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Opportunistic Policies and Electoral Outcomes: Are there Non-Linear Effects?*

Mamadou BOUKARI[†]

Abstract

Using a large dataset of French municipalities, this paper examines the joint determination of the win margin of victory of incumbent mayors and the size of the political budget cycle. A system of two simultaneous equations is estimated with the Three Stage Least Squares (3SLS) method. The main findings are twofold. First, the pre-electoral manipulation of public spending increases incumbent mayors' reelection chances. Second, the effects of the win margin on the manipulation of public expenditures are U-shaped. This implies that the smaller the win margin, the larger the opportunistic distortion. Another non-linear effect is revealed, relating mayors' time in office on their win margin of victory.

Keywords: Vote function, Opportunism, Political Budget Cycles, System estimation, Municipalities, France.

JEL Classification: D72, E32, H72.

1 Context and problematic

Do local governments' spending follow a different pattern in elections years? If yes, do electoral budget cycles impact on the re-election prospects of the incumbent mayor and her political party? Then, what determines the magnitude of cycles?

Answers to the above questions come from two strands of the literature. On the one hand, the literature on vote functions suggests that economic conditions systematically affect election outcomes. On the other hand, the literature on Political Budget Cycles predicts that incumbent

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governments engage in pre-electoral policy manipulations to influence voters and maximize their re-election prospects. However, the nature of the functional form of the relationship between the government approval and the distortion of fiscal policy is less clear. In fact, the empirical evidence summarized in Hanusch and Magleby (2014) indicates that this relationship is either linear (Frey and Schneider, 1978, Schultz, 1995, Pettersson-Lidblom, 2001, Aidt et al., 2011 and Fiva and Natvik, 2013) or parabolic (Price, 1998, Alt and Rose, 2009 and Efthyvoulou, 2012).

The objective of this paper is to analyze simultaneously the win margin of victory of incumbent mayors and the magnitude of the political budget cycle (opportunistic distortion, hereafter) at municipal level in France. Two main hypotheses are tested: the existence of a non-linear relationship between the opportunistic distortion and the win margin of victory on the one hand, and between the win margin and the number of years a mayor has been in office on the other hand.

This paper is close to Aidt et al. (2011), who propose a model articulating the political determinants of the economy and economic determinants of politics. This approach has two advantages. First, it allows one to take into consideration the double causality between government approval and fiscal manipulation and the interdependence between these two variables. Second, it enables one to understand the effect of different explanatory variables on win margin and/or opportunistic distortion separately. However, I depart from Aidt et al. (2011) by considering if nonlinear effects are present in the examined relations.

This paper is motivated by the factors that make political budget cycles more or less likely to occur and the electoral fortune of incumbents mayors in France. Indeed, despite the attention devoted to the analysis of Political Budget Cycles in France (see, e.g., Binet and Pentecôte, 2004; Foucault and François, 2005), there is no study that examines the joint determination of the win margin of the incumbent and of the fiscal distortion in this country at the local level. Thus, this paper fills this gap, delivering two contributions. First, it confirms the theoretical predictions of Aidt et al's (2011) model. For instance, the results indicate that mayors who behave more opportunistically tend to increase their reelection chances. That means opportunism pays off.

Second, the results show the existence of non-linear effects of the win margin on the opportunistic distortion. In fact, the relationship between these two variables is U-shaped. This result is different from Aidt et al. (2011) who find a negative and linear impact of the win margin on the opportunistic distortion of fiscal policy for every segment of expenditure. The present result is in line with the explanation provided by Hanusch and Magleby (2014), however. They argue

that in less polarized countries (something which is the case of France), the functional form of the relationship between government approval and the fiscal cycle is parabolic.

Regarding secondary hypotheses tested in the paper, the results reveal the existence of another non-linear effect with respect to the impact of mayor's years in office. Although the win margin is persistent, traducing some kind of attachment of voters to their mayors or partisanship, it decreases after four terms in office. This result differs from Aidt et al. (2011) who find evidence of a linear negative effect of years in office on win margin. Moreover, voters penalize mayors who belong to the majority in parliament and the accumulation of debt.

