Determinants of Electoral Budget Cycles and Its Relationship with the Likelihood of Re-election of Mayor in State of Parana (Brazil)

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Abstract

This research aims to detect whether there are variables determining the contribution of the phenomenon Electoral Budget Cycles (EBC) for re-election of the Mayor is justified in the fact there is evidence that the results of the public financial statements sheets suffer affectations by political decisions that may involve negative effects on society. Research of Nordhaus (1975), Tufte (1978), Klein (2009) and Batisda et al (2009) reveal ideological convergence that in election years, managers can manipulate the budgets in favor of his re-election. This phenomenon seeks to explain the adhesion of political variables in the management of the public financial statements sheet items, such as debt, deficits financial and intergovernmental revenues. Data collection was performed for all 399 municipalities of the State of Paraná, the total public debt, transfers, agreements, population, as well as a screening party of the linkages of managers with the Governor of State and/or the President of the Republic. The analysis considered voting in the elections following enactment of the Fiscal Responsibility Law, the elections of 2004 and 2008, and was used probit regression of the econometric model. The results show that the mayors linked to the party of the President or the Governor increase by 25% and 14%, respectively, their probability of re-election.

Keywords: Electoral Budget Cycles, public financial statements, public debt, revenues intergovernmental agreements, re-election of the Mayor

1. Introduction

1.1 Re-election of the Public Manager and Electoral Budget Cycles

The action of the Mayors in Brazil and the world requires direct influence on the life of the citizen, as it is for the governor, one of the key challenges of fiscal federalism, which is to equalize the system of collection and allocation of resources to meet demand population for goods and services (Diniz & Corrar, 2009). To Tufte (1978) the government of a modern and democratic country has substantial control over the pace of national economic life and also about the distribution of economic benefits borne by society.

Contemporary studies that take into account social, financial and political, have revealed key aspects to discern the fiscal behavior of government budgets, which are prone to interference by public managers aimed at re-election. The Theory of Political and Budgetary cycles, as presented in the literature Electoral Budget Cycles (EBC), explains the phenomena related to adhesions of political variables on public budgets, which drafts are highlighted in the work "The Political Business Cycle" (Nordhaus, 1975) and "Political Control of the Economy" (Tufte, 1978), there is also a contemporary lineage revisited in this study. In these studies there is an ideological convergence that in election years, public managers, as candidates, we use the structures of administrative power in their favor in elective office. This is probably because actions resulting from decisions taken by governments in times of hold elections, implicit interests of a political nature. The question, however, whether such public administrator strategies geared towards the use of policies, often related to debt, transfers intergovernmental agreements and links to party, may in fact stimulate the revealed will of the voter in a democratic vote.

So, put the question here arises from variations in observations on the public budget of municipalities of the State

of Paraná, associated with the results of the political calendar that trigger the presence of the phenomenon known in the literature as Electoral Budget Cycles. To that end, we developed the following research question: elements determining the presence of the Electoral Budget Cycle, such as variations in public debt, the amount of intergovernmental transfers and linkages party contribute to the re-election of public manager? The investigation considers the outcome of the election campaign (1) and reelected (0) not re-elected as the dependent variable as independent variables and the of public debt in an election year, the amount of income earned by voluntary transfer agreements in election years the existence of binding of the Mayor with the party of the governor and the existence of binding of the Mayor with the party president.

The overall objective of this research is to collate variables determining the presence of the phenomenon (Electoral Budget Cycles) EBC in the light of the theoretical basis that, at election time, or not to contribute to the re-election of the public manager. For this purpose, specific objectives are outlined as follows: to trace the representation of the phenomenon bibliographic Electoral Budget Cycles (EBC) in its different nuances in national and international levels, identifying the variables commonly used in their studies, the verification occurrence of evolution / involution in the values of total public debt of all municipalities in Paraná, distributed among population groups in election periods of 2004 and 2008, to examine the comparative amounts distributed as revenue agreements on the part of the Union and of Paraná State, municipalities across the state, examining the likelihood of re-election of Mayors, through the collation of accounting variables, policy and profile, and from there, using the model in econometric probit regression, and, ultimately contribute to the literature of the (Electoral Budget Cycles) EBC.

The research starts from a survey of information and data, under two distinct aspects: the amount of public debt or public debt of each entity and municipal revenues Paraná municipal agreements distributed by the Union and the Government of the State of Paraná. This survey was conducted for all the state's 399 municipalities. Survey was also conducted on the binding of partisan Mayors of Paraná, for the Governor of the State and the President of the Republic, elections for the years 2004 and 2008, using data from the Superior Electoral Court (TSE). The cut-off of the periods studied, for purposes of calculating debt and revenue agreements, due to the availability of reliable data and properly accounted for, held, on a mandatory, not until the year 2001, the system finances of Brazil's National Treasury Secretariat (FINBRA / STN), under the Fiscal Responsibility Law.

