

Abstract

This paper seeks to explore the extent to which accounting information influences voters' behaviour in the re-election of local politicians. Public-choice-based research shows that voters do not have strong (economic and political) incentives to monitor politicians based on accounting information. This lack of strong incentives may help to explain some limitations in the evolution of accrual accounting in local government. More recently, Brusca and Montesinos (2006) showed that financial reporting influences voting behaviour. The main argument is that accounting information is the power 'to reflect the results of public policies and consequently serve as a vehicle for communicating the economic effects of political management' (Brusca and Montesinos, 2006: 205).

Based on the public choice and agency theories our goal is to help clarify the extent to which accounting information is a determinant of the re-election of local politicians. That is, what are the effects of municipal accounting information on the scrutiny of Portuguese municipalities? Is the voters' behaviour influenced by municipal accounting information? Moreover, is the voters' behaviour affected by the quality of accounting information? Panel data were collected for all the population of Portuguese municipalities for the period 2005–2008. In general, the empirical results suggest that municipal accounting information, in conjunction with socioeconomic factors, may explain local electoral outcomes. Moreover, the empirical results show that different explanations exist for the dependent variable as a result of differences in the size of municipalities. We find that despite the focus on maximizing self-interest (more evident in smaller municipalities) voters incorporate accounting information into their voting decisions.

Introduction

In the last years, like other continental-European countries, the evolution of local governments in Portugal has been marked by several dimensions: (1) an increase in the delegation of competences, (2) the reform of the financing system of local governments, (3) greater autonomy of local governments and even, and (4) new ways of providing public services.

Under the new public management (NPM) model, there was an increase in the competences delegated to local governments, in the provision of public services as well as in the introduction of new management tools, where accrual accounting and an improvement in the process of accountability are some of the most important changes. Despite the dissemination of economic and financial information based on the accrual principle representing one of the major innovations in the accounting system of the Portuguese municipalities, for most of the various users, this information is considered of minor importance compared with budget information (Fernandes, 2007). According to Cañibano and Angulo (1997: 75), accounting information undergoes the achievement of the planned objectives by the decision-maker. The authors argue that the most useful kind of information is not the most elaborate and sophisticated, nor the most consistent with the theory that supports it, but the one that delivers better results by allowing more efficient decision-making for the user. On this assumption, governmental financial reporting should provide useful information for different stakeholders, like citizens/voters (Ingram and Copeland, 1981; Feroz, Feroz and Wilson, 1994; Brusca

and Montesinos, 2006). Under this assumption, the accounting information system should evolve to promote accountability and value for money.

Both the public choice theory and the agency theory set out that a politician seeks the maximization of his own welfare, which may be the maximisation of votes in order to favour his re-election or the maximization of privileges that may result from his job position (Buchanan and Tullock, 1962). So, it is expected that accounting information is used by the politician (manager) as a way of showing his performance, and by the principal (namely participants in the political process, citizens/voters, creditors and financing entities) to monitor the politician's action and to set contract clauses (Zimmerman, 1977; Maher and Keller, 1979).

However, little research has been conducted at the national and international levels about the use of accounting information by citizens/voters to monitor politicians' action during election time (Brusca and Montesino, 2006). Thus, this paper reports exploratory research that attempts to explore the extent to which accounting information influences voters' behaviour in the re-election of local politicians. We intend to contribute to the theory about the use of accounting information by citizens/voters. This paper also contributes to extending the research in local government in a country that is still considered a 'latecomer' in the implementation of NPM reforms. In general, the empirical results suggest that municipal accounting information, in conjunction with socioeconomic factors, may explain local electoral outcomes. Moreover, they show that different explanations exist for the dependent variable as a result of differences in the size of municipalities. We find that despite the focus on maximizing self-interest (more evident in smaller municipalities) voters incorporate accounting information into their voting decisions. Voters in smaller municipalities are more worried about the amount of goods and services delivered to the community and the maximization of their self-interest; however, their voting decisions are also determined by the quality of financial information and the financial performance as a whole. Voters in larger municipalities seem to be more worried about the quality of life and the fiscal policies adopted by politicians.

In order to achieve the purpose of this work we organize the paper into four separated sections. The first section presents a literature review on public and agency theories as well as the use of accounting information by voters/citizens. We also present our hypotheses in this first section. In the second section we present the research design, namely the description of the sample, the data collection and the empirical model. Following these we present the empirical results regarding the influence of accounting information on voting decisions. Descriptive statistics, correlations and empirical results are presented in this section. To finish, we present a summary of the study and the main conclusions in the fourth section.

Literature review and hypotheses

Public choice and agency theory

The *public choice* theory is a mainstream theory that has been developed during the last 50 years. Its main goal is to apply a method of economic science to one of the considered political objects, such as interest groups, political parties, the electoral process, the analysis of bureaucracy, parliamentary choice and constitutional analysis. The engagement with political activity in democratic states is not restricted to political leaders who aim to gain power. All citizens in general are invited to participate in the political career of their country. Such participation can take several forms. However, the intention is to condition the development of public policies through the control of the rulers and thus consequently to influence their decisions in favour of the satisfaction of their self-interest. Assuming that the results of the elections are influenced by the economic situation, we may consider that governments may face electoral victories as an indispensable way to carry out their economic policies.