With regard to the determinants of opportunism, the interactions between municipalities and intercommunalities seem not to have an impact. Results show also that municipalities which received more capital transfers from central government are those who behave more opportunistically. Mayors are less opportunistic when the local economy does well (the unemployment decreases or wages increase). Further, in highly indebted municipalities, the incentive to behave opportunistically diminishes.

Before exposing the related literature (section 2), I briefly present the institutional context of French municipalities. Municipal governments constitute the lowest level of government in France. They were established formally by a law of 14th December 1789. Their legal context has historically evolved several times, but has remained relatively fixed since 1983.

The political system in French municipalities can be characterized as follows. Elections normally take place every six years ¹ and election dates are fixed nationally and are therefore exogenous from the perspective of municipalities. During the period under study (2000-2015), all elections took place in March, and there were no legal restrictions on the number of times a mayor could stand for election.

Note also that there was a 3,500-inhabitant threshold² with a different voting system for smaller cities. For the towns with population numbers above the threshold, the poll competition is organized by lists, with two rounds (possibly) taking place. The winning list receives half the seats to be filled in the town council, the other half of the seats being distributed proportionally between all the lists (including the winning list) that have received more than 5% of the votes. If a second round is necessary, all the lists with more than 10% of the votes can compete but the lists with more than 5% of the votes can merge between the two rounds.

¹Except between 2001 and 2008, the election being postponed to avoid electoral fatigue in 2007, a year in which both the Presidential and Legislative elections were taking place.

²Since 2013 the threshold is reduced to 1000 inhabitants.

The affairs of the municipality are in the joint responsibility of the mayor and the municipal council. The latter elects the mayor within its members. These members are elected directly by citizens who vote for party or independent lists of candidates. In local politics, the mayor heads the municipal council, presides over all council committees and sets the local policy agenda.

Concerning the competences, French municipalities are responsible for multiple activities. The main local public services under their control include distribution of water, local transportation, elementary education, property maintenance, promotion of culture and science, provision of recreation and sports facilities, local health care, social housing, environmental protection and municipal policing.

Note also that they operate under the same financial regime. Since 2003, French municipalities gained more autonomy in setting local public policy. For instance, they are autonomous in defining their own budgets, and collect the revenues³ they are entitled by law and allocate expenditures.

However, mayors' discretionary power is not the same according to the budget components. For instance, while current expenditures, such as municipal employee salaries, are non-discretionary and hard to manipulate⁴, the mayors can control the level and timing of capital expenditures of which equipment expenditures are the main component.

The paper is organized as follows. The next section presents the related literature. Section 3 introduces data sources and the empirical model. Results are discussed in section 4. Finally, section 5 concludes.

2 Related literature

This paper is related to several strands of the literature on political economy. For a complete survey on the background literature, see Dubois (2016). Thus, this section briefly presents some salient points on the popularity-policy nexus, both theoretically and empirically.

2.1 Theory

The deeper question in the related literature is why electoral fiscal cycles should help politicians to get re-elected. The early papers sidestepped this issue by assuming that voters had incon-

³Municipal resources come from local taxation (property tax and local business tax), loans and transfers from the central government. They can only borrow to fund equipment expenditures (sports facilities, swimming pools, ...).

⁴Nevertheless, mayors have discretionary power over temporary contracts.

sistent or naive expectations. In the classic contribution of Downs (1957), utility-maximizing voters compare the expected costs and benefits of voting for two alternative parties and base these expectations in part on parties' past performance. As a result, voters support parties that performed well in the past in the expectation that they will do well in the future.

This 'intuitive' idea has been given a firmer theoretical footing in the rational expectations framework. Regarding the behavior of voters two basic views are considered. On the one hand, voters like low taxes and high government expenditures and might vote for incumbents who provide them. On the other hand, rational, forward-looking voters are assumed to dislike unsmoothed spending, and deficits in general. They would therefore not reward incumbents who engage in election-year fiscal distortion.

Using the assumption of information asymmetry, some scholars reconcile these contradicting views, however: a more refined argument regarding why rational voters may favor pre-electoral expenditure hikes is that it signals the presence of something unobservable about the incumbent that makes her more eligible to voters. The first two main contributions in this area are Rogoff and Sibert (1988) and Rogoff (1990).

