Expenses (ExpTransft*)	2,424 *(2,919)*	2,869 *(3,853)*	
Investment (I_t)	1,874 *(0,810)*	1,104 *(0,544)*	1,164 *(1,668)*
$PreElect_t$		-1,417 *(-2,435)*	
$Elect_t$	*0,358* *(0,556)*		*1,060* *(1,434)*
Pol_Part_t	-1,764 *(-2,591)*	-1,510 *(-2,518)*	-0,233 *(-0,191)*
Adjusted R^2	0,772	0,828	0,579

In Group II, only two municipalities, i.e., Lisbon and Mafra, present significant coefficients for opportunistic and partisan variables.

Mafra reveals opportunistic behaviour for election years, but with weak overall model significance.

In Lisbon, the national capital and the richest local authority in the group, evidence was found of partisan behaviour. Right-wing councils contracted more debt than left-wing councils.

Lisbon's overall model results increase when pre-election year is introduced into the regression. Its negative signed coefficient implies that debt is reduced in pre-election years. This observation is similar to the effects found for continental Portugal debt (D_t) regressions which included the pre-election year dummy. As for Group I, the scarce number of municipalities that present either opportunistic or partisan effects does not allow us to draw common inferences.

3.5 Comparative Analysis and Conclusions

The results of econometric analysis present the following findings:

1. A strong relationship between *Debt, Total Outstanding Debt* and *Short-term Debt* with *Investment* or *one-year lagged Investment*, with coefficients presenting positive signs and statistical significance;
2. The coefficient of *Revenues from Transfers* is positive for debt analysis of the continent and the district region, which indicates that debt is not a substitute for a decrease in these types of revenues;
3. *Total Outstanding Debt* captures the effects of a reduction in *Revenues from Transfers*, but only when its one-year lagged value is introduced into the equations, which produces a positive coefficient, as expected, with high statistical significance;
4. At continental and district levels, *Transfer-related Expenses* does not produce statistically significant coefficients, but they are signed as had been anticipated;
5. Contrary to expectation, debt and short-term debt are reduced in pre-election years, but coefficients are not significant;

6. We found an opportunistic effect for debt in election year when one-year lagged investment is introduced as the independent variable at the continental and district levels. On this introduction, the opportunistic dummy for election year becomes statistically significant and debt is shown as a result of an increase in pre-election year investment. This result points to a revenue/expenditure relationship, in which investment expenditure increases first and debt increases later;
7. We found a partisan variable coefficient significant for only one municipality of Group II: the country's capital, Lisbon. Its coefficient indicates that during the period, leftist councils have used less debt than rightist councils;
8. Individual municipality analysis shows that when each of the fifteen municipalities are studied, the coefficients' signs are as anticipated and *Transfer-related Expenses* becomes significant as an explanatory variable for debt behaviour;
9. Continental and district region tests demonstrate that there is a "memory" effect in the series which reflects in debt. Opportunistic cycles are captured in regressions, which is a result that is not maintained when we proceed from the continent and district levels to the analysis of individual municipalities.

Conclusions

The theory on political business cycles emerged at the macroeconomic level from scientific research investigating the intuitive notion that politicians manipulate economic variables in order to secure re-election.

PBC theory is separated into two approaches: opportunistic and partisan. Opportunistic cycles occur when incumbents manipulate economic variables prior to elections, whereas partisan cycles occur when politicians implement their preferred policies based on choices influenced by ideological bias.

The foundations of PBC theory were established by Hotelling (1929) and Key (1966), who pursued the partisan cycle line, and Downs (1957), who developed the opportunistic cycle theory. In the early studies, voters were believed to have adaptive expectations, up to the point at which new thinking on rational expectations obliged theorists to modify their views. Theoretical studies, such as those of Nordhaus (1975) and Hibbs (1977), had to be revised, bringing about changes to both of the approaches mentioned.

New works considered voters as rational agents and, to explain the possibility of their being influenced by politicians' actions, theorists like Rogoff and Sibert (1988) asserted that the existence of asymmetric information enabled incumbents, who were themselves rational, to induce voters to re-elect them by investing in projects of high visibility.

For the first time, suggestions were put forward that PBCs could also exist at sub-national level.

The outcome of the testing of PBC theory has been that the scientific community is not unanimous with regard to the empirical results, with some authors considering that empirical works have justified PBC theory, while others find no proof. In the present work, we reviewed PBC theory, presenting two empirical works which draw contrasting conclusions. For Nordhaus (1989), PBCs are a proven phenomenon, while for Drazen (2000), the models do not yield strong support for their existence.