In democratic countries, voting is the main instrument of citizens/voters to interfere in the political power of their country. The ability to influence public policy comes from the voting right. On the other hand, the voters' participation can be seen as an isolated connection between the citizens and the political system, whereas other forms of more demanding and regular involvement than voting may be more important, as advocated by the theories of democratic participation (Bachrach, 1967; Lively, 1975; Barber, 1984). Considering that the vote is supreme in democracy and voting is the activity involving the largest number of citizens, it is necessary to understand the factors that explain the level of electoral participation.

Based on the agency theory, we assume that all economic agents, whether the principal (voters) or the agent who receives the delegated powers to represent the interests of the principal (official elected), are rational agents and want to maximize their self-interest (Jensen and Meckling, 1976; Zimmerman, 1997). In the political science literature, Downs (1957, cited by Ingram and Copeland, 1981: 831) presents the follows assumptions of economic rationality in voting decisions: (1) individual voters are motivated by economic self-interest; (2) individual voters are the basic determinants of political decisions; (3) politicians are motivated by a desire to obtain and remain in power and (4) to be successful, politicians must make decisions that are perceived by a dominant coalition of voters to be in their self-interest. Thus, a voter will be likely to vote for the individual whom he believes will provide him with the 'highest utility income'.

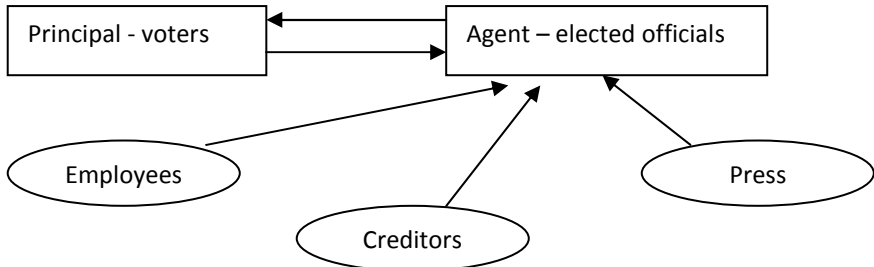
The problem of agency begins when the principal has to delegate the power to decide to another agent. If both are rational agents this will lead to a conflict of interest (Zimmerman, 1977; Ingram, 1984; Cheng, 1992; Carpenter and Feroz, 2007). Here begins the agency problem that occurs in every organizational context. That is, the agent will try to maximize his self-interest rather than the

principal's interest. It is in this context that Zimmerman (1977) states that accounting systems are the product of the rational choices made by economic agents.

In the public sector there is a conflict of interests between voters (principal) and elected officials (the actors that represent the voters' interest). Do the agents (elected officials) act according to the interests of the principal or do they first seek to work according to their own self-interest? Indeed, the interests of both parties may differ in several respects. The politician maximizes his interest in re-election, in career promotion and in his current and future income. On the other hand, the voters maximize their interests when the state produces the goods and services that meet their needs. However, another problem arises here because voters are a heterogeneous class with divergent interests. This means that government actions will satisfy the needs of the society in different ways. For example, the holders of properties and high incomes pay more attention to the evolution of the tax burden; moreover, individuals with lower social status who are more dependent on the delivered goods and services claim essentially the quality and quantity of goods and services, at low or without costs.

However, there are other economic agents who can control the government actions and whether it acts in order to maximize the individuals' interests. An intermediary who can act between politicians and voters is an economic agent with whom the government establishes a contract or a partnership to deliver services and products. This is the result of the NPM model that spurred the creation of public-private partnerships and the outsourcing of goods and services. The monitorization of agent performance implies that it leads to so-called agency costs that are expected to diminish with better information systems. Figure 1 illustrates the application of the agency theory to the public sector, highlighting the different agents involved in the process.

Figure 1: The agency theory in public sector



Source: Adapted from Zimmerman (1977).

In sum, based on assumptions of economic rationality, voters' behaviour will be influenced by their self-interest and their desire to increase their 'utility income'. Thus, we will test the following hypothesis:

H₁: The re-election is dependent upon decisions that are perceived by voters to be in their self-interest

Citizens/voters as users of accounting information

For a number of years citizens/voters have been identified by the American Accounting Association as potential consumers of accounting information (AAA, 1977). According to Zimmerman (1977), citizens/voters must be seen as major users of accounting information, although there are few incentives for voters to use this kind of information. In the same line, Brusca and Montesinos (2006) state that citizens are especially relevant to government financial reporting. Taking into account that citizens cannot decide on tax policies and the amount of services to be provided with the public resources available, the accountability process gains special interest for this group of stakeholders. This is why the Association of Chartered Certified Accountants (ACCA) defends the form and content of municipal accounting information considering the particular needs of citizens/voters (Brusca and Montesinos, 2006). A more complex issue is knowing what kind of information is needed by citizens/voters (Zimmerman, 1997).