Rogoff and Sibert (1988) assume that each political candidate has a competence level (high or low), which is only known to the politician and not to the electorate. Nevertheless, voters want to elect the more competent politician (either the incumbent or the challenger). They form rational expectations regarding the type of the incumbent based on observable current fiscal policy outcomes. Before the election, the high-type incumbent will attempt to signal her type (and thereby increase her chances of reelection) by engaging in expansionary fiscal policy, which is less "costly" for him than it is for the low type. This leads to a pre-election increase in government deficit when a competent politician is in office (while no signaling takes place when the incumbent's type is low). In a related model, Rogoff (1990) argues that the incumbent can also signal her competence before an election by shifting government expenditure towards easily observed consumption spending and away from investment (whose effect can only be observed with a delay, Shi and Svensson, 2003). The idea is to increase those expenditures that send the strongest competence signals to voters and preferably those that are also noticeable immediately.

In the same vein, Martinez (2009) points at effort smoothing as another force driving the creation of fiscal cycles. In order to present some of the implications that result from effort smoothing, he made a quick comparison between politicians seeking re-election and the motivations of a tenure-track professor whose contract has come up for renewal. Tenure-track positions

have been shown to suffer from renegotiation cycles. A renegotiation cycle occurs when performance improves the year before the signing of a new multi-year contract, and declines after the contract is signed. Consider a tenure-track professor who begins with an average reputation. The optimal strategy for this professor is to choose an intermediate level of effort early in the term of their contract. When the renegotiation period nears, the professor then observes their current reputation. If their reputation is still average, then it is optimal for them to exert more effort. However, if their current reputation is either very high or very low then a lower effort level should be chosen (Martinez, 2009).

Recently, Drazen and Eslava (2010) suggest a different approach to the standard “competence” argument. Voters value some types of spending more than others. Politicians differ in the value they assign to different types of spending, whereas these preferences are not observed by voters. By shifting the composition of spending towards the goods voters prefer, an incumbent politician will try to signal that his preferences are close to those of voters, implying he will choose high post-election spending on those same goods. Political manipulation will therefore take the form of changing the composition of government spending, allowing its overall level (and the deficit) to remain unchanged.

Voter uncertainty about the incumbent’s spending priorities makes electorally-motivated increases in some types of spending an effective tool to gain votes, as voters may be unable to separate politicians into those whose spending choices are meant simply to gain votes and those whose spending preferences actually correspond to what voters want. In this setting, voters rationally responds to pre-election increases in their most preferred types of spending, as it signals politician type. Hence political budget cycles emerge even if voters are fiscal conservatives, and even if they are able to observe fiscal policy perfectly.

Political and institutional features of a country are also advanced to explain the emergence of pre-electoral fiscal manipulation. Indeed, voters’ awareness (Shi and Svensson, 2006), fiscal transparency (Alt and Lassen, 2006) and immaturity of democracy (Gonzalez, 2002) have been shown to magnify the size of opportunistic cycles. According to Shi and Svensson (2006), the magnitude of electoral budget cycles increases with the size of the rent that politician can earn by remaining in office and with the share of uninformed voters in the electorate. Brender and Drazen (2005) argue that the electoral budget cycles reflects the “experience and interactions of all actors with the electoral system”. Experienced voters know that policymakers have incentives to inflate the economy in election years, and as a result fiscal manipulation loses its attractiveness. A long

experience of competitive elections should thus make a democracy less susceptible to budget cycles.

2.2 Empirical puzzles

Basic theoretical models and their extensions have been tested empirically both at the national and local levels. At the national level, except for new democracies, political expenditure cycles do not seem to be strong (Cazals and Mandon, 2016; Philips, 2016). However, at the local level, there is some evidence of political budget cycles on the spending side, in particular. It comes in many forms: increase in public spending or employment (e.g., see, Veiga and Veiga, 2007), or moving spending from less visible public services to more visible ones (Kneebone and McKenzie, 2001, Drazen and Eslava, 2010).

In link with the purpose of this paper, I discuss two puzzles. First, the magnitude of the fiscal distortion depends linearly (Pettersson-Lidblom, 2001, Aidt et al., 2011 and Fiva and Natvik, 2013) or non-linearly (Price, 1998, Alt and Rose, 2009 and Efthyvoulou, 2012) on the government popularity. Second, voters are found to be either fiscal conservatives (Peltzman, 1992) or fiscal liberals (Jones et al., 2012).

