DO PROGRESSIVE GOVERMENTS UNDERTAKE DIFFERENT DEBT BURDENS? PARTISAN VS. ELECTORAL CYCLES

¿SE ENDEUDAN MÁS LOS PARTIDOS PROGRESISTAS? CICLO PARTIDISTA vs. CICLO ELECTORAL

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ABSTRACT

Public debt has traditionally been explained mainly by two political factors: a progressive ideology and the electoral cycle. The aim of this paper is to demonstrate how these two factors influence the behavior of Spanish local governments as regards indebtedness, and also how indebtedness is influenced by the interaction of ideology and the electoral cycle.

Different dependence models were estimated using panel data methodology based on a sample comprised of Spanish provincial capitals and towns with populations over 50,000, for a total of 148 town councils. The time frame corresponds to the fiscal years 1988 to 2008, inclusive.

The results show that in an electoral year all politicians behave opportunistically, giving rise to an important increase in public debt in relation to municipal revenue, although progressive incumbents incur three times more debt than those of the opposite ideology. Moreover, the presence of conservative parties in government has tended to significantly attenuate this behavior in years prior to elections, whereas progressive or left-wing parties have not. It must also be noted that partisan and electoral business cycles have been mitigated since 2002, when the Budgetary Stability Law came into effect, imposing limits on the debt of subnational administrations.

The empirical evidence obtained points to the need to perfect internal and external control mechanisms in order to avoid a breakdown in the stability policy and the risk of debt becoming untenable, thus achieving greater budgetary discipline.

KEY WORDS: public debt, electoral cycle, partisan cycle, local government, municipalities, fiscal illusion.
JEL: H1, H72, H77

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RESUMEN

El nivel de endeudamiento público ha sido explicado mediante dos factores políticos, principalmente, la ideología progresista y el ciclo electoral. El objetivo de este trabajo es evidenciar como influyen ambos factores en el comportamiento de los municipios españoles en relación con la deuda que estos asumen dada su capacidad, y como este esfuerzo se ve influenciado por la interacción entre los ciclos partidista y electoral.

Se han estimado diversos modelos de dependencia, mediante metodologías de datos de panel, a partir de una muestra integrada por las capitales de provincia y los municipios españoles con una población superior a 50.000 habitantes, incluyendo un total de 148 ayuntamientos. El ámbito temporal analizado es el correspondiente a los ejercicios 1988 a 2008, ambos inclusive.

Los resultados ponen de manifiesto que durante el año electoral, los políticos se comportan de manera oportunista, lo que conlleva un importante incremento de la deuda pública en relación con los ingresos municipales, aunque los partidos de ideología progresista realizan un esfuerzo tres veces mayor que los conservadores. Además, los gobiernos locales conservadores tienden a atenuar significativamente este comportamiento en los años previos a los comicios, mientras que los partidos de izquierdas no. Igualmente, se ha observado que los ciclos partidista y electoral han sido mitigados desde 2002 con la entrada en vigor de la Ley de estabilidad presupuestaria que impuso límites al endeudamiento que pueden asumir las administraciones subnacionales.

La evidencia empírica obtenida pone de manifiesto la necesidad de perfeccionar los mecanismos de control internos y externos con el objetivo de evitar la ruptura de la política de estabilidad y el riesgo de insostenibilidad de la deuda, logrando una mayor disciplina presupuestaria.

PALABRAS CLAVE: deuda pública, ciclo electoral, ciclo partidista, gobiernos locales, municipios, ilusión fiscal.
JEL: H1, H72, H77

0 INTRODUCTION

Incumbents, especially when Election Day draws near, try to manipulate voters' perceptions about the government's performance in order to be re-elected. In this regard, incumbents can use different tools or a combination of tools such as expenditures, debt increases and tax reductions, thus creating *fiscal illusion* (Puviani, 1897).

This situation means that current voters are the beneficiaries of high-quality services and/or lower fiscal pressure because politicians increase debt-financed spending, whose costs have repercussions later on. As a consequence, intergenerational equity is not achieved because when public expenditures are financed with debt rather than taxes, future generations will have to bear the costs but do not benefit from the services (Musgrave and Musgrave, 1989).

Evidently, the breakdown in intergenerational equity occurs when the financial burden resulting from financing current expenditure is transferred to future generations. In contrast, the use of public debt to finance *capital* expenditure is reasonable, since although the debt burden must be borne by both present and future generations, both will benefit from the investments financed (King, 1984), and also because economic growth trends indicate that future generations may have an easier time paying off currently-incurred debt than the present generation (Clingermayer, 1991).

This latter author considers that if this is so, institutional rules limiting debt may not be necessary. It is logical, therefore, to wonder why they exist. The answer is that electoral incentives may lie behind state borrowing and governments may be forced to resort to "creative financing" to avoid the wrath of seemingly myopic voters (Clingermayer, 1991, p.19).

Previous studies –e.g., Baber and Sen (1986), Clingermayer and Wood (1995), Reid (1998), Binet and Pentecote (2004), Ashworth, Geys and Heyndels (2005), Bastida and Benito (2009) – have empirically observed an electoral cycle in which the years immediately prior to an election are strongly linked to debt-financed spending increases and tax decreases. However, Blais and Nadeu (1992) found that this impact is not as great as is argued in the literature. On the contrary, they observed that the effect of the electoral budget cycle was smaller than that of political party ideology. However, these authors did not find that a right-wing ideology was more or less prone to manipulate the electoral budget cycle than others.

Moreover, several papers, such as those by Benito and Bastida (2004 and 2008), Lago-Peñas and Lago-Peñas (2008), Bastida and Benito (2009) and Bastida, Benito and Guillamón (2009), have invalidated the partisan cycle for the Spanish case. Nonetheless, it is surprising that during the current global financial crisis, the European Commission is demanding that the Spanish government exert strict control over national, regional and municipal public spending in order to cut the budgetary deficit and stabilize its finances. Moreover, different international agencies such as the International Monetary Fund, and even the President of the United States, Barack Obama, advised Spain to design and implement a true plan of fiscal consolidation in light of the current progressive national government's decision to use public spending and deficit policies to face the economic crisis (El Mundo, May 12, 2010).

These recommendations have resulted in public spending cuts in different Ministries and a rise in fiscal pressure through increases in both direct and indirect taxes. Even though in many cases these reforms have not yet been implemented, they have already caused a free fall in the number of voters intending to vote for the party in power (Antena 3, September 24, 2010).

Thus, the aim of this paper is to analyze the electoral and partisan cycles in debt policy and the interaction between these two factors for the Spanish setting. This general objective can be subdivided into the following sub-objectives: (i) to find whether left-wing parties resort to debt more than right-wing parties do. In general, these expectations regarding different debt burdens are based on the fact that conservative parties have traditionally championed the value of limited government, whereas progressives have been more willing to support the expansion of government size and action in an effort to promote social or economic equality (Rudolph and Evans, 2005); (ii) to find whether political parties increase the debt in electoral periods in order to finance more spending in an attempt to manipulate voter perception without increasing the tax burden; (iii) to find whether the use of debt as a mechanism of fiscal illusion in times of elections differs according to whether political parties are on the left or the right of the political spectrum, and (iv) to find whether the imposition of debt limits will reduce such practices.