1.2 The Public Administration in Brazil

According to Meirelles (2006) in the political and administrative Brazilian entities are classified as state, local and foundation and parastatals. In summary, the public entities part of the legal structure of the state and political and administrative powers, represented by the Union, Member States and Municipalities. Municipalities are legal entities of public law, Administrative, created by law to complete activities, works and services. The foundations are legal entities of public or private law, the law should define its sphere of influence. Business entities are intended to provide some business activity that the state wants to explore. Already parastatals are private entities authorized to provide public services or perform activities of collective interest.

It is the mission of the ruler consider the limited resources of the state budget in order to provide quality and consistency in the provision of public services, not just those known to be essential, such as water distribution, electricity, sanitation, gas, telecommunications, transportation but also social services, such as health, education, employment, housing, safety, leisure and property. The "Constitution expressly provides that the incumbent government, the provision of public services" (Meirelles, 2006: 311) and in this sense, state action is not limited to internal control of the administrative, personnel and equipment and equity, but reaches a duty to comply with a range of actions that society delegates its representatives, based on the Federal Constitution (Mello, 2009).

At the heart of the state administration, the actions are performed by a public servant, whose name includes subjects that can be divided into three groups: politicians, the state public and private servers, and individuals in collaborative work with the Government (Mello, 2009).

The Powers of State adopted in Brazil are the Legislative, Executive and Judiciary, The role of the Legislature is making laws, or regulatory actions. The Executive is concerned with the structural and administrative action. Since the function of the judiciary is the application of coercive law litigants, ie, the judicial function (Meirelles, 2006).

The Brazilian federation comprises the Union, Member States, the Federal District and municipalities, the latter are state entities with political autonomy recognized by Article 18 of the Constitution, although to a lesser extent the Member States. All these spheres exercise the powers conferred upon them by the Constitution, within their respective areas, by equipping itself, which should be properly structured for the perfect meeting the needs of public service available to the people (Meirelles, 2006).

The Brazilian public administration, as has been occurring from 80 years in several countries such as Australia,

England, United States, New Zealand, Japan, Italy, Canada, Spain, Sweden, Switzerland, Argentina, Turkey, Austria, Mexico, Ireland, Portugal, South Korea, Finland, among others, has undergone several reforms statistics (Di Giácomo, 2005), which aim to promote the "overcoming of bureaucratic models of the past, to incorporate management techniques to introduce the culture of public work essential notions of quality, productivity, results and accountability of public officials" (Pereira, 1998: 28). This new conception of public management has been called the New Public Management (NPM) or the New Public Management, which according to Hood (1995) seeks a combination of experience and management techniques between the public and private.

Hood (1995) summarizes the characteristics of NPM as follows: disaggregation of organizations into entities to be managed separately, looking for more competition between public sector organizations and private; use of management practices common to the companies, greater discipline in the use resources and the search for alternatives to reduce taxes on services, adoption of performance measures and control. The professionalization should emphasize economic development, and at the same time maintain the political capacity to govern on behalf of the people, ensuring, however the commitment of financial and administrative powers to implement policies and without giving rise to "the nobility and bureaucratic prebend" (Di Giácomo, 2005: 13).

Furthermore, one must consider that the government administration has different features from those reserved for private enterprise, and in this context, it should register the apparatus restrictive than the principle of legality requires the managers, ie, in Public Administration "is only allowed to do that the law allows, while in particular is lawful to do everything that the law does not prohibit "(Meirelles, 2006: 133).

Thus, the current landscape of public administration still has quirks surplus and less freedom of action to managers, ie, less discretion to public managers compared to managers of the corporate framework, which tends to a closer by the convergence of standards sectors to international accounting, financial and administrative, with the advent of New Public Management.

1.3 The Municipal Level of Government in Brazil

The establishment, merger, consolidation and dismemberment of municipalities in Brazil are carried out by state law, within the period determined by federal law, and will depend on prior consultation, through referendum, the population of the municipalities concerned, after feasibility studies municipal, presented and published as the law requires (Slomsky, 2008). The municipality, the lower administrative unit of the Brazilian state, is "the legal entity of internal public law, endowed by the Constitution of 1988 of autonomy" (Bastos, 2004: 238).

The Federal Constitution of 1988 assured the city four capacities: a) self-organization by means of a Law drawn up and promulgated by its Board of Aldermen, without interference of any kind of Federal or State Legislature; b) of self-government exercised by Mayor and city council members elected by direct and secret (disappeared in time, the Mayor appointed the figure), c) of self-legislation on matters of local interest (no more about "matters of peculiar interest") and others, in order to supplement and competitor, and d) self-administration to collect taxes within its jurisdiction, apply your income and provide public services to the local community (Santos & Mattos, 2006). In this sense, they are wide powers of municipalities, health care and public assistance, provide the means of access to culture, education and science, promote agricultural production, arrange the food supply, promote programs of housing construction and improvement of housing conditions and sanitation, ensure rural and urban development, protect the environment, combat pollution and conclusively promote the improvement of living conditions in general terms, of its inhabitants (Ferreira, 1996).