Regarding the first point, Hanusch and Magleby (2014) build a model which has the potential to reconcile contradictory empirical findings. They argue that the way the government approval impacts political budget cycle is conditional on the degree of polarization in the party system: environments with low polarization should exhibit a non-linear pattern while linear relationships should be present in polarized political environments.

Hanusch and Magleby (2014) draw their argument upon the observation of the Database of Political Institutions (DPI) and empirical studies. For instance, during the periods that Pettersson-Lidblom (2001) studied elections in Sweden, and Aidt et al. (2011) examined elections in Portugal, Swedish and Portuguese parties were polarized according to the DPI. Likewise, between 1974 and 1994, the period of Price's (1998) study, government and opposition parties in the United Kingdom were unpolarized.

In case of a linear relationship, the empirical evidence comes also with either positive (Akhmedov and Zhuravskaya, 2004; Veiga and Veiga, 2007) or negative correlations (Meloni, 2001; Brender, 2003) on the other hand. Akhmedov and Zhuravskaya (2004) evaluate local Russian governmental entities and find that pre-electoral manipulation of fiscal instruments increases the incumbent's chances of reelection. Using a sample of Columbian municipalities, Drazen and

Eslava (2010) also bring evidence that governments, in their attempt to remain in office, tend to increase visible expenditures on housing, health, water and energy to target voters.

Balaguer-Colla et al. (2015) analyze the effect of public spending on municipal re-election in Spain. They find that, in general, increases in local government spending positively impact on local governments' chances of re-election. Moreover, the capital expenditure over the whole term positively affects the re-election probability, although the pre-electoral capital expenditure has a stronger effect on the chances of re-election. They also find that the electorate only rewards increases in current expenditures made in the pre-election period.

However, other studies indicate that the opportunistic behavior has also a negative effect on the probability of re-election. For instance, Peltzman (1992) shows that increases in aggregate expenditures are politically damaging to US governors, lowering their vote share. This should decrease the likelihood of political cycles in aggregate expenditures at the state-level in the United States. Brender (2003), for the case of local elections in Israel, finds that a larger deficit in the year prior to elections reduces the probability of the incumbent party's re-election. Analyzing Argentine electoral districts, Meloni (2001) provides additional evidence in this regard, revealing that an increase in public expenditure negatively affects the percentage of votes obtained by the government party.

The remaining question is how to explain these divergent pieces of evidence. Jones et al. (2012) propose a first attempt at interpreting what might lie behind the distinct (seemingly conflicting) results encountered in the existing literature regarding the effect of fiscal variables on electoral outcomes. Their argument is that the structure of fiscal federalism in countries like Argentina makes voters reward fiscal expansion because they perceive that this extra spending at the margin is not financed by them, but rather drawn out of a common pool of national resources. They provide evidence and micro-foundations for the electoral connection implicit in this argument: voters reward public spending when they can pass the cost on to someone else (e.g., as in Argentina), and punish it otherwise (e.g., as in the United States).

Local policy outcomes are also supposed to be responsive to partisanship of the electorate. But the empirical evidence is also mixed on this point. For instance, Ferreira and Gyourko (2009) find that American cities are not politically polarized as states and countries. They show that whether the mayor is a Democrat or a Republican does not affect the size of city government, the allocation of local public spending, or crime rates. However, they find a substantial incumbent effect for mayors.

In contrast to previous work, de Benedictis-Kessner and Warshaw (2016) show that mayoral partisanship matters for city policy. They find that Democratic mayors spend substantially more than Republican mayors. In order to pay for this spending, Democratic mayors issue substantially more debt than Republican mayors and pay more in interest. Their findings add to a growing literature indicating that the constraints imposed on city policy making do not prevent public opinion and elections from having a meaningful impact on municipal policy.

Given the conflicting theories and empirical results, deeper investigations are needed to shed light on political budget cycles. Therefore, some scholars conduct meta-analyses. For example, Philips (2016) find evidence of a statistically significant -yet substantively small- increase in government expenditures and public debt around elections, and reductions in revenues and fiscal balance. He finds support for some of the context-conditional theories in the literature. He also points out that the findings of political budget cycles are robust to publication bias as well as some of the methodological- and study-specific choices authors are forced to make. Likewise, Cazals and Mandon (2016) conduct a meta-analysis and find that leaders do manipulate fiscal tools in order to be re-elected but to an extent that is significantly exaggerated by scholars.