With these goals in mind, we analyze the interaction effects of electoral cycle and political ideology on local governments' tendency to use debt to finance public good and services. The interaction effects will allow us to observe whether different ideologies employ different budget practices. To perform the analysis, we use the debt burden, which is measured by the ratio of the net variation in financial debt divided by current revenue [(item 9 of the revenue budget - item 9 of the expenditure budget)/ current revenue]

The consideration of this denominator allows us to determine the burden of the debt incurred, given the self-financing capabilities of the local government. A higher ratio means that in subsequent years, citizens will have to make a greater effort to write off the debt.

Additionally, and according to Bastida and Benito (2009), the analysis of the Spanish setting introduces a significant environment, since in 2001, the national government, which was conservative at that time, approved the Budgetary Stability Law that imposes serious limitations on public administration debt. The basic reason for demanding strict adherence to the stability plan was to comply with the requirements for EU Monetary Union. Thus, our analysis will reveal whether this norm reduces fiscal illusion practices at election time and thus would constitute an important constraint on local governments' electoral budget cycle practices.

The results show that although progressive governments incur a greater debt burden than other ideologies, in election years all the parties in Spanish local governments strategically use the deficit and public debt to influence the vote. Nevertheless, the existence of a Budgetary Stability Law that establishes a maximum on municipal debt limits the ability of incumbents to act opportunistically, giving rise to fiscal illusion and compromising the future of those municipalities.

This study thus adds to the previous empirical evidence through a joint and interacted analysis of partisan and electoral cycles that points to the existence of both these cycles in the Spanish municipal context. This fact, together with insufficient resources and the need to respect intergenerational equity, suggests the possibility of a breakdown in the stability policy, as well as a major risk that the debt will become untenable. It therefore seems necessary to reinforce the internal and external control systems, and to design transparency indicators that will foster budgetary discipline.

1 PARTISAN vs. ELECTORAL CYCLE: RESEARCH HYPOTHESIS

Since the late 1970s, researchers have focused on analyzing politicians' behavior as regards the use and management of public resources in electoral periods. These studies are associated with the proposition of *fiscal illusion*, which maintains that citizens – and voters in particular- have a false idea about the price they have to pay for public services. This erroneous assessment always involves an underestimation of the fiscal cost of public goods and services and gives rise to an increase in their demand and their production, and consequently a rise in public spending (Higuera, Marcos and Pérez, 2004).

The theory of *fiscal illusion* denies the Ricardian equivalence, which suggest that taxpayers perfectly perceive the timing of budgetary restriction and therefore realize that any current indebtedness must be covered by future taxes (Raymond Bara and González-Paramo, 1987).

Empirical evidence, for example the studies by Bosch Roca and Suarez Pandiello (1994) and Álvarez Corbacho (1995) for the Spanish setting, supports the hypothesis of voter myopia, in that citizens underestimate the fiscal price paid for public goods and services, which leads political parties in power to offer more of them. In this regard the use of public debt/deficit as a political tool to influence citizens' perceptions about government action is very important. The reason is that it provides support for excesses in public spending, because in the perception of the current generation of voters it decreases the price of the public goods or services provided (Buchanan and Wagner, 1977).

The political use of public spending in election periods has been studied in-depth by researchers in Public Choice, based on the explanatory theories of Political Business Cycles (PBC), the main objective of which is to analyze the opportunistic behavior of politicians in relation to the processes of periodical choice of citizens' representatives through voting.

In line with the above and following Price (1997), the different models of PBC can be summarized in five different versions: i) non-rational opportunistic cycles, ii) non-rational partisan cycles, iii) rational partisan cycles, iv) rational opportunistic cycles and v) strategic debt cycles.

The opportunistic models are based on the premise that political representatives attempt to maximize their popularity or probability of re-election by making an opportunistic use of economic mechanisms to their own benefit. In the partisan models, the different political parties represent the interests of different segments of the electorate, and when they reach power, they follow policies that are favorable to the segments that support them.

Non-rational models (e.g. Nordhaus (1975) and Hibbs (1977)) are based on the existence of a negative relation between unemployment and inflation, which allows use of the Phillips Curve. Rational models are based on the existence of information asymmetries (governments have access to information before voters do); rational ignorance among voters as regards the competence of the government, which must be inferred by the electorate based on observation of the outcomes of government policies; and uncertainty as to election results. Thus, politicians have to send signals to the electorate regarding the goodness of their actions.

Non-rational opportunistic models have been found in the proposals of authors such as Nordhaus (1975), Lindbeck (1976), MacRae (1977) and Tufte (1978). They affirm that governments interested in maximizing their number of votes should adapt their macroeconomic policy (high economic growth and low rates of unemployment) in order to improve their likelihood of being re-elected.

Non-rational partisan cycles consider that macroeconomic policy is due to the ideology of the political parties (Hibbs, 1977; 1987). Thus, leftist parties would offer a combination between inflation and unemployment that is different from that of right-wing parties.

Rational opportunistic models have been proposed by authors such as Cukierman and Meltzer (1986), Rogoff and Sibert (1988), Rogoff (1990), and Persson and Tabellini (1990). According to these studies, the opportunistic politician generates cycles in the economic variables in order to influence voter perception of his or her performance, thus increasing the probability of being re-elected.

Rational partisan models were originally proposed by Alesina (1987, 1988). These models postulate that voters differ in their voting preferences in relation to inflation and unemployment, but since they are rational, such a decision would be conditioned by the maximization of its utility. Thus, the economic policy designed by each ideology has an influence during a short period of time, until the voters adjust their expectations.

The first empirical studies were addressed to proving the existence of the electoral cycle, analyzing variables such as aggregate output and unemployment. Today, studies address the use of political instruments (government spending, debt, tax levels) as opposed to the outcomes of political action, giving rise to the so-called political budget cycle (PBuC) models.

Among these last models, the analysis of debt as an electoral weapon has taken on great importance in *strategic debt cycles* (SDC). The general idea underlying these models is that current governments try to create limitations for future governments by resorting to debt. These limitations will be greater the more polarized the preferences of the political parties as regards the composition of public expenditure, and the more unlikely the future re-election of the current government.

Other authors, such as Aghion and Bolton (1990), Milesi-Ferreti (1995) and Milesi-Ferreti and Spolaore (1994), adopt a different perspective, assuming that governments strategically use the public debt to influence election results by having a bearing on voter preferences. Likewise, Baber and Sen (1986) also assume that debt is used as a mechanism for influencing elections, although their argument is that politicians seek ways to increase spending without raising taxes, and this is where debt plays a role. The results of their empirical study provide evidence that there are increases in debt levels in election years and the year before, and a reduction in the two years following an election.