The NPM reforms assisted in the development of a new accounting information system that will be likely to improve accountability. As was stated by Watkins and Arrington (2003), accounting holds extraordinary power in modern societies, especially in the public sector where the 'old-style bureaucrats is replaced by executives subject to the accounting measures' (Watkins and Arrington, 2003: 34). Based on the new public management model, managers are accountable for the obtained achievements. Moreover, given the need to increase transparency and promote value for money, public sector organizations have been pressured to improve their accountability process (Olson et al., 2001; Robinson, 2003).

The enlargement of the accountability process arises in the context of the demand for more information about management and politicians' actions by several stakeholders. This is an essential feature of democratic societies (Bovens, 2005). Public accountability represents the 'governance seal of modern democracy' (Bovens, 2005: 182) consisting of the ability to respond to different stakeholders for actions, omissions, policy decisions and achieved outcomes. Bovens (2005) refers to public accountability as a complementary institution to public administration, which evolved in the context of NPM reforms.

The need to make both managers and politicians accountable for their actions and achieved outcomes leads to governmental financial reporting becoming an important management tool. Governmental financial reporting should provide information to assist users in assessing accountability and making economic, social and political decisions (Brusca and Montesinos, 2006). The literature refers to accountability as being the paramount objective of governmental financial reporting (Olson et al., 2001; Brusca and Montesinos, 2006; Reginato, 2008), which represents the great relevance of accountability to public sector organizations. In the opinion of Brusca and

Montesinos (2006: 205), financial reporting should be a useful tool for: (1) fulfilling the government's duty to be publicly accountable and should enable users to assess that accountability; (2) assisting users in evaluating the operating results of the government body for the year; (3) helping users in assessing the level of services that can be provided by the government body and its ability to meet its obligations.

Some empirical research developed in the last 30 years shows that citizens tend to show little interest in accounting information in voting decisions, which leads to a symbolic adoption based on the objective to obtain legitimacy and external support. Moreover, Zimmerman (1977) argues that the current form of municipal accounting systems is influenced by the voters' interest in this kind of information. Zimmerman finds that voters have few incentives to use accounting information to monitor political actions and hence they engage in less monitoring of these actions. So, there is little demand for useful accounting information, which can justify the small advances in accounting procedures. Adjustments and improvements in accounting information are highly costly but there is little incentive to support this cost if little use is made of this information for monitoring political action.

Besides these less motivating results, in this paper we argue that accounting information reflects the economic consequences of political choices and we assume that part of this information is considered by voters in the election process. Henceforth, the research developed by the GASB (2002) confirms that a specific use of performance information by citizens/voters is in the voting decision. A strong association between accounting information and election outcomes means that accounting information systems are willing to capture politicians' actions, which are incorporated by constituents into voting decisions (Ingram and Copeland, 1981). Moreover, Feroz and Wilson (1994) add that 'the greater the amount of information generated, the higher the probability that voters will impound this information in the voting decision'.¹ For them, there will be a relationship between the electoral outcomes and the accounting numbers available to voters preceding the elections. So, if municipal financial reporting is publicly available and if accounting numbers play an important role in the monitorization of political actions, we argue that voters are likely to incorporate this information into their voting decisions. Although several developed pieces of research about the economic rationality in voting behaviour (see for example Downs, 1957; Krammer, 1971), little attention has been paid to the influence of accounting information. Thus, we will test whether:

H₂: Voters' behaviour is influenced by the quality of municipal financial reporting

H₃: Voters' behaviour is influenced by municipal financial situation reported by accounting measures

¹ In the case of Portugal, the great majority of municipalities publish financial report on their websites. On the other hand, each year (since 2005) an Annual Financial Report about the economic-financial situation of Portuguese municipalities is published which constitutes an important vehicle for communicating municipalities financial performance.

In sum, despite the underlying assumptions of economic rationality that voting decisions are mainly determined by self-interest maximization, we assume in this paper that citizens/users are now more willing to incorporate accounting information into their voting decision, which means that the quality of municipal financial reporting can be a determinant of the voting behaviour as well as the economic and financial situation.

Research design

Sample

We present exploratory research that seeks to explore the role of municipal financial reporting in voting decisions based on the assumption that citizens/voters are important users of accounting information. Our goal is not to develop a complete model of voting behaviour but rather to contribute to the knowledge about the influence of municipal accounting information on election outcomes. Moreover, we complement this analysis with other political and socioeconomic factors that we intend to act as a filter in the process of the use of accounting information by voters during elections.

Based on the content analysis method, we collect data from financial reports delivered by the population of Portuguese municipalities. There are 308 municipalities in Portugal categorized into 3 dimensions: 180 municipalities with a population of fewer than 20,000 inhabitants, 105 medium municipalities with a population between 20,000 and 100,000 inhabitants and 23 large municipalities with a population higher than 100,000 inhabitants.