The municipal revenue source has the financial inflows, the public treasury, municipal taxes originating from the use of local goods and services, as well as participation in the constitutional transfers coming from others entities governments and the states and sometimes other Municipalities. Added to these values the proceeds of any financing through loans, grants, aid and donations from other individuals or legal entities, according to Article 145 of the Federal Constitution (1988).

According to the National Confederation of Municipalities (2010), Property Tax and Urban Land (property tax) has as generating the urban property and land, as well as its useful domain and possession, which characterizes it as a tribute on equity, the Tax on Transfer of Immovable Property is generated by transfer inter vivos of immovable property by onerous acts, whether by nature or by building physical accession, whereas the Tax on Services is generated from the provision of services by a company or self-employed. The contribution of improvement is a tribute to nature recuperator public expenditure on works that increase the value of the property benefited by them, like the street where they are domiciled. Rates, other income of municipalities, are not present constitutionally, and can thus create the municipality that are necessary to police the administrative jurisdiction of origin or maintenance of specific and divisible services provided to residents or placed at their disposal.

In addition to keeping us safe 100% of municipal income tax withholding on the compensation of its servers and service providers of tax transfers from the Union, it is up to 22.5% of municipal Income Tax and the Tax on Industrialized Products that comprise the Municipal Participation Fund. Thus, the Federal Constitution in Article 159, I, b, states that the Union will give twenty-two and five percent to the Municipal Participation Fund. The distribution of funds to municipalities is made in proportion to the number of its inhabitants. Are fixed population groups, with each one of them an individual coefficient.

As can be inferred from the constitutional text, it is the municipalities also share the Rural Territorial Tax (RTT) and the Tax on Circulation of Goods and Services on exports of the exemption. The RTT, for those municipalities that are located in rural properties taxed 50% of its revenues. Law Kandir defined as the competence of the Union to relieve the tax payment on exports of semi-finished manufactured goods and primary products, and allows the use of tax credits for the purchase of capital goods, the provision of electricity and communications services. From these values, it is a proportional distribution of 10%, to municipalities.

1.4 Elections in Municipal Level in Brazil

The electoral process is governed by the Brazilian Federal Constitution and the laws n º 4.737/65 and the Election Law No. 9.504/97. The vote is secret since the year 1932, with the enactment of the Electoral Code, which has been successively revised, and regulates the whole procedure, from the enrollment of voters until the vote count, supervision and participation of parties, advertising and electoral crimes. The 1988 Constitution prescribed that the President and the governors and the Mayors of the municipalities with more than 200,000 voters, were elected by an absolute majority in two rounds or, if no candidate attains an absolute majority on the first ballot.

Elections in Brazil take place every two years. The terms of councilmen, Mayors, state, federal, state governors and the president's last four years, the senators take place for eight years. With the Republic is that women began to vote, which occurred in 1932. The illiterate and youth over 16 years, from the Constitution of 1988 that reached the right to vote in Union elections held in the states and municipalities (TSE 2010).

It is important to note, for purposes of this study, that municipal elections are always held two years after the federal election for the choice of Mayors and councilors. Mayor, Vice Mayor and Aldermen are elected, according to Brazilian legislation, the first Sunday of October in the year prior to termination of employment of those who are to succeed, apply the rules of Article 77, Constitution of 1988. In the case of municipalities with more than two hundred thousand voters, the possession of the agents will be elected on the first day of January the year following the election (Slomsky, 2008).

The three municipal elections, therefore, were performed during the years 2000, 2004 and 2008, the last year of each term, corresponding to a term of four consecutive years. In these exercises were elected people's representatives, Mayors and Municipal councillors from all over Brazil, chosen by the voters of Brazilian citizens in a democratic manner.

1.5 Empirical Evidences of International and National of the Electoral Budget Cycles (EBC)

Nordhaus (1975) was one of the first empirical works on electoral cycles, to explain the behavior of the ruler in the coming elections. The author formulated the term "political business cycle" (political cycle management). For the author, realizing the immediate effect of the economy reflected in the vote, the governor usually draws planning to increase the supply of works and services in an election year, in order to give encouragement to the popular vote. In addition, the governor is aware that the voters at the polls react positively when they see currency appreciation in an election year and reducing unemployment, although some actions and policies can yield increased for inflation in future periods. The theoretical model founded by Nordhaus (1975), also known as "opportunistic cycles," pioneered in developing a systematic approach to measuring results, based on variations identified during the elections in the United States and found that the primary goal of politicians in period election is to be re-elected. In view of Nordhaus (1975), the voter is "shortsighted" not understanding the election cycles, and "shooting has memory of past events" as it can, easily and systematically be mistaken.

Tufte (1978) developed studies on the presidential elections in the United States and recognized the possibility of cycle-election to be accepted as a result of the inefficiencies of the democratic system. For Tufte (1978), the government of a modern and democratic country has substantial control over the pace of economic life and also about the distribution of economic benefits borne by society. His approach focuses on the influence that government exercises over the instruments of fiscal policy, which are commonly used in elections.