Patterns of electoral cycles in public expenditures have been observed in France (Aubin, Berdot, Goyeau and Lafay, 1988; Binet and Pentecote, 2004), in Japan (Kohno and Nishizawa, 1990), in Canadian provinces (Blais and Nadeau, 1992; Reid, 1998), in Israel (Rosenberg, 1992), in the US (Baber and Sen, 1986; Poterba, 1994) and more recently in developing countries (Schuknecht, 2000), in Germany (Galli and Rossi, 2002), Flanders (Ashworth *et al.,* 2005) and Spain (Bastida and Benito, 2009).

In light of the above research, we propose the first hypothesis:

H1: Political parties increase public debt in election periods as a mechanism for financing more spending without increasing the tax burden.

However, and in accordance with Hibbs (1977) and Tellier (2006), it is important to consider the partisan cycle because politicians are driven by ideological motives. Thus, ruling parties must implement policies consistent with the interests of the core constituencies that elected them. In this sense, it is commonly assumed that left-wing parties favor public spending increases while right-wing parties aim at budget reductions. In other words, left-wing political parties are believed to be more in favor of an active state and income redistribution than right-wing parties, whereas, regarding taxation, right-wing governments are supposed to impose a lower tax burden than progressive ones (Allers, De Haan and Sterks, 2001). Moreover, according to Rudolph and Evans (2005), among other authors, progressive parties defend a larger public sector and, in general, increase the number and capacity of public sector goods and services because they believe that with these actions they are promoting social and economic equality.

The ideology effect has also been identified in several countries (Blais and Nadeu, 1992; Blais, Blake and Dion, 1993; De Haan and Sturm, 1994; Clingermayer and Wood, 1995; Schmidt, 1996; Cusack, 1997; Dickson and Yu, 1997; Reid, 1998; Midtbø, 1999). In contrast, Benito and Bastida (2008), Bastida *et al.* (2009) and Seitz (2000) failed to find conclusive empirical evidence in support of the ideology hypothesis.

Therefore, we propose the following hypothesis:

H2: Left-wing political parties increase public debt more than other parties.

Although ideology and electoral constraints are two major factors that influence the level of public expenditure (Tellier, 2006), both effects are not simultaneous (Frey and Schneider, 1978a; 1978b; 1979). According to these authors, ideological goals have been maintained only when the party expects few problems in getting re-elected, although other authors have obtained only partial evidence (Schneider and Pommerehne, 1980) and even opposing evidence (Lybeck, 1986 and Renaud and van Widen, 1987). Moreover, Blais and Nadeu (1992) showed that the electoral cycle effect was smaller than the political party ideology effect.

Therefore, it would be interesting to observe the joint effect of partisan and electoral cycles, in other words, to observe whether parties with a progressive ideology are more likely to manipulate the electoral budget cycle than other political parties. Veiga and Veiga (2007) observed that progressive incumbents increase expenditure in an election year more than right-wing incumbents. This situation may occur because left-wing parties make more effort to provide better goods and services in election periods than right-wing parties. In contrast, Kneebone and Mackenzie (2001) provide evidence that this type of opportunistic behavior is more likely to be found in conservative incumbents.

Various authors, such as Navarro (2009), have shown that there is a significant increase in social spending in Spain during periods when left-wing governments are in power as opposed to the budgetary discipline maintained in times of conservative governments. This increase bears no correlation to what the government takes in through regular taxes, but rather is financed through a greater tax burden and in electoral periods through debt.

Moreover, these affirmations are corroborated by the policies of the current progressive government in Spain, which run counter to the recommendations of international experts and the EU Commission.

Based on the above contradictory evidence, we put forward the third hypothesis of the paper:

H3: There are partisan influences on opportunistic behavior.

However, constraints may limit the ability of incumbents to act opportunistically and ideologically. In this regard, national or global pressures can compel governing parties, of all political hues, to reduce public spending and, consequently, public debt increases are not inevitable (Bastida and Benito, 2009). Hence our final hypothesis:

H4: The legal imposition of debt limits reduces the opportunistic practices of politicians of using debt in electoral periods.

2 METHODOLOGY

2.1. Population

The population chosen comprised the 153 local governments whose budgetary data are included in the Spanish Public Sector Database (BADESPE). This includes almost all municipalities in Spain with a population over 50,000 and capitals of provinces. A few municipalities are not represented, since our information was initially obtained through questionnaires answered voluntarily by the local governments.

The sample then had to be reduced to 148 municipalities because 5 in the original sample had budgetary information available only for a very limited time period, making it unsuitable for estimating panel data models.

The time period for the analysis is from 1988 to 2008, inclusive. However, panel data are unbalanced since some municipalities lacked information in certain years, which obliged us to eliminate previous fiscal years so that the data processed would be correlative. In Spain, local elections are held every four years and thus 5 municipal elections were held within this time horizon, corresponding to the years 1991, 1995, 1999, 2003 and 2007.

The BADESPE information refers to the period 1988 to 2002. For the period from 2003 to 2008, data were obtained from the State Office of Financial Coordination with Self-Governing Regions and Local Entities. Information in relation to political and electoral variables was provided by Spain's Ministry of the Interior (comparable to the U.S. Justice Department), and data defining socioeconomic characteristics were obtained from Spain's National Institute of Statistics.

The local public sector was chosen because, according to Bastida and Benito (2009), although an important number of studies have focused on this analysis at the level of different countries, very few papers have tested the existence of an electoral cycle at the municipal level. It must also be kept in mind that local administrations, due to their proximity to citizens, affect the daily activities of their inhabitants to a greater extent, while also being seriously limited in their capacity to satisfy citizen demands owing to the delicate financial situation they generally find themselves in ((Domínguez Calvo, 1997; García Alegre, 2000).

Moreover, the Spanish local sphere is an important focus of analysis because its municipalities have a high level of autonomy in budget planning, and therefore greater flexibility in its execution (De Haan, Moessen and Volkerink, 1999). Additionally, there are lags of several years between the end of a budget year and the publication of the corresponding public audit reports (De Pablos and Valiño, 2000).

2.2. Dependent and Independent Variables

The dependent variable, DEBT BURDEN (DB), is defined as the debt incurred by local politicians in relation to the level of revenue for each fiscal year. This variable, unlike the traditional measures of indebtedness used in previous studies, allows us to determine more precisely the cost of the increase in spending taken on for the next generation of voters.

The independent variables selected to test the proposed hypotheses are meant to incorporate concepts such as time, political ideology and the existence of legal limits on debt. They are as follows:

- ELECTIONS (E): Number of years prior to an election year. In accordance with Ashworth *et al.* (2005) and Bastida and Benito (2009), the variable takes the value of 0 in the election year, 1 in the first year before an election; 2 in the second year prior to an election and 3 in the year after an election or the third year prior to an election.