As we can see by examining Table 1, almost 50% of the population is concentrated in the 23 large municipalities (we must point out that these municipalities are located in the most coastal part of the country). On the other hand, the 180 small municipalities (more than 50% of the total municipalities) have only 1,654,965 inhabitants, representing about 15% of the total population. So, we see great heterogeneity within the municipalities in terms of population. We also see some heterogeneity regarding the number of full-time employees (FTE). Note that larger and medium municipalities employ about 75% of the total local employment.

In 2008 the total budget was about 8.0826 billion euros, it being worthy of mention that the 23 larger municipalities had about 34% of this total amount (2.7337 billion euros), against 42% and 24% for medium and smaller municipalities, respectively. Moreover, the highest amounts of debts are also within larger municipalities; in effect about 40% of the national debts (a total of 7.1243 billion euros) are concentrated in larger municipalities.

Table 1: Sample characterization

		Large	Medium	Small	Total
SIZE	N	23	105	180	308

	Population	4.447.413	4.524.872	1.654.965	10.627.250
	Full time employees	40.269	42.709	28.097	111.075
Financial Independence	Superior than 50%	20	41	13	74
	Between 20% and 50%	3	63	77	143
	Less than 20%	0	1	90	91
BUDGET	Budget (million)	2.733,7	3.386,6	1.962,3	8.082,6
	Self-income (%)	71%	49%	27%	51%
	From State Budget(%)	8%	28%	82%	34%
FINANCIAL	Debts to receive (million)	528,7	383,5	161,3	1.073,5
	Bank loans (million)	1.631,2	1.526,5	844,7	4.002,4
	Debts (million)	2.891,0	2.764,6	1.468,6	7.124,3

The degree of financial independence of municipalities is measured by the ratio that relates the own revenue to the total revenues. It is considered that there will be financial independence if the own revenues represent at least 50% of the total revenues. So, for the 308 municipalities in Portugal it can be concluded that the size of the municipalities is crucial in this analysis. In effect it is in the larger municipalities that there are more own revenues, mostly from local taxes, such as the municipal property tax, tax on transactions, etc. On the other hand, due to the lack of economic activity in the small municipalities, these have greater dependence on transfers from the state budget.

Data collection

Since the municipal accounting reforms in 1999 new accounting and budgeting innovations have been introduced into Portuguese municipalities as a way to provide managers with useful information for decision-making. In this paper we seek to help clarify the role of accounting and budgeting information in voting decisions; we explore the extent to which voters pay attention to financial performance in their voting decision. The empirical study was developed for the entire population of Portuguese municipalities (308 municipalities).

We collected data from the publicly available financial annual reports of Portuguese municipalities for the time period between 2005 and 2008 (a four-year election cycle). A database was built including indicators about the financial–economic performance of the 308 municipalities,² such as the operating income per capita, liabilities per capita, net debt per capita, decrease in short-term debts, liquidity, decrease in finance liabilities, weight of personnel costs in operating costs, average payment period, etc. Based on a range of 15 indicators (see appendix 1), a ranking was computed that measures the financial–economic performance of Portuguese municipalities.

Based on these 15 indicators, a global ranking was established for each of the 308 municipalities that measures its global economic and financial situation during this time period. The annual financial

² Data base available on the NEAPP (Centre for Research on Public Policy and Administration) and CICF (Centre for Research on Accounting and Taxation).

reports for each fiscal year provide data for this work. The descriptive statistics are presented in the next section.

In addition to information about the municipalities' financial situation, we also collect data measuring the quality of financial reporting. Based on content analysis of the municipal financial report the quality of financial reporting was evaluated for the period from 2005 to 2008. One index was computed that measures the quality and conformity of municipal financial reporting according to the generally accepted accounting principles defined in the Portuguese local government accounting system. The ranking results from a total of 19 parameters analysed, like the accomplishment of accounting and budgeting practices (such as accrual accounting, procedures regarding expenditure and revenue execution, and the reporting of financial statements), the reporting of information reflecting the economic consequences of political choices (like fiscal choices, debts, expenditure by output, etc.) and other useful information to help managers and users in the decision-making process.

Data related to socioeconomic factors, like the population distribution, attractiveness, water consumption, fiscal burden, investments, employment rate and education, were obtained from the Sales Index database available from the Centre for Research on Accounting and Taxation.

Empirical model and variables

Based on the (dynamic) panel method for the period between 2005 and 2008 we will try to explain whether voters consider accounting information in their voting decision (considering the most recent elections that occurred in 2009). Thus, we develop an empirical model based on the following equation:

$$REEP_{i,t} = \beta_1 X1_{i,t} + \beta_2 X2_{i,t} + \beta_3 X3_{i,t} + \dots + \beta_n X_n + u_{i,t}, \text{ for all } i = 1, \dots, 308 \text{ and } t = 2005, \dots, 2008, \text{ where:}$$

- REEP_{i,t} – re-election of politicians in power for the most recent elections;
- i – observation for each municipality in the sample;
- t – observation for each year;
- β₁ ... β_n – estimated coefficients;
- X₁ ... X_n – Independent variables;
- u_{i,t} – error term.