Tufte (1978) is the close relationship that exists between election periods and economic development, making a comprehensive analysis and reflection on how the characteristics of the routine of political life and beliefs of political actors on the electorate, on the timing of elections , ideologies and control platforms of political parties on

government are significant determinants of almost all important aspects of macroeconomic policy and performance in several countries, especially in democratic economies.

In turn, the Italian school of public finances discussed since the last century, some tools used historically to manipulate citizens, perceived from the analysis of the performance of governments (Puviani, 1987). This research has revealed a dichotomy of revenues and expenses that allows governments to create fiscal illusion, by increasing or decreasing public works and services.

Blais and Nadeau (1992) show, analysing ten Canadian provinces, the total expenditure (1% in relative terms) as the deficits are slightly enhanced in an election year. Their results show that extra costs are absorbed by future deficits bigger, and therefore without the need for tax increases. In line with this study, in 1998, Reid finds strong support for the EBC in a sample, too, 10 Canadian provinces. This author inferred that the elections have a positive impact on the annual growth in transfers to individuals, companies and capital formation.

Agria (1994) find evidence in Portugal in the period between 1973 and 1992, public investment in construction was an instrument of political pressure on citizens, politicians used when the machine is public administration to try to perpetuate themselves in power. Through econometric tests for panel data, ascertained that the investment public housing in that period, suffered overheating in pre-election, followed by reverse at a later stage. Galli and Rossi (2002) in a sample of German states, the evidence found by analyzing EBC total spending, which were lower in non-election years. Simultaneously, the deficit was higher in election years.

Gautier (2003) concluded, through research with the government of Puerto Rico, the public managers try to manipulate the instruments of fiscal and monetary policy in order to get re-elected and stay in office. This approach has two important characteristics: (i) voters are used to maximize their individual utilities, and (ii) the manager assumes the implementation of public policies that will allow the maintenance in power. The manager encourages the economy to get the maximum number of votes, and this stimulation, in turn, makes the debt reach a long-run equilibrium.

Binet and Pentecost (2004) spawned research on the behavior of public managers in France. They found that local taxes have decreased significantly in the two-year election period, or in the election year and the year before. There was also an increase in capital spending and the amount of loans per capita in the pre-election year. Thus, their conclusion was that the French authorities have boosted public spending by increasing the debt, how to improve its popularity to the public, before the elections.

In the theory of EBC also add to fans researchers as Ashworth et al (2005) that in New Zealand, found in a sample of municipalities, strong evidence of political variables affecting the public debt, with the major changes on the eve of elections, as well as the consequent reduction, completed after election candidates and invested in their positions. Ashworth et al (2005) analyzed the effects of the political process on the evolution of debt in local Flemish municipalities for the period 1977 to 2000. We used panel data that allowed the researchers an evaluation of short and long term, about the evolution of municipal debt and its direct relationship with the political fragmentation of government.

Lago and Lago (2008) focus on a sample of Spanish municipalities, on the base period 1985-1995, which was set in the existence of frequent rise in public deficits, which tend to increase in years of local elections. This phenomenon usually occurs when the ruling party is unique and the municipalities are small. Through econometric analysis of the data, these researchers found a positive relationship between flexibility in budget execution, budget deficits and political factors emerging in the election year.

Batisda, Beyaert and Benito (2009) in his analysis, describing the municipal electoral system, which follows the model of proportional representation. In a simplistic assessment, the political-administrative system of the Spanish municipalities is similar to Brazil. In 2001, a budget law stabilizing the "Budgetary Stability Law", imposed limits on deficits of Spanish municipalities. In practice, this law has restricted increases of debt, keeping similarity with Complementary Law No. 101/2000 Brazilian Law of Fiscal Responsibility. These authors examined the public debt on a sample of 238 Spanish municipalities for the period 1992-2005. EBC The phenomenon was confirmed in this study because the use was detected, strategically, with the purpose of election budgets.

In Brazil, researchers reported evidence of EBC in different periods of time, samples varied and methodological diversity.

Fialho (1997) made his contribution to literature, when faced with an analysis of the period 1953 to 1995, with completion highlighted the occurrence of elections directly affect Gross Domestic Product and real money supply, without, however, influence significant in the unemployment rate and inflation.

Under the use of a statistical model with fixed effects, Botelho (2002) identified strong variation, the larger the

debt recorded in public statements, in their elections. In their study, noting the use of Politics in a position to enable the individual approval ratings, have found ways to deceive the voters and thus increase the chances of re-election.

Araújo Jr. et al (2002) found slightly jarring to the ideology of EBC for municipalities of Minas Gerais and concluded, based on the results of 2000, municipal election year in Brazil, which encourages the re-election fiscal behavior more responsible for municipal governments, except those recently emancipated. The politician stressed that realizing clear chances for re-election does not contract debts excessive as they need to rebalance them later, but in return, not being a candidate or no chance of being reelected, will tend to influence the action of his successor raising the level of debt public.