  This variable is subsequently transformed into 4 dummies that represent the election year and the three years prior to it, respectively. The aim of this breakdown is to determine the periods when fiscal illusion practices are more intense. A similar approach is used by Blais and Nadeau (1992).

- BUDGET CONSTRAINTS (BC): Dummy variable that takes a value of 1 for the period 2002 to 2008, which were the years in which local governments were obliged to respect the legal limits on debt established in the Budgetary Stability Law and a value of 0 for the other years (1988 to 2001).

- LEFT: Dummy variable that takes a value of 1 if the governing party is left-wing, and 0, otherwise.

- RIGHT: Dummy variable that takes a value of 1 if the governing party is right-wing, and 0, otherwise.

In order to test the relation between partisan and electoral cycles, we define the following variables, formed by the interaction between the ELECTION variable, representing the electoral cycle, and the variables representing political ideologies, RIGHT and LEFT. A similar interaction is posited between the ELECTION and BUDGET CONSTRAINTS (BC) variables in order to test hypothesis H4, which states that the limits placed on debt reduce its use for electoral purposes.

- ELECTION* BUDGET CONSTRAINTS (E*BC): Number of years prior to election year for the 2002 to 2008 period. It takes a value of 0 for the 1988 to 2001 period.

- ELECTION*LEFT (E*LEFT): Number of years prior to election year in municipalities governed by left-wing parties. It takes a value of 0 for the rest of the municipalities.

- ELECTION*RIGHT (E*RIGHT). Number of years prior to election year in municipalities governed by right-wing parties. It takes a value of 0 for the rest of the municipalities.

To avoid interaction in the election year taking a value of 0 (ELECTION takes a value of 0 in the electoral period), we have redefined this last variable and it takes a value of 1 in the election year, 2 in the first year before an election; 3 in the second year prior to an election and 4 in the year after an election or the third year prior to an election.

2.3. Control Variables

In order to avoid biased results, the analysis models include different control variables whose influence has been tested in previous studies. These variables are oriented to representing the political structure and the socio-economic characteristics of Spanish municipalities. Socio-economic factors are represented by population and economic level, while political structure is oriented to identifying the local government's strength.

Population is an indicator that influences public financing since the largest public administrations are subject to a greater demand for public spending from their citizens (i.e., Mitchell, 1967; Pogue, 1970; Bird, 1970; Pettersson-Lidbom, 2001; Hagen and Vabo, 2005; Ashworth *et al.*, 2005). The effect of population size on indebtedness is measured by the variable POPULATION, which refers to the number of inhabitants in each municipality.

With regard to the influence of income level on public spending and debt, classical public finance theory shows that the level of wealth in a specific context determines growth in public spending. The basis of this theory, known as Wagner's Law, is that citizens exert pressure for more and better public services as a consequence of economic growth (Wagner, 1958, Mitchell, 1967; McEachern, 1978; Kiewiet and Szalaky, 1996). Income level is measured using the variable GDP per capita (GDPPERCA). In doing so, we use the provincial GDP as a proxy of municipal GDP since municipal GDP data are not available for the entire period analyzed.

In relation to political strength, according to Alt and Lowry (1994), there are two approaches within the theoretical debate regarding the influence of divided and coalition governments on the fiscal situation:

- Roubini and Sachs' weak government hypothesis (RSH). Roubini and Sachs (1989a, 1989b) showed that the problems of coordination in fragmented and coalition governments lead to higher deficits than single party governments. Furthermore, according to Grilli, Masciandaro and Tabellini (1991), Borge (2005) and Hagen and Vabo (2005), among others, these kinds of governments face fiscal problems owing to their inability to come to a rapid agreement regarding stabilization policies.

- Alesina and Rosenthal (1994) maintain that divided governments have a moderate influence on fiscal policies. This behavior was observed by Edin and Ohlsson (1991), Reid (1998) and Tovmo (2007), among others.

To measure the strength of the local government, in line with authors such as Rattsø and Tovmo (2002), Borge (2005), Hagen and Vabo (2005) and Benito and Bastida (2008), we use the Herfindahl Index (HERFINDAHL), which ranges between 0 (maximum fragmentation) and 1 (maximum strength). Maximum fragmentation implies the existence of just one town councilor per party, whereas maximum strength would indicate that all the town councilors belong to the same party.

where:

n= number of parties in the local government

p_i = number of councilors of party i in the local government.

2.4. Analysis model

The models put forward to test the four proposed hypotheses are specified in the following equations:

Model 1: Hypotheses H1and H2

$$\mathbf{DB_{it}=} \beta_1 POPULATION_{it} + \beta_2 GDPPERCA_{it} + \beta_3 HERFINDAHL_{it} + \boldsymbol{\beta_4 E_{it} + \beta_5 BC_{it} +} \beta_6 \mathbf{LEFT_{it}} + \eta_i + \upsilon_{it} \quad [1]$$

Model 2: Hypothesis H3

$$\mathbf{DB_{it}=} \beta_1 POPULATION_{it} + \beta_2 GDPPERCA_{it} + \beta_3 HERFINDAHL_{it} + \beta_4 E_{it} + \beta_5 BC_{it} + \beta_6 LEFT_{it} \mathbf{+ \boldsymbol{\beta_7} E*LEFT_{it}} + \boldsymbol{\beta_8} \mathbf{E*RIGHT_{it}} + \eta_i + \upsilon_{it} \quad [3]$$

Model 3: Hypothesis H4

$$\mathbf{DB_{it}=} \beta_1 POPULATION_{it} + \beta_2 GDPPERCA_{it} + \beta_3 HERFINDAHL_{it} + \beta_4 E_{it} + \beta_5 BC_{it} + \beta_6 LEFT\ _{it} \mathbf{+ \boldsymbol{\beta_7} E*BC_{it} +} + \eta_i + \upsilon_{it} \quad [4]$$

Where:

DB_{it} is the debt burden of municipality “i” in year “t”,

$POPULATION_{it}$ is the population of municipality “i” in year “t”,

$GDPPERCA_{it}$ is the income level per capita of municipality “i” in year “t”,

$HERFINDAHL_{it}$ is the political strength of the government of municipality “i” in year “t”,

E_{it} identifies the electoral budget cycle,

BC_{it} identifies the existence of budgetary debt constraints,

$E*BC_{it}$ identifies the political budget cycle for the period of time when there were legal limitations on municipal debt,

$LEFT_{it}$ means that the governing party in municipality “i” in year “t” has a progressive ideology,

$E*LEFT_i$ means that in relation to the budget cycle, the governing party of municipality “i” in year “t” has a progressive ideology,

$E*RIGHT_i$ means that in relation to the budget cycle, the governing party of municipality “i” in year “t” has a conservative ideology,

η is an unobserved time-constant but municipality-specific variable (called “heterogeneity effect”)

υ is a disturbance that changes both across i and across t and is known as the “idiosyncratic error”.