Our dependent variable is the re-election of local politicians (REEP). REEP was computed based on the results of the most recent local elections that took place in 2009.³ REEP is a dummy variable that assumes the value of 1 if the mayor in power has been re-elected in the most recent elections (2009), and 0 if not. To test our hypotheses we incorporate into the model a range of variables that consider accounting information, socioeconomic factors and political variables, which we present in the following.

Table 2: Description of all the explanatory variables

Variable	Description
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³ Data available from the National Board for Portuguese Municipalities (www.anmp.pt).

Accounting and financial variable	Financial Reporting Quality Index	FRQI	Index that measure the quality and conformity of municipal financial reporting according the general accepted accounting principles defined in the Portuguese local government accounting system.
	Position in the Global Ranking	PGRANK	Index computed based on the 15 indicators presented in appendix 1. It measures the economic-financial situation of Portuguese municipalities. An increase of one unit in the position means degradation on the financial performance.
	Position in the operational incomes per capita ranking	POIPCR	Index positioning each municipality taking into account the obtained operational incomes per capita. Municipalities which are more closed from the first position have higher operating income per capita.
	Position in the ratio of personnel costs in the total operating costs	PRPCOC	Index that measures the weight of personnel costs in the operational cost structure. The lower the ratio the better is the municipality position (more closed from 1).
	Position in the ranking of executed revenues/executed expenditures	PEREER	Index that measures the execution level of revenues in relation to executed expenditures. Higher ranking means a better financial position (more closed from 1).
	Local Investment Index	LII	Index computed taking into account investment policies and expenditures with housing, education, culture, infrastructures, buildings, transport, equipment, etc. (per thousand).
	Fiscal/tax Burden index	TBI	Index computed taking into fiscal policies adopted by the mayor. It considers the total amount of tax revenues (self-income and transfers from the state).
Socioeconomic factors	Population Distribution Index	PDI	Index that indicates the degree of population distribution (per thousand inhabitants).
	Attractiveness Index	AI	This index results from the ratio between population and area (in percentage). A positive index indicates that the municipality has the capacity to attract population (the opposite if it is negative).
	Water consumption Index	WCI	Index that measure the total water consumption.
	Unemployment rate	UR	Measure the unemployment rate of each municipality for the 2008 year.
Control variables	Index of Education	IE	This index enclose a range of indicators concerned education like nº of students, nº of teachers, nº of teaching establishments, etc.
	Years in the power until the end of 2008	EXPERIENCE	Measures the years' number of the mayor in power in the election time. With this variable we intend to test if the experience allows the mayor to gain competitive advantages in the electoral context.
	Political colour of the elected politician	PCOLOUR	This is a dummy variable that assume the value 1 if the winner is from the right regime and 0 if the winner is from the left regime.

Note: Beyond the global ranking, we also incorporate in the model some individual accounting measures for a clear picture about the influence of accounting information in the election outcomes like POIPCR, PRPCOC and PEREER.

Empirical results

Descriptive statistics

Table 3 presents descriptive statistics for all the variables. On average, about 72% of local politicians were re-elected in the 2009 elections (79% for larger municipalities and 67% for smaller municipalities). Regarding the quality of the financial reporting (FRQI), we see that, on average, about 44% of the total parameters were accomplished by the full sample; however, larger municipalities present a greater index (49%) in comparison with smaller municipalities (41%). This means that larger municipalities pay more attention to the quality of financial reporting. Moreover, larger municipalities evidence a better global financial position (143.7) in comparison with smaller municipalities (161.48).

Table 3: Descriptive statistics for all the variables, by size

Variables	Full sample				> 20,000 inhabitants		< 20,000 inhabitants	
	N	Mean	Std. Dev.	Min/Max	N	Mean	N	Mean
REEP	1232	.72	.45	0/1	508	.79	724	.67
Accounting information								
FRQI	1232	.44	.22	0/1	508	.49	724	.41
PGRANK	1229	154.12	88.73	1/308	508	143.70	724	161.48
POIPCR	1230	154.12	88.80	1/308	508	161.19	724	149.36
PRPCOC	1230	154.12	88.80	1/308	508	141.56	724	163.18
PEREER	1228	154.00	88.66	1/308	508	164.12	724	146.86
LII	1112	3.60	5.34	.18/89	476	6.02	636	1.78
TBI	1112	3.60	12.54	.05/196	476	7.73	636	.51
Socio-economic Indexes								
PDI	1112	3.60	5.72	.17/54	476	7.11	636	.97
AI	1102	174.50	760	-95/6609	476	479.7	636	-53.96
WCI	1112	3.60	8.19	.18/110	476	6.80	636	1.21
UR	1112	.11	.04	0.04/.26	476	.11	636	.11
IE	1112	3.60	7.79	.19/106	476	6.68	636	1.29
Control variables								
EXPERIENCE	1232	13.18	9.37	0/32	508	12.94	724	13.36
PCOLOUR	1232	.45	.50	0/1	508	.47	724	.44

Thus, in general, municipalities with a population greater than 20,000 inhabitants evidence a better global financial performance than municipalities with a population of fewer than 20,000 inhabitants. This is also true for PRPCOC (the ratio of personnel costs to the total operating costs), which means that larger municipalities have lower personnel costs in the total operating costs in comparison with smaller municipalities (141.56 and 163.18 for larger and smaller municipalities, respectively). So, we see that municipalities can be important local employers, especially in smaller municipalities. However, concerning other accounting measures, like POIPCR and PEREER, we see that smaller municipalities have a greater capacity to improve their performance than larger municipalities. This means that municipalities with a population of fewer than 20,000 inhabitants have higher operational incomes per capita and show a better ratio of executed revenues/executed expenditures.