Meneguin et al (2003) developed econometric study, which examined the fiscal data for variables with the fact that the Mayor or may not be the same party as the governor and president. The results of this survey indicated that the higher the chances for re-election, will be more controlled spending of local governments. This behavior becomes even stronger as the public expenditure per capita increases. When it discriminates between costs and investment spending, it appears that the voter condemns the first and the last awards, confirming its premise that public works appeal to the electorate. On the revenue side, the voter favors the ruler who can afford the municipality, especially those who are not obtained through tax policy.

Klein (2009) studied whether Mayors who adhere to the Electoral Cycles, are more likely to re-election. The author used the logit regression to assess whether the mayors of the 5,519 Brazilian municipalities increased spending during the municipal election. The result showed that in the period 2000 to 2004, re-elected mayors spend 3% more that are not reelected, and in addition, the mayors who increase their spending during election years, automatically increase your chances of re-election.

These are, therefore, indicative of the different influence on the part of election cycles in the daily life of citizens, and that demands more and multidisciplinary scientific research, so you can see the extent that businesses can achieve partisan political in times of elections.

2. Method

The methodological procedures for this research are differentiated typology of the research constructs and operational definitions, and sample population, data collection instruments and econometric model analysis.

2.1 Typology of Research

According to Cooper and Schindler (2003) this research is exploratory and empirical approach is qualitative and quantitative. Once established the fundamental issue in addressing the goals involves precise procedures and specification of data sources. The doctrine developed by Rauen (2006), extracts that this approach can be said by phenomenological, in view of the evidence search and variable determinants of the phenomenon Electoral Budget Cycles (EBC). The "phenomenological research is concerned with the description of phenomena, as they are experienced by a consciousness, in order to search for the essence" (Rauen, 2006: 49).

Thus, research is also descriptive ex post facto, longitudinal, secondary source data, which are based on gathering accounting data of public debt and revenue of all local municipalities in the state. The ex post facto studies occur when researchers have no control over the variables in the sense that they can manipulate them and longitudinal studies are done "over a period" of time (Cooper & Schindler, 2003). On the other hand, is identified as the source of secondary data, behold, the operation is performed directly on the Internet.

The focus of this study are 399 municipalities in the Brazilian state of Parana. This state has a population of about 10,266,737 inhabitants, being the fifth participation in the Brazilian GNP (IBGE, 2010). These signals cause the number of municipalities in Paraná deserves special attention, given its economic importance in national and international context.

The phenomenon Electoral Budget Cycles (EBC) is analyzed from the established hypothesis for assessment, which follows from the general objective of the research, The research hypotheses are:

H0, null hypothesis or from the collation of all the political variables, and financial profile, the EBC NO contributes to the re-election of the Mayor, elected in the elections of 2004 and 2008.

H1 alternative hypothesis or from the collation of all the political variables, accounting and profile, the EBC CONTRIBUTES for re-election of the Mayor, elected in the elections of 2004 and 2008.

The research hypotheses aim from political variables, profile and accounting related to the variables determining the presence of the EBC, to ascertain the likelihood of these contribute to the re-election of the Mayor.

2.2 Construct and Variables

The EBC comprises the influence of the phenomenon of electoral cycles in the execution of the budget. Also compose this framework, it identifies three groups of variables: the politics, the profile and the accounting variables.

Among the political variables, we highlight the party's environment manager, who may or may not belong to the party of the President or the Governor and their alliances, and also the outcome of the election victory that can be locally or not.

The accounting variables are divided into two groups: the total public debt or debt of the municipality "x" in year "y" and revenue of the municipality's total agreement "x" in year "y". The accounting variables are indicated by values recorded in public statements. Figure 1, lists, carefully, construct, group variable and variable, as well as its encoding used in the study, calculations for qualitative and quantitative econometric modeling probit regression. Each assignment is aimed to clarify the purpose of use according to the specific encoding used.

Groups of Variables		Encoding for Econometric Analysis
Policies	Partisan framework: binding of the Mayor with the party of the President or coalitions	0 = not bound to the party of the President
		1 = bound to the party's coalitions of the President
		2 = bound to the party of the President
	Partisan framework: binding of the Mayor with the party of the Governor or coalitions	0 = not bound to the party of the Governor
		1 = bound to the party's coalitions of the Governor
		2 = bound to the party of the Governor
	Results of elections	0 = without victory in the election at the local level
		1 = victory in the election at the local level
Of Profile	Geographic Region	1 = Metropolitan Region of Curitiba
		2 = North Central
		3 = West
		4 = Northwest
		5 = Center East
		6 = South-west
		7 = Northern Pioneer
		8 = South Central
		9 = Southeast
		10 = West-Central
Of accounting	Public Debt	amounts recorded in national currency
	Income from Covenants	amounts recorded in national currency

Figure 1. Groups of variables and coding for econometric analysis

Source: the authors

In Figure 1, groups of variables are defined in policies, and financial profile. The political variables are represented by the frame manager and supporter of the election results. The profile variables are characterized by the group of counties by population and geographic region. The accounting variables are described as total public debt and revenue agreements.