The estimation method for the proposed models uses panel models from the STATA statistics package, and more specifically,the GMM estimator of Arellano and Bond (1991). This choice was motivated by the importance of considering two significant problems that arise when studying fiscal illusion practices: unobservable heterogeneity and endogeneity problems. In order to eliminate endogenous problems, numerical independent variables were implemented using their t-1 to t-3 lags.

3 RESULTS OF THE ANALYSIS

The descriptive statistics of the numerical values proposed for the analysis are displayed in Table 1 and the bivariate correlations between the variables are shown in Table 2. As can be seen, there are no significant correlations between any of the independent variables proposed, or between the independent variables and the dependent variable (DB). The results of the three models proposed in section 2.4 to test the hypotheses are presented in Table 3.

TABLE 1.- DESCRIPTIVE STATISTICS

	MEAN	STD. DEV.	MIN	MAX
DEBT BURDEN	0.0195903	0.4140223	-0.9050103	1.007999
POPULATION	164182.7	309492.4	21663	3213271
GDPPERCA	33199.96	41153.92	619.182	173926.3
HERFINDAHL	0.5006218	0.1075134	-0.0909091	0.7777778

POPULATION: population of municipality; GDPPERCA: income level per capita; HERFINDAHL: political strength of the local government.

TABLE 2.- BIVARIATE CORRELATIONS

	DEBT BURDEN	POPULATION	GDPPERCA	BUDGET CONSTRAINTS	HERFINDAHL	LEFT
DEBT BURDEN						
POPULATION	-0.0009					
GDPPERCA	-0.0372	-0.0566				
BC	-0.1109	-0.0130	0.2263			
HERFINDAHL	0.0191	0.0590	-0.0187	-0.0276		
LEFT	0.0454	-0.0901	0.1976	-0.0902	0.0454	
ELECTIONS	0.0349	0.0090	-0.0098	-0.1042	-0.0008	0.0303

POPULATION: population of municipality; GDPPERCA: income level per capita; BC (dummy): budgetary debt constraints; HERFINDAHL: political strength of the local government; LEFT (dummy): governing party has a progressive ideology; ELECTIONS: electoral budget cycle.

TABLE 3.- GMM ESTIMATIONS FOR DEBT BURDEN

	MODEL 1		MODEL 2		MODEL 3	
	COEF.	STD	COEF.	STD	COEF.	STD
POPULATION	-0.000000959	0.000000963	-0.0000000620	0.000000727	-0.000000554	0.000000630
GDPPERCA	-0.000000326	0.000000359	-0.000000101	0.000000255	-0.000000116	0.000000202
HERFINDAHL	-0.2348841***	0.1397675	-0.2419781	0.0814282	-0.0919802	0.0955027
ELECTIONS	-0.0093816*	0.0020801	-0.0078218**	0.0044941	-0.013371*	0.0013691
BUDGET CONSTRAINTS (BC)	-0.0659324*	0.0094393	-0.0180263*	0.0054506	-0.0427713*	0.0080802
LEFT	0.065842*	0.0205567	0.0038484*	0.0185574	0.1658267*	0.0126525
ELECTIONS*LEFT			-0.0313817	*	0.0063659	
ELECTIONS*RIGHT			-0.0112952*	0.0061909		
ELECTIONS*BC					-0.0249075*	0.0021921
z_1	26.25 (6)		22.87 (8)		23.84 (7)	
m_1	-6.81		-6.82		-6.57	
m_2	0.20		0.19		0.14	
Hansen	133.37 (134)		131.83 (132)		131.04 (133)	

Notes:

i) Heteroskedasticity consistent asymptotic standard error in parentheses.

ii) *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively.

iii) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses.

iv) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as $N(0,1)$ under the null of no serial correlation.

v) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses.

DB: debt burden; POPULATION: population of municipality; GDPPERCA: income level per capita; HERFINDAHL: political strength of the local government; ELECTIONS: electoral budget cycle; BC (dummy): budgetary debt constraints; ELECTIONS*BC: political budget cycle for the period of time when there were legal limitations on municipal debt; LEFT (dummy): governing party has a progressive ideology; ELECTIONS*LEFT: in relation to the budget cycle, the governing party of municipality has a progressive ideology; ELECTIONS*RIGHT: in relation to the budget cycle, the governing party of municipality has a conservative ideology.

Model 1 was proposed to test the hypotheses relating to debt practices that give rise to fiscal illusion in electoral periods (H1) and to the greater increase in debt on the part of progressive parties (H2). The results show that of the six variables comprising the model, three are significant for a confidence level of 99% (p-value < 0.01): BC, ELECTIONS and LEFT, whereas the HERFINDAHL variable has a statistically significant but reduced impact for a confidence level of 90% (0.05< p-value < 0.1). Individual analysis of the independent variables yields the following results:

- ELECTIONS. This variable has a negative effect on the debt burden of municipalities, allowing us to accept hypothesis H1.

  It must be kept in mind that this variable takes values between 0 (election year) and 3 (the year following the last elections, i.e., the furthest year from the following elections). This relation suggests that in the years of government subsequent to municipal elections the political parties issue debt to a lesser extent than in the periods close to elections.

- BUDGET CONSTRAINTS. This has a significant negative effect on the debt burden. Such a relation suggests that the debt limitations imposed on municipalities through the Spanish Budgetary Stability Law passed in 2001 have had an important effect on the levels of debt financing used by local governments.

- LEFT. This variable has a significant positive effect on the amount of debt that local governments incur in relation to their revenue levels. Such an impact allows us to accept hypothesis H2 in that progressive governments resort more to debt to finance their policies.

- Both of the control variables, POPULATION and GDPPERCA, have a statistically irrelevant negative effect on the debt burden taken on by local governments. As mentioned above, the HERFINDAHL variable has a low statistically significant negative effect.

Model 2 incorporates the interaction between ELECTIONS*LEFT and ELECTIONS*RIGHT, as it was designed to determine whether progressive political parties take on a larger debt burden in electoral periods than conservative parties. The results of this model are very similar to those yielded by the previous model.

Five of the eight variables proposed in the model, LEFT, BUDGET CONSTRAINTS, ELECTIONS, ELECTIONS*LEFT and ELECTIONS*RIGHT have a significant impact on the dependent variable DEBT BURDEN (DB). The impact is positive for the first of these at the 95% confidence level (0.01< p-value < 0.05) and negative for the last four at the 99% confidence level.

Both interactions turn out to be relevant from the statistical point of view, although the Wald test clearly rejects the equality of the estimated coefficients. Since the estimated coefficient associated with ELECTIONS*LEFT is three times higher than that of ELECTIONS*RIGHT, it is possible to accept hypothesis H3.

Thus, it can be affirmed that debt levels issued in electoral periods constitute an opportunistic practice on the part of any political party in power in local government; however, this practice is more common in parties that defend a larger public sector, such as progressive or leftist ones.