On the other hand, as expected, we see that local investments are greater in larger municipalities (6.02) in comparison with smaller municipalities (1.78). Consequently, fiscal policies should accompany the greater investment made in larger municipalities. Thus, the tax/fiscal burden is greater in municipalities with more than 20,000 inhabitants (7.73 against 0.51).

Regarding socio-economic factors there are also significant differences in the sample. All the factors show higher values for larger municipalities (except the unemployment rate, which remains constant in both groups). The most significant difference occurs in the level of attractiveness, which is extremely high in large municipalities (479.7) and negative in municipalities with fewer inhabitants (-53.96). This means that larger municipalities show a greater ability to attract more people. This attractiveness may be related to the increased local investment made in the larger municipalities (as

evidenced above). Moreover, the level of education is significantly higher in larger municipalities (6.68), which means that the population with a higher education level is concentrated in cities with over 20,000 inhabitants. To conclude, the statistics show that, on average, 45% of mayors elected in 2009 represent right-wing parties and the mayors in office until that date had, on average, 13 years of experience as a mayor (the maximum experience is 32 years).

Correlations

The correlations between the explanatory variables are presented in appendix 2. Although there are some significant correlations, such as between IE and TBI, between IE and IDP or between LII and TBI, the VIF (variance inflation factor) results indicate the absence of multicollinearity.⁴ For all the estimated models no VIF value higher than 2.00 was reported, indicating that correlations between the independent variables do not cause the problem of multicollinearity. We present below the results of the multivariate regressions related to the influence of accounting information on voting decisions.

Multivariate regressions of the Portuguese municipalities' re-election

Using a multivariate analysis, we study the influence of accounting information on voting decisions. We assume that voting decisions depend not only on the particular interest of voters in maximizing their self-interests but also on the quality of financial reporting as well as the capacity of municipalities to enhance their financial performance. Table 4 presents the regression results for the panel data collected for all the 308 Portuguese municipalities for the time period between 2005 and 2008 (N=1089). To test the differences between larger and smaller municipalities we estimate 2 models considering municipalities with a population greater than 20,000 inhabitants (N=468) and smaller than 20,000 inhabitants (N=621).

When the dependent variable is a dichotomous variable the traditional OLS method for regression is not advisable because it assumes the normal distribution of data (Bohrnstedt and Knoke, 1994; Hosmer and Lemeshow, 2000). Therefore, we use a logistic regression technique to evaluate the binary dependent variable. The pseudo R_2 is greater for the two sub-samples (about 12%) in comparison with the full sample (about 7%); this means that the adjustment of the model improves when we test the effect of the variables separating the sample based on the population of municipalities. So, the explanation of the influence of the accounting information on voting decisions is variable depending on the size of the municipalities. Generally speaking, these statistical results reveal that part of the variation in the re-election of local politicians can be explained by the estimated models. However, note that our objective is not to develop a complete model of voting

⁴ Despite having studied other variables such as the income index, index of consumption and net debt, among others, these were not introduced into the model because they are strongly correlated with other variables such as the IIC, ICF and IA.

behaviour but rather to contribute to knowledge about the influence of municipal accounting information on election outcomes.

Table 4: Multivariate regressions results

Variables	Model 1		Model 2		Model 3	
	<i>Full sample</i>		<i>Larger municipalities > 20,000</i>		<i>Smaller municipalities < 20,000</i>	
Accounting variables						
FRQI	1.0826***	(3.14)	.825847	(1.43)	1.3403***	(2.85)
PGRANK	-.00295***	(-3.20)	-.00302*	(-1.89)	-.00283**	(-2.26)
POIPCR	.00376***	(3.95)	.00007	(.04)	.00537***	(4.49)
PRPCOC	.00106	(1.05)	.00175	(1.03)	.00142964	(1.05)
PEREER	.00139	(1.53)	-.00268*	(-1.75)	.00339***	(2.72)
LII	.01232	(.42)	.00556	(.17)	-.05438	(-0.69)
TBI	.03379	(1.68)	.05963**	(2.61)	.50254	(1.14)
Socioeconomic factors						
AI	.00072**	(2.47)	.00086**	(2.93)	.00186	(.62)
PDI	.03083	(.86)	.03127	(.78)	.13090	(.41)
UR	-1.414	(-.68)	3.3940	(.87)	-5.0042*	(-1.75)
IE	-.1071***	(-2.32)	-.15114***	(3.26)	.08592	(-4.74)
Control variables						
EXPERIENCE	-.01906**	(3.53)	.04727**	(3.88)	-.05433***	(2.08)
PCOLOUR	.56375***	(-3.49)	1.1096***	(-4.20)	.44446**	(1.09)
Constant	.30214	(.499)	1.4070	(.17)	.17196	(.24)
N	1089		468		621	
LR chi2	84.060606		59.742392		89.260668	
Pseudo R2	.0673657		.12049574		.11966662	

Logit regression (LOGIT) estimated coefficients with z-statistics in parentheses (STATA);

*p<0.10; **p<0.05; ***p<0.01, respectively.