2.3 Population and Sample

In this study we developed an analysis of the 399 municipalities of the State of Parana, here called the research population. Cooper and Schindler (2003, p.150) the population "is the complete set of elements on which we want to make some inferences." Therefore, it is not necessary to apply sampling techniques, since the survey was to gather financial and economic data of the entire population.

Paraná, one of the 26 states of the Brazilian federation, is located in a strategic region in the south, bordered to the north, with the largest economy, the Brazilian state of São Paulo, south, lies the neighboring state of Santa Catarina the northwestern borders with the state of Mato Grosso do Sul, Paraguay to the west, the southwest by Argentina and east by the Atlantic Ocean. The territory covers a total area of 199,554 km2, which corresponds to 2.35% of Brazilian territory (Paraná, 2010).

2.4 Instruments for Research and Data Collection

Subject to the need to use secondary source data, since this is information contained in public statements and their respective attachments, it should establish ways of searching for reliable information, arising directly from reports published by federal entities. Several control organs, such as the National Treasury Secretariat (STN) and the Courts of Audit and the State systematically provide reports and worksheets designed to encourage the control of public spending by the company.

In this sense, the main e-mail addresses on the Internet, consulted for purposes of data collection were as follows:

1) Institute of Geography and Statistics (IBGE): www.ibge.gov.br;

2) The National Treasury Secretaria (STN): www.tesouro.fazenda.gov.br;

3) Superior Electoral Court (TSE): www.tse.gov.br;

4) Presidential Palace: www.planalto.gov.br.

It is noteworthy that the website of the National Treasury, and of social economic information, available via the electronic Finance of Brazil (FINBRA) contains accounting data for all municipalities with annual analytical reports, which can be converted into spreadsheets. This tool represents an additional tool to fulfill the principle of transparency and publicity of public acts and facts, this requirement contained in Article 48 of the Law of Fiscal Responsibility.

2.5 Econometric Analysis Model

The empirical strategy of this research is shaped from two evaluation models: an approach in the qualitative and descriptive analysis of data and another with a quantitative approach and econometric models like probit regression, calculated in the statistical system in Statistical Data Analysis Software (STATA ®).

Regarding the quantitative analysis we need to adopt an econometric model to determine the intensity and direction of the effect of each variable. According to a regression function and assuming linear relationships between variables:

$$Y = \alpha + \beta X + \varepsilon \qquad (1)$$

In the equation, the dependent variable Y is binary and assumes zero values for cases in which the mayor / governor was not reelected in the municipality and values equal to one for those cases where the mayor / governor was re-elected.

$$Y = 1 \text{ if the Mayor / governor was reelected;}$$

$$Y = 0 \text{ otherwise.}$$

The parameters α and β are estimated, X is the vector of explanatory variables (debt, Governor same party of the mayor / president, etc.) and ε is a random error term with normal distribution, zero mean and constant variance. For this we adopted qualitative choice models like probit, since it shows the appropriate feature of the variable re-election. The method allows to estimate the probability of re-election or not a candidate by voters in Parana, however, the likelihood is not observed but, if the candidate was elected or not.

So, are expressed in the re-election chances of success:

$$\Pr(y_i = 1 \mid x) = \Phi (x_i^{'} \beta) = \int_{-\infty}^{x^{'}\beta} \phi (z) \qquad (2)$$

and failure to re-election:

$$\Pr(y_i = 0 \mid x) = 1 - \int_{-\infty}^{x^{'}\beta} \phi (z) \qquad (3)$$

Where: $\Phi(.)$ here is derived:

$$\Phi(z) = \left(\frac{1}{\sqrt{2\pi}}\right) \exp\left(\frac{-z^2}{2}\right) \tag{4}$$

This is the standard normal density function. The parameters β are estimated through the maximum likelihood method (Cameron & Trivedi, 2005).

Thus, from the function *log-likelihood*

$$L_N(\beta) = \sum_{i=1}^{N} \left[y_i \ln F(x_i'\beta) + (1-y_i)\ln(1-F(x_i'\beta)) \right] \tag{5}$$

and differentiating it with respect to β, have the maximum likelihood estimator is solved as follows equation:

$$\sum_{i=1}^{N} \left[\frac{y_i}{F_i} F_i' x_i - \frac{1-y_i}{1-F_i} F_i' x_i \right] = 0 \tag{6}$$

The interpretation of the coefficients takes into account the marginal effect, that is:

$$\frac{\partial E[y \mid x]}{\partial x} = \phi(x'\beta)\beta \tag{7}$$

Where the term represents the impact of the variable x on the probability of re-election of the mayor with all else constant. The sign of the derivative indicates the direction of the effect, that is, if so, the variable has a positive impact on the probability of re-election and, if negative, indicates that this variable reduces the probability of re-election.

Put these controls, it is estimated that the probability of re-election of the mayor, through the comparison of the results (1) to the mayor and reelected (0) to the mayor is not elected, and this result is affected by binding party of the mayor, the characteristics of the municipalities, either, population, geographic region, as well as in terms of their tolerance of debt, the receipt of revenue of agreements by the Union and the State. It is likely that some of these variables influence the probability of re-election while population size and region are included as controls.