Model 3 incorporates the interaction ELECTIONS*BUDGET CONSTRAINTS in order to analyze whether the limitations placed on debt imposed by the Spanish Budgetary Stability Law largely impede the practices leading to fiscal illusion in electoral periods. These results are highly encouraging as to the effectiveness of such measures. The interaction of these two variables has a statistically significant negative effect for a confidence level of 99%.

The negative impact of debt limitations on the debt burden is higher in election years than in other years. This occurs because both variables present negative coefficients and the effect on the electoral period is the result of the sum of the coefficients of the variables BC (-0.0514922) and of the interaction E*BC (-0.0109289).

Another way of measuring whether the electoral cycle is more intense during the period without debt constraints (1988-2001) than during the period following their enactment (2002-2008) would be to divide the sample into these two periods and determine the value of the ELECTION variable for each of them. These results are shown in Table 4.

TABLE 4.- GMM ESTIMATIONS FOR DEBT BURDEN IN TWO PERIODS ACCORDING TO DEBT CONSTRAINTS

	Model 1: years 1988 to 2001 (without debt constraints)		*Model 1: years 2002 to 2008 (with debt constraints)*	
	COEF.	STD	COEF.	STD
POPULATION	-0.000314	0.000573	-0.000471**	0.000242
GDPPERCA	-0.000370	0.000296	-0.000173	0.000147
HERFINDAHL	-0.0210324	0.0151289	-0.036525	0.013936
ELECTIONS	-0.9870022*	0.3185362	-0.6147412*	0.7658741
LEFT	0.1337199*	0.0684343	0.1150034*	0.0191146
z_1	11.91 (5)		46.94 (5)	
m_1	-5.73		-6.85	
m_2	0.56		0.66	
Hansen	59.76 (45)		84.11 (65)	

Notes:

i) Heteroskedasticity consistent asymptotic standard error in parentheses.

ii) *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively.

iii) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses.

iv) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as $N(0,1)$ under the null of no serial correlation.

v) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses. DB: debt burden; POPULATION: population of municipality; GDPPERCA: income level per capita; HERFINDAHL: political strength of the local government; ELECTIONS: electoral budget cycle.

As can be observed, the negative coefficient of the ELECTION variable for the electoral period without debt constraints has a value of -0.9870022, which is higher than the value obtained for the period when these constraints were in place: -0.6147412.

This impact leads us to accept hypothesis H4 and to affirm that the limitations placed on municipal debt by Spanish legislation in 2002 have had an important effect on the use of debt as a mechanism to win votes.

The other variables show the same impact and relevance as in the previous models, although it can be seen that the partisan cycle was also higher in the 1988-2001 period (coef.=0.1337199) than in the following period (coef.=0.1150034), when the debts constraints were in force.

Finally, model 1 was estimated breaking down the variable ELECTIONS into each of the four years comprising the electoral period, omitting the third year from the analysis in order to avoid problems of collinearity. The results of the estimation are displayed in Table 5.

TABLE 5.- GMM ESTIMATIONS FOR DEBT BURDEN ACCORDING TO ELECTORAL PERIOD

	Model 1 with breakdown of ELECTIONS variable	
	COEF.	STD
POPULATION	0.000000779	0.000000966
GDPPERCA	-0.000000411	0.000000401
BUDGET COINSTRAINTS	-0.0738267*	0.0098585
HERFINDAHL	-0.1892955	0.1519723
LEFT	0.0951813*	0.0241258
ELECTION YEAR	0.0273139*	0.0069135
YEAR PRIOR TO ELECTIONS	-0.0175849*	0.00602
TWO YEARS PRIOR TO ELECTIONS	-0.0319661*	0.0070255
z_1	26.10 (8)	
m_1	-6.76	
m_2	1.28	
Hansen	128.25 (132)	

Notes:
i) Heteroskedasticity consistent asymptotic standard error in parentheses.
ii) * and ** indicate significance at the 1% and 5% level, respectively.
iii) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses.
iv) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as $N(0,1)$ under the null of no serial correlation.
v) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses.
DB: debt burden; POPULATION: population of municipality; GDPPERCA: income level per capita; HERFINDAHL: political strength of the local government; ELECTIONS: electoral budget cycle; BC (dummy): budgetary debt constraints; LEFT (dummy): governing party has a progressive ideology.

The breakdown of this variable allows us to observe that the dummy variable representing election years (ELECTION YEAR) has a statistically significant positive effect on DEBT BURDEN for a confidence level of 99%. However, the two years prior to election years (YEAR PRIOR TO ELECTIONS and TWO YEARS PRIOR TO ELECTIONS) have a relevant negative impact from the econometric point of view for a confidence level of 99%.

The results of this model indicate that local governments tend to reduce their debt levels during their term of office. Nevertheless, there is an important increase in public spending in relation to revenue in election years as a result of the party in power trying to obtain more votes.

4 DISCUSSION

The results show the existence of partisan and electoral budget cycles in most Spanish local governments, as well as simultaneity of the two effects. However, we have also found that the legal restrictions imposed on debt have a correcting effect on both types of political action.

As regards the electoral cycle, it can be affirmed that politicians increase public spending in electoral periods, financing it through a significant increase in public debt. This practice allows them to create a fiscal illusion in the voters since it is difficult for voters to know the real cost of the services provided. The opaque nature of this financing mechanism allows politicians to defer the fiscal burden deriving from citizen services to the years following elections, which can later lead to greater fiscal pressure and/or a significant reduction in public services and in their quality.

These findings add to the existing empirical evidence in international (e.g., Clingermayer and Wood, 1995; Binet and Pentecote, 2004; Ashworth *et al.*, 2005) and national contexts (Lago-Peñas and Lago-Peñas, 2008; Bastida and Benito, 2009), since not only did we observe an increase in spending or debt, but also the significant debt burden that Spanish politicians impose in electoral periods in relation to their current level of income.

Nonetheless, we need to point out that the results obtained for the Spanish case differ slightly from what was observed in previous studies, such as the one by Baber and Sen (1986), in the sense that the increases in levels of debt occur basically in the year prior to elections, with special impact in election years, whereas the debt is reduced in the years following elections.

In line with Tellier's (2006) evidence, we confirm that progressive parties increase the debt burden throughout their term of office, while the others attempt to reduce it. This positive effect allows us to affirm the existence of the partisan cycle, in the sense that left-wing parties favor public spending increases. Therefore, our results add to the previous empirical evidence from other countries (Blais and Nadeu, 1992; Blais *et al,* 1993; De Haan and Sturm, 1994; Clingermayer and Wood, 1995; Schmidt, 1996; Cusack, 1997; Dickson and Yu, 1997; Reid, 1998; Midtbø, 1999).