Analysing the effect of accounting variables, there is a strong influence on the mayors' re-election. In the full sample we find a positive and significant effect of FRQI (p-value<0.01) meaning that the cities most concerned with the quality and compliance of financial reporting have a higher likelihood of re-election. However, it is in smaller municipalities that this variable plays a key role in voting decisions (p-value<0.01). These results reinforce the expectations expressed in this work regarding the incorporation of accounting information into voting decisions. Thus, we find empirical evidence to support H₂. Regarding the influence of information about the financial performance of municipalities we also find robust results. It appears that the variable PGRANK affects mayors' re-election negatively and significantly (for all the estimated models estimated, although with less significance in the larger municipalities). This means that municipalities with (overall) a poor financial situation were less likely to elect official mayors. Therefore, we reinforce the previous expectations that voters are more willing to incorporate accounting information into their voting decisions. Thus, we obtain statistical support to corroborate H₃ (p-value<0.01).

We also find significant results when analysing the individual accounting measures. In the full sample, the POIPCR reveals a positive and significant effect on the election of official politicians (p -value <0.01). It shows that a reduction in operating income per capita (a degradation of the ranking that can be driven by increased spending on goods and services delivered to the community) may lead to a higher likelihood of re-election. However, this result is significant only for small municipalities (p -value <0.01). One possible justification for this result is the positive impact of expansionary policies in smaller municipalities where the amount of goods and services delivered to the community is a determinant of voting decisions. So, while these expansionary policies will worsen the operational incomes, they will have a positive impact on the re-election of official politicians in smaller municipalities. In a way this result confirms the first hypothesis in this paper about the rational behaviour of voters in pursuit of self-interest (only for smaller municipalities).

On the other hand, the positive and significant effect of PEREER in smaller municipalities (p -value <0.01) shows that the degradation in the ratio of executed revenues/executed expenditures can lead to the mayors' re-election. Despite the negative effect on financial performance, voters evaluate positively an ineffective policy of revenue execution because this is associated with a lower payment for goods and services. Therefore, the payment for goods and services can be an important determinant in smaller municipalities. Already, in larger cities a bad policy for revenue execution could harm the re-election (p -value <0.1). Moreover, the positive and significant influence of TBI in municipalities with more than 20,000 inhabitants shows that fiscal policies are crucial in re-election, which means that voters in larger municipalities are worried about the part of their income that will be absorbed by taxes. Moreover, because the tax burden is lower in smaller municipalities (in order to attract a greater population, as we see in descriptive statistics), it is natural that this is not a concern of voters in the electoral context. These results reinforce what has already been mentioned in relation to POIPCR and PEREER. It also seems important to relate these results to the negative and significant effect of the level of education of voters (IE) on mayors' re-election (especially in larger municipalities). That is, the level of education may be associated with lesser difficulties in interpreting and incorporating accounting information into voting decisions. This can lead to problems in the re-election when the financial performance is not positive.

However, there are other socioeconomic factors that seem to be significant in the model. In the full sample, the IA shows a positive and significant effect on re-election. Thus, mayors of more attractive municipalities tend to be easily re-elected, especially in larger cities. That is, the mayors' ability to provide comfort and quality of life for residents is a key feature that the voters of the great cities have in mind when making their voting decision. Moreover, the unemployment rate reveals a negative effect on the mayors' re-election in smaller municipalities. This means that unemployment will ultimately have a greater impact on the voting decisions of voters who live in smaller

municipalities where the expectations for the future are probably lower and unemployment is a major concern.

Finally, the EXPERIENCE of mayors in office also seems to be significant in the model, although with opposite signs ($p\text{-value} < 0.05$). In the full sample, longevity in power begins to be detrimental to re-election. Voters begin to understand that it is important to renew politicians in power to change policies. This turns out to be more meaningful in smaller municipalities where the visibility of the mayor and his policies is greater than in larger cities. By contrast, in larger cities experience turns out to determine positively the mayors' re-election. Regarding PCOLOUR, we find that there is a greater likelihood of re-election between the right-wing parties, independently of the size of the municipalities.

In sum, the empirical results suggest that municipal accounting information, in conjunction with socioeconomic factors, may explain local electoral outcomes. Moreover, they show that different explanations exist for the dependent variable as a result of differences in the size of municipalities. Thus, we find empirical evidence about the importance of size when we explore the influence of accounting information and other socioeconomic factors on the mayors' re-election. Voters in smaller municipalities are more worried about the amount of goods and services delivered to the community and the maximization of their self-interest; however, their voting decisions are also determined by the quality of financial information and the financial performance as a whole. Voters in larger municipalities seem to be more concerned with the quality of life and the fiscal policies adopted by politicians.