Following the pioneer argument proposed by Rogoff and Sibert (1988), empirical data was also tested at local government level. The results of international studies find opportunistic and partisan cycles at this level, in particular for the latter type.

Recently, Portuguese researchers have also shown interest in PBCs, testing its hypotheses at macroeconomic and local government levels. The findings of Portuguese empirical research point to the existence of opportunistic cycles and inexistence of partisan effects at both levels. In other words, they tend to contradict international research results, in which the dominant cycle is partisan and evidence of opportunistic cycles is scant.

Our research into PBCs has concentrated on Portuguese local government, in particular the municipalities. Portuguese municipalities constitute an intermediate level of government, having autonomy over political decisions and budgetary management, together with specific attributions and management processes.

There is great homogeneity in the political, legal and economic domains; in fact, elections are exogenously determined and the legal framework is the same for all of the municipalities. These facts that have been identified in international and national studies at local government level, among which we refer to Galli and Rossi (2002), Pettersson-Lindbom (2001;2003) and Veiga and Veiga (2004).

Our objective was to attempt to identify political business cycles by examining debt in continental Portugal, the Lisbon district as a complete entity and finally, the Lisbon district's individual municipalities. In addition to testing for opportunistic behaviour at all levels, partisan behaviour was tested in Lisbon's individual municipalities.

The general model is a linear regression which analysed three dependent variables: debt, total outstanding debt and short-term debt. Independent variables were: *Revenues from Transfers, Transfer-related Expenses, Investment*, a one-year lagged dependent variable for *Investment* and opportunistic and partisan dummies.

Statistical data covered the period between 1978 and 2002, including the seven municipal elections of 1979, 1982, 1985, 1989, 1993, 1997 and 2001. The model was applied to three data levels: continental Portugal; the Lisbon district and the fifteen Lisbon District municipalities, which were divided in two groups:

a) *Group I:* municipalities that have never experienced a change of power between left and right-wing parties and whose municipal councils have always been left-wing;

b) *Group II:* municipalities in which councils have been elected from the right and left during the period studied and in which partisan behaviour was tested.

Econometric results reveal the following findings in common for continental Portugal and the Lisbon district:

i) We found an opportunistic effect for debt in election years, when one-year lagged investment was introduced as an independent variable, with debt resulting from an increase in pre-election year investment. This result points to a revenue/expenditure relationship, in which investment expenditure increases, to be followed by an increase in debt in the next year;

ii) The coefficient for revenues from transfers is positive, indicating that debt is not a substitute for a decrease in those types of revenues;

iii) The tests for Continental Portugal and the Lisbon district demonstrate that there is a "memory" effect in the series, which reflects in debt.

On regressing Lisbon's district municipalities, we observed the following:

i) The Group I regressions obtained statistically significant opportunistic dummy coefficients for election year in two municipalities: Vila Franca de Xira and Amadora. However, the sign is contrary to the prior expectation. No pre-election year effect was found;

ii) Among the Group II tests, the municipal council of Mafra presents opportunistic behaviour in election year, but with weak overall model significance. We found a significant partisan variable coefficient for the Portuguese capital, Lisbon. Its coefficient indicates that during the period, left-wing councils have used less debt than right-wing councils.

These results point firstly to intrinsic management differences between individual municipalities. Furthermore, they differ from the results obtained for continental Portugal and the Lisbon district considered as a single unit.

Opportunistic cycles captured in regressions at continent and district level were not obtained in our analysis of individual municipalities.

The present research gives rise to the following future means of analysis.

A possible relationship between debt and the discount rate as an independent variable can be tested and studied. If debt was found to be independent of the discount rate, our conclusion that debt is used as a complementary form of finance would be reinforced.

In view of our finding that a relationship exists between investment and debt, in which the growth in investment in a given year is reflected in debt the following year, this inter-temporal pattern of debt can also be explored. The three level approaches (continental, district and individual municipalities) can be explored further, by including new districts in the analysis in order to establish possible patterns of behaviour in relation to debt.

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3. Law 100/84, of 29th May;
4. Law 159/99, of 14th September;
5. Law 169/99, of 18th September;
6. Law 5-A/2005, of 11th January.

Legislation on accounting:

1. Decreto-Lei nº 243/79, of 25th July;
2. Decreto-Lei nº 341/83, of 21st July;
3. Decreto-Lei nº 54-A/99, of 22nd February – Official Local Government Accounting Plan.

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2. Law 98/84, of 29th March;
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