The graphic analysis of the different budgetary magnitudes shown in Figures 1 to 3 allows us to see in more detail some of the affirmations made above. Figure 1 shows the mean evolution of municipal current spending, capital spending and expenditures from financial operations in the electoral periods analyzed. The first two types of spending show higher values in election years and in the year immediately before and the amount decreases in the years after elections, especially in the second year. In contrast, financial spending remains stable before and after elections, decreasing between the second and third year after elections.

A similar evolution is found for current and capital revenue (Figure 2); however, whereas positive gross current savings is observed in all the fiscal years (current revenue – current spending), in the case of capital flows the mean variation is negative.

Figure 3 presents a synthesis of revenue and spending according to the partisan cycle. Here we can see a significant reduction in both flows in municipal governments led by conservative parties.

Our results diverge from those reported by Benito and Bastida (2004 and 2008), Lago-Peñas and Lago-Peñas (2008), Bastida and Benito (2009) and Bastida *et al.* (2009)who all invalidated the partisan cycle for the Spanish case. The differences may be due to the data and time periods employed in the studies. In general, the previous studies analyzed the municipal governments of a specific self-governing region, such as Galicia or Valencia, and therefore their results can not be extrapolated to other Spanish municipalities. The study by Bastida and Benito (2009) analyzed the local governments of towns with populations over 1,000 inhabitants, and 31% of those analyzed had less than 10,000 inhabitants, and thus a limited obligation as regards public services provision; they frequently resorted to the creation of larger communities, consortia and other interest groupings that allow them to provide mandatory services. These characteristics reduce these small towns' need to invest, but also their possibilities for making individual decisions at municipal level as regards the kind of financing they are going to use. Additionally, unlike the cited paper, in the present study two election periods, 1991 and 2007, were added to the analysis through the use of budgetary data for different years before and after elections.

As regards our third aim, the interaction of the two budgetary cycles, we observed that all parties, regardless of their political ideology, issue debt to their advantage in an election year, but in the case of progressive parties, the opportunistic behavior is greater. This result adds to the scarce and contradictory international evidence that is the result of several

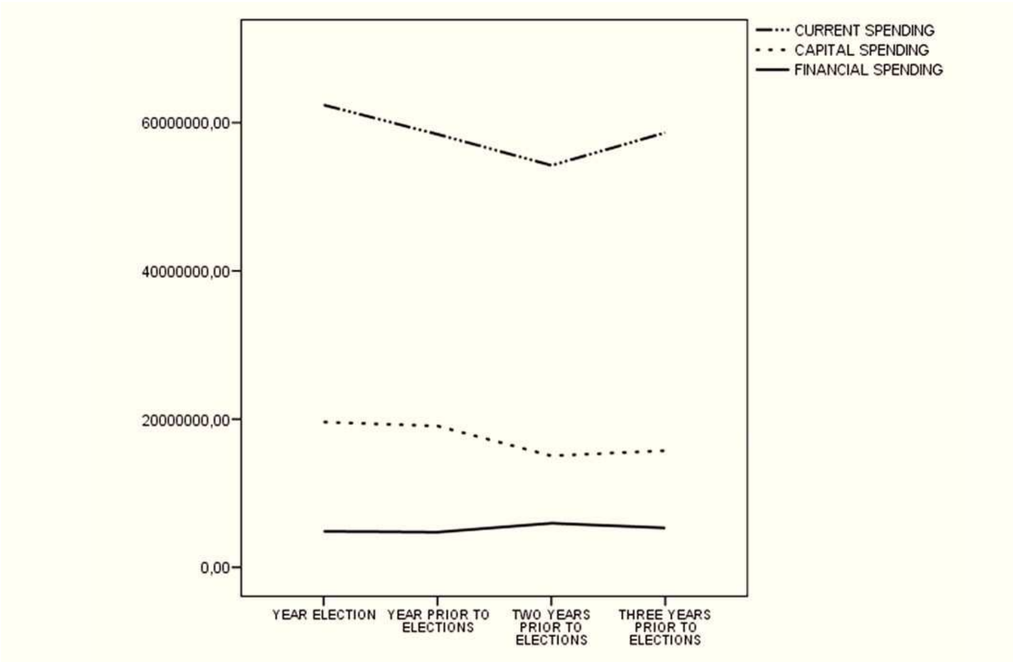

Figure 1. Evolution of municipal spending

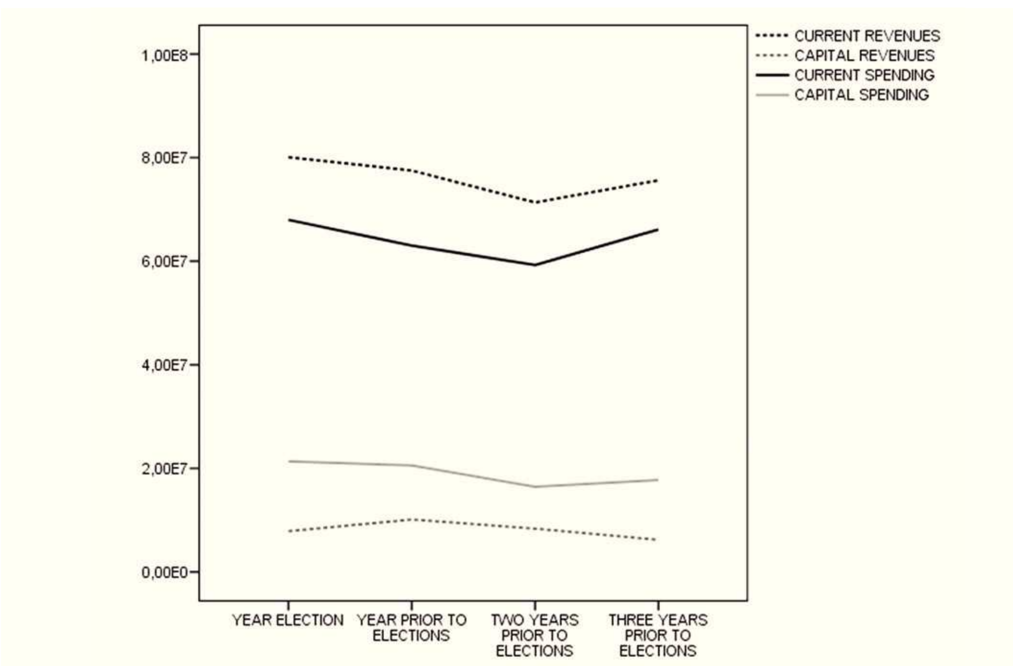

Figure 2. Evolution of municipal revenue and spending according to the electoral cycle