Summary and conclusions

Prior developed research suggested that municipal accounting information, in conjunction with socioeconomic factors, may explain local electoral outcomes (Ingram and Copeland, 1981; Feroz and Wilson, 1994; Brusca and Montesinos, 2006). In this paper, we focus on a larger sample (308 municipalities against 220 in Feroz and Wilson and 182 in Ingram and Copeland) and a more recent time horizon (2005–2008 against 1983–1985 in Feroz and Wilson and 1972–1977 in Ingram and Copeland) to explain the variances in mayoral election results. In addition, we confirm the influence of accounting information on voting decisions. This paper provides additional support for the relevance of size in the explanation of the variations in voting decisions. Therefore, we find that the influence of accounting information and socioeconomic factors on voting decisions is dependent on the size of municipalities.

In general, the empirical results show that both the quality of financial reporting and the information about the financial and economic situation turn out to be decisive in the electoral outcomes. Therefore, municipalities that show a greater concern with accountability and compliance with the requirements of the accounting system in place are more likely to re-elect official politicians. This

means that voters are positively influenced by the quality of financial reporting as a way to promote the accountability process. Moreover, we support the expectation that voters are sensitive to the overall financial situation presented by municipalities. A poor financial performance will lead to negative electoral outcomes. However, we find that the incorporation of accounting information into voting decisions is more significant in smaller municipalities.

On the other hand, the empirical results suggest that the influence of demand for more goods and services on voting decisions is also dependent on size. We find that voters in smaller municipalities are also worried about the amount of goods and services delivered to the community and the maximization of their self-interest (POIPCR and PEREER), which confirm the influence of political-economic cycles in electoral outcomes. In addition, a greater unemployment rate will reduce the likelihood of re-electing the mayor in smaller municipalities. Conversely, voters in larger municipalities seem to be more concerned with the quality of life (IA) and the fiscal policies (TBI) adopted by politicians. In relation to the financial performance, these voters are more influenced by positive results (PGRANK and PEREER) and not by the level of goods and services. In sum, we can say that different accounting measures and socioeconomic factors may have different effects on voting decisions depending on size. Differences regarding the level of education can also explain voters' behaviour during elections. Generally, the empirical results provide support for the hypotheses developed for this paper.

We consider that this kind of research is very interesting taking into account the lack of research that considers the influence of accounting information on electoral outcomes, compared with several studies developed in the economic area. For further research we intend to complement this analysis by including accounting information for municipal enterprises and consolidated information.

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Appendixes:

Appendix nº 1: Financial indicators

- 1 Liabilities per capita
- 2 Liquidity
- 3 Net debt per capita
- 4 Operating income per capita
- 5 Weight of personnel costs in operating costs
- 6 Decrease in short-term debts
- 7 Decrease in finance liabilities
- 8 Average payment period
- 9 Primary balance (commitment perspective)
- 10 Index of net debts
- 11 Decrease in the net debts
- 12 Weight of debts to credit institutions on n-1 revenues
- 13 Weight of debts to suppliers on n-1 revenues
- 14 Execution level of processed revenues in relation to processed expenditures⁵
- 15 Execution level of revenues in relation to executed expenditures

⁵ Processed revenues/expenditures represent the total amount of revenues and expenditures processed by accounting before to receipt/pay, respectively.

Appendix nº 2: Correlations between explanatory variables

	FRQI	PGRANK	POIPCR	PRPCOC	PEREER	LII	TBI	AI	IDP	UR	EXPERIENCE	PCOLOUR	IE
FRQI	1.0000												
PGRANK	-0.0869	1.0000											
POIPCR	0.0314	0.1406	1.0000										
PRPCOC	-0.0493	0.1609	-0.4421	1.0000									
PEREER	-0.0317	0.3512	0.0161	0.0313	1.0000								
LII	0.1146	-0.0216	-0.0202	-0.0089	-0.0194	1.0000							
TBI	0.1177	-0.0246	-0.0024	0.0110	-0.0389	0.8381	1.0000						
AI	0.1130	-0.0761	0.0428	0.0214	-0.0128	0.5675	0.6425	1.0000					
IDP	0.1464	-0.0937	0.0218	-0.0655	0.0505	0.7492	0.8051	0.7038	1.0000				
UR	-0.0589	0.1566	-0.0156	0.0295	0.1796	-0.0087	-0.0260	-0.0143	-0.0146	1.000			
EXPERIENCE	0.0351	-0.0373	0.0469	-0.1352	-0.0128	-0.0548	-0.0939	-0.0871	-0.0431	-0.0985	1.000		
PCOLOUR	0.0478	0.0316	-0.0079	-0.2491	-0.0164	0.0062	-0.0254	-0.0310	0.0002	-0.1023	-0.0775	1.000	
IE	0.1398	-0.0200	-0.0031	0.0281	0.0075	0.7875	0.9118	0.6648	0.8076	-0.0206	-0.0704	0.0069	1.000