3. Results

The results of the research aimed to analyze the possible contribution of key elements of the phenomenon EBC and the re-election of Mayor, by means of probit regression of the econometric model.

From various econometric tests, we chose to evaluate the municipal elections in the probit regression model. It happens that during election periods, there is a possible equivalence of reciprocity between the political parties Mayors and Heads of state and federal executive branch. This observation can evidence the existence of negative effect of the coincidence between the mayor and the party president or governor, to reveal a sort of "pact of fiscal adjustment" between levels of government.

In order to capture what the effects in terms of probability that each variable would have on the re-election of Mayor, the assessment led to the computation, so concomitant variables accounting for revenues and public debt covenants, the profile variables (population and distribution of municipalities by geographic region) and political variables (partisan election year, and linking the manager). The survey aimed to examine the election years 2004 and 2008, disregarding the information on the elections in the Union and the States, in the year 2006.

Table 1. Probit– Marginal effect on the average impact of political variables on the probability of re-election of Mayor - election year 2004

Variables	dy/dx	standard error	*p* value	average value
Public debt	2.140E-10	0.000	0.390	8.20E+06
Revenue Agreements with the State	-2.60E-08	0.000	-0.780	4015.15
Linked to the President's party	0.251	0.184	1.370	0.020725
Linked to the party of the Governor	0.139	0.055	2.510	0.202073
Ln population	-0.016	0.021	-0.770	9.27582

Source: elaborated from data FINBRA STN (2010), calculated using STATA® statistical system.

From the results in Table 1, it is observed that some variables did not show signs whose effects would suffer the framework to the phenomenon Electoral Budget Cycle (EBC). This time, the increase in total public debt, although it increases the probability of re-election of the mayor, is not statistically significant when other variables involved. Agreements for revenue coming from the States, the sign was negative, that is, contrary to the possibility of influencing the re-election of the mayor. Therefore, this also was not statistically significant. Thus, we need not mention the adoption of the alternative hypotesis further, but instead remains confirmed the hypotesis H0.

As for the linking party, the marginal effect coming from the probit regression showed that the mayors who are of the same party of the president or governor increased by 25.1% and 13.9%, respectively, have greater chances of re-election in the election next ie, these variables effectively contribute to the re-election of its manager, which culminates in the adoption of the alternative hypothesis H1. Thus, such inferences are evidence that strategic administrations occurred at a higher level may represent political potential to be tapped by the mayor, because it increases the probability of re-election.

It might be expected that in counties whose populations will be larger, there is a lower probability of re-election of the mayor because of a greater difficulty in maintaining the status quo by the local elite. However, the sign of the variable was negative, while the statistics did not result statistically significant.

To better use of the model is designed to evaluate the variable geographic region in order to understand the marginal effect, which culminated in the results of Table 2, which, even in a short, remodeled the result in Table 1, keeping, however, a conclusive diagnosis.

Table 2. Probit - Marginal effect on the average impact of accounting variables, and regional party on the probability of re-election of Mayor - election year 2004

Variables	dy/dx	standard error	*p* value	average value
Public debt	0.000	0.000	0.670	8300000.00
Revenue Agreements with the State	0.000	0.000	0.528	269825.00
Linked to the President's party	0.235	0.181	0.194	0.02
Linked to the party of the Governor	0.142	0.056	0.011	0.20
Ln population	-0.009	0.023	0.701	9.28
Region 1	0.106	0.153	0.490	0.09
Region 2	0.235	0.144	0.103	0.20
Region 3	0.158	0.148	0.283	0.12
Region 4	0.086	0.133	0.520	0.15
Region 5	0.018	0.175	0.918	0.04
Region 6	0.209	0.164	0.202	0.09
Region 7	0.122	0.144	0.397	0.12
Region 8	0.089	0.153	0.560	0.07
Region 10	0.024	0.145	0.867	0.06

Source: elaborated from data FINBRA STN (2010), calculated using STATA® statistical system.

Upon examination of Table 2 shows that most variables do not present positive and not statistically significant, except for the variable referring to the same party of the governor, despite the results of the variables related to linked with the party's President and with the Governor. From the regional aspect, the inclusion of dummies affects the probability of re-election of those mayors who are in region 2, behold, the statistic (p value) is 10.3%.The region 2, North Central, has higher than the national HDI index, being the second most populous and competitive state. Its economy is geared to agricultural export industry, which remained as one of the most competitive in the state.

The explanatory variable in this result was attributed to the region 9, defined by the STATA ® statistical system.

For other regions, although the sign of the coefficients is positive, however, none of the statistical results of p can be understood as significant. This assessment shows that these regions the mayor does not have a higher likelihood of re-election to the region 9, used as a parameter guiding the analysis.

Region 9, Southeast, is the least urbanized of Paraná and the lowest contribution to the state's economy, with 46% of its population still living in rural area. It also has one of the highest poverty rates in the state (over 30%), and HDI below the national rate. The economy of the region focuses the exploration of yerba mate, wood and clay.