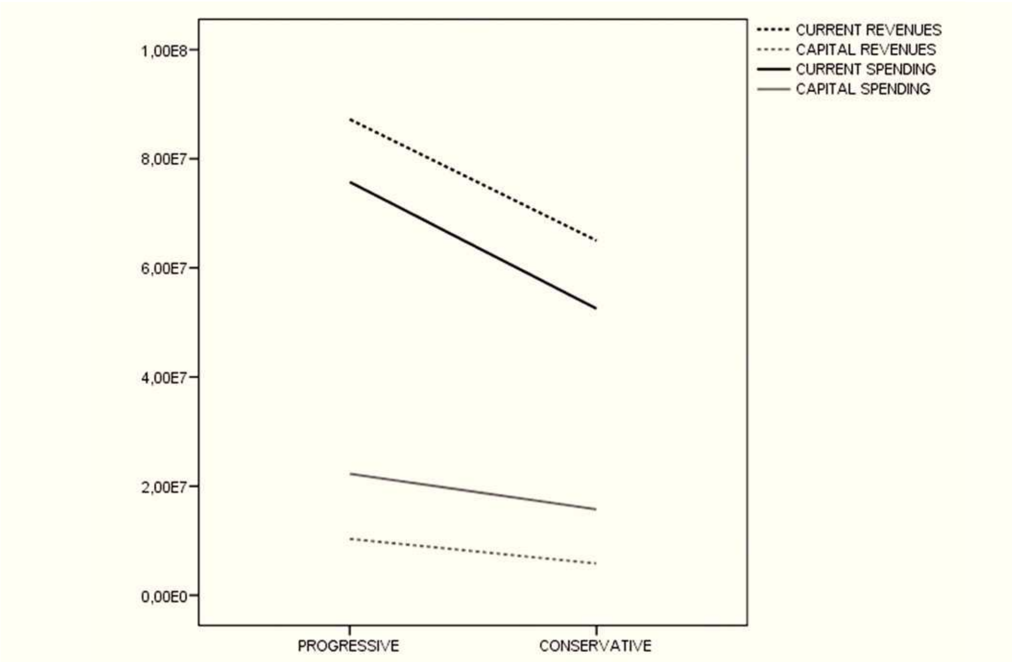

Figure 3. Evolution of municipal revenue and spending according to the partisan cycle

authors having observed that ideological goals are maintained only when the party expects few problems in getting re-elected (Frey and Schneider, 1978a; 1978b; 1979), while others have found opposing results (Lybeck, 1986 and Renaud and van Widen, 1987; Blas and Nadeau, 1992; Veiga and Veiga, 2007).

Opportunistic politicians are considered to increase spending on items highly visible to the electorate and decrease it on those that are not visible (Rogoff, 1990), the most visible items being those associated with transportation and communications (Kneebone and McKenzie, 2001; Vega and Vega, 2007), although Schneider (2010) has found that politicians can also increase spending on social welfare. Our results for the Spanish context suggest that in electoral periods, progressive politicians need to incur a greater debt burden in order to maintain the level of non-visible services that their voters demand and to manipulate the rest of the electorate's perception of its record in line with the performance of other political options.

The previous affirmations must be qualified in the sense that Rogoff (1990) observed that in electoral periods, politicians increase public consumption instead of lowering public investment. However, Rogoff's study analyzes the use of debt in the long term, which in the Spanish context must be addressed to financing capital spending.

With respect to our last sub-objective, we observed that the Budgetary Stability Law passed by a conservative party in 2001 seriously helps to limit both the widespread use of indebtedness as a mechanism for financing greater public spending, as Bastida and Benito (2009) showed, and the ability of incumbents to act opportunistically during electoral periods.

In this research, population was not identified as a determining factor in the debt burden that local governments incur in relation to their annual revenue. These results contradict the theoretical arguments and the empirical evidence regarding the effect of population on public spending as a result of increased demand for public goods and services (e.g., Mitchell, 1967; Pogue, 1970; Pettersson-Lidbom, 2001). The results for the mean income level of citizens in a municipality also differ from previous empirical evidence obtained by authors such as Mitchell (1967), McEachern (1978) and Kiewiet and Szalaky (1996).

The lack of impact of the preceding variables on the measurement of the debt burden posed in this paper and the empirical evidence of the previous literature suggest that the number of citizens and their standard of living partially determine the level of municipal debt. That is, local governments need to go into debt to satisfy the needs of their population, but politicans issue a level of debt that is well above the demographic and economic characteristics of their municipalities.

The variable representing the strength of the political structure has practically no effect on the debt burden of Spanish municipalities. These results confirm the hypothesis that fragmented governments have a moderate influence on fiscal policies, as proposed by Alesina and Rosenthal (1994) and observed empirically in the work of Edin and Ohlsson (1991), Reid (1998) and Tovmo (2007), among others.

5 CONCLUSIONS

The objective of this paper was to observe the existence of electoral and partisan cycles and the interaction between the two on debt burden for the Spanish setting. To do so, we analyzed a previously unexplored geographical context over a long time period: 1988-2008, characterized by the holding of five elections and the existence in the last seven years of a law that limits the level of debt that local governments can issue. A new measure of the debt generated by local governments has been introduced, addressed to determining the debt burden that local governments assume in relation to their revenue levels, as well as several variables that identify the interaction between both budget cycles and between debt constraints and opportunistic behavior.

The results reaffirm that ideology and electoral constraints are two major factors that influence the level of public expenditure, as has been confirmed empirically in different countries at different levels of public administration. However, the present study broadens the scope of empirical evidence and shows that although the behavior of politicians is quite similar, it is not mimetically reproduced from one geographic context to another.

On the one hand, we have observed an opportunistic use of municipal debt on the part of all political parties in power, basically applied in election years, in order to create fiscal illusion in voters and become re-elected. These debt-financed spending practices will lead to an important increase in fiscal pressure for future generations as a result of the burden that this practice generates in relation to the local government's current revenue. Nonetheless, this use has decreased noticeably since the legal budgetary constraints on local government debt were introduced in 2002.

On the other hand, the results also confirm a partisan budget cycle in the sense that Spanish left-wing parties resort to debt more than conservative parties because their political ideology makes them more willing to support the expansion of government and its scope. This ideological behavior is maintained in electoral periods, with the result that the public debt incurred by left-wing parties facing re-election is three times the amount that conservative incumbents incur.

These results have important practical implications, especially as regards the role that public guarantee mechanisms play. In this regard, current procedures and requirements for approving municipal budgets must be redefined to impede opportunistic spending by incumbents in electoral years. Thus, the need to design a plural strategic plan and the requirement to comply with its operational programs should be one of the main indicators to take into account in this budgetary stage. Moreover, external and internal control mechanisms could be improved in order to detect the ideological and opportunistic political behaviors that this paper has found through the first analysis of the interaction of both political budgetary decisions in the Spanish setting.

As regards the analysis of the interaction between opportunistic and partisan budget cycles, future analyses should consider variables that represent the incumbents' risk of re-election in order to identify the level of complementarity between these two political cycles.

Likewise, it would be advisable to observe in more detail the effect of the Budgetary Stability Law on the strategic use of debt by including the processes of functional decentralization that local administrations are developing, the ultimate objective of which is to avoid these budgetary restrictions and influence electoral outcomes (Escudero Fernández, 2002).

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