Facing to the evaluation result of municipal data for fiscal year 2008 (Table 3) were again incorporated into the calculation, the variable geographic region to identify whether it can influence the outcome of the Mayor's re-election.

Table 3. Probit – Marginal effect on the average impact of fiscal variables, and regional party on the probability of re-election of the mayor in 2008

Variables	dy/dx	standard error	p value	average value
Public debt	0.000	0.000	0.532	28000000.000
Revenue Agreements with the Union	0.00000009	0.000	0.007	1000000.000
Revenue Agreements with the State	-0.00000001	0.000	0.927	234861.000
Linked to the President's party	0.057	0.060	0.336	0.297
Linked to the party of the Governor	-0.100	0.139	0.480	0.088
Region 1	-0.127	0.123	0.313	0.199
Region 2	-0.131	0.129	0.324	0.130
Region 3	-0.048	0.130	0.715	0.154
Region 4	0.400	0.116	0.020	0.037
Region 5	-0.077	0.140	0.587	0.095
Region 6	-0.061	0.135	0.653	0.106
Region 7	-0.170	0.134	0.234	0.074
Region 8	0.061	0.153	0.692	0.061
Region 10	-0.056	0.040	0.162	9.316
Ln population	0.001	0.105	0.992	0.074

Source: elaborated from data FINBRA STN (2010), calculated using STATA® statistical system.

According to Table 3, most variables does not present the expected signs and / or are not statistically significant. Although revenues from Union governments favor, its magnitude is very low, being evidence that the impact of this variable is very marginal. The increase in debt would favor the ruling, however, the estimate is not statistically significant.
It should be noted that the same party of the president or governor, in the present analysis, there is evidence that appearance of favoritism, unlike the results observed in the 2004 elections. In this context, the voter Paraná seems to make a complete separation between the municipal elections and the variables studied, so that national context affects your little taken with regard to municipal elections.

4. Discussion

The Electoral Budget Cycle is a phenomenon that can directly affect public finances tangent elements of public financial statements sheet and budget as the total public debt and revenue distribution agreements. From these findings, there was a chance probability of re-election of the mayor who might be measured by the econometric analysis of the data, however, the results showed, for most municipalities in Paraná, little or no statistical significance, except for cases of relationship with the party president, with the party of the governor and with the population.

The study sought to further research on the subject, without being exhaustive in their contributions. The hypotheses were developed and tested according to methodology with a view to linking theoretical and empirical basis of the results of the survey. Incumbent, this time to revisit the research problem and objectives to evaluate the range of responses and the results produced by the study for at the end, recommend further research possibilities that can add to and enrich the theme.

4.1 Answer of the Problem

The research problem was summarized in the question: elements determining the presence of the Electoral Budget Cycle, such as variations in public debt, the amount of intergovernmental transfers and linkages party contribute to the re-election of public manager? In response, the evidence has been guided by the results protagonists in topic 3, this research, whose findings are summarized herein.

As for the probability of re-election of the Mayor, carried out in the probit regression, it was possible to infer how relevant the fact that the mayor belongs to the party of the president or governor that increases your chances of re-election by around 25% and 14%, respectively. Another effect that is marginally detected in counties whose population groups are larger, there is a greater probability of re-election of the manager.

In that study, there was negative effect of the coincidence between the mayor and the party president or governor, to reveal a sort of "pact of fiscal adjustment" between levels of government. Similarly, as to the likelihood of re-election, also Klein (2009) found, using logit regression, which mayors joining the EBC, are more likely to re-election.

4.2 Remarks Concluding

As proposals for future research, it is recommended to replicate the study to other federal units of Brazil. Studies would also be timely to consider the behavior of the public deficit in a general context, given the frequency of this variable in the theoretical framework, and variables related to the economic field, the behavior of prices of products on the market.

Also in conclusive terms, we must mention the externalities involved in the research. Externalities can be positive or negative. The first produce a smaller quantity than is socially desired and the second produces a larger quantity than is socially desired (Mankiw, 2007). In the public sphere, it is the duty of the manager obedience to the constitutional principles of legality, impersonality, publicity and efficiency in the basic duties of managers of public probity, accountability and efficiency in the use of public money. Such duties arise from the positive externalities to ensure the correct use of resources and achievement of social goals.

The corruption, the use of the administrative machinery of government is to their advantage for any purpose, characterize disordered pacts practice of fiscal adjustment and manipulation of the public budget resources, whether in debt or in the form and distribution of revenue. These are examples of negative externalities that contribute to financial losses that will run on its behalf.

In this sense, it is important to emphasize the incipient social knowledge about public finances, because the present study reveals the conduct of the public business, subsidized by the government machinery in favor of maintaining of job title, or even career advancement in search of a position of greater prestige. Therefore, becoming apparent for social perception about the increase in debt, the electoral failure may occur to those who act irresponsibly when in the position of managers of public resources.

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