2.3 Previous studies on economic and elections in France

In France, there are also studies that investigate the existence of electoral budget cycles and voting behavior at the local level. Hereafter, I survey a non-exhaustive list of articles dealing with the interplay between economic factors and election results.

Jérôme-Speziari and Jérôme (2002) test empirically a municipal vote function using a pooled time series for 236 municipalities over 30,000 people. Their model identifies the factors that generate an electoral bonus and those that give an electoral malus to the outgoing municipal teams. Although it is not so obvious to conclude between punishment and reward hypothesis, they were able to assert that the 2001 vote has been marked by a real grievance asymmetry.

Previously, Martin (1996) analyzes municipal election results between 1977 and 1995 on the same sample. His analysis demonstrates the existence of an electoral bonus for incumbent mayors. Moreover, he shows that the personal electoral dynamic of the incumbent mayor always follows the same law : it is at its height at the end of the first term, and then regresses. This development law becomes clear if one compares the score of an incumbent mayor to the average score of his/her colleagues belonging to the same party, the electoral score of an incumbent mayor being defined as the change registered in the score of his/her camp (right or left) from

the nearest presidential election to the first round of the municipal election. The most popular mayors are characterized both by a very high electoral bonus at the end of the first term and a higher-than-average resistance to attrition.

Binet and Pentecôte (2004) demonstrate the existence of an opportunistic cycle of capital expenditure in 883 French towns of more than 10,000 inhabitants from 1988 to 1999. They also confirm a similar intensity cycle of public debt. Likewise, using a panel of 91 French municipalities over the period 1977-2001, Foucault and François (2005) find the presence of an electoral budget cycle on the spending side. Concerning the political determinants of such a cycle, they find that political changeover reduces the opportunity to behave opportunistically.

According to Auberger and Dubois (2005), the national (i.e., the real growth of GDP) and local economic conditions (i.e., the growth rate of the number of job-seekers in every department) plays an important role on the outcomes of the French legislative elections. Farvaque and Jean (2007) study the impact of macroeconomic conditions and of party endorsements on the result of parties' candidates in local elections in France. They test for economic variables, and find that the electorate penalizes the incumbent party for unemployment or for a high misery index. They also find the presence of an incumbency premium and a strong impact of endorsement, confirming the presence of partisanship in local election results.

Dealing with the specificities induced by the two-round process of the French electoral rule, Cassette et al. (2013) establish three results. First, they show that in the first round of the electoral process, spending on equipment (including infrastructures) can influence the voter, and that electoral competition has a strong impact on the incumbent's score. In the second round, the incumbent's vote is affected more by national considerations and local budget variables have no effect. Finally, they show that the dynamics between the first and the second rounds are intense.

Regarding the impact of the accumulation of debt over the electoral cycle on the incumbent's probability of reelection, Cassette and Farvaque (2014) separate the impact of the debt accumulated in the first years of the mandate from the last years. Their results show that French voters are fiscally conservative, punishing incumbents for the accumulation of debt, although the effect is offset when incumbents increase debt right before the election.

However, all the studies cited above use a uni-variate model or focus on the detection of electoral effects on public spending. But none of these have looked at the joint determination of the win margin and the opportunistic distortion, hence leaving aside a potential interesting

issue. It is also noticeable that these studies used more restricted data-sets than the one I utilize here.

3 Data and econometric model

3.1 Data

In this study, we use political, economic, fiscal and demographic variables for all French municipalities of more than 3,500 inhabitants⁵ over the period 2000-2015 . About two thirds of cities are populated by a range of 3,500 to 10,000 inhabitants and one third by more than 10,000

⁵I consider these municipalities because of the difference in the electoral rules.

Table 1: Data sources and descriptive statistics

Variable	Data Source	Obs	Mean	Std. Dev.	Min	Max
Win Margin	Ministry of Internal Affairs	4472	19.1	19.14	-50.74	77.74
Win Margin in the Previous Election	Ministry of Internal Affairs	4386	-7.56	17.07	-100	61.79
OD-Total Expenditure	Census of Ministry of Finance	4393	-5.1	19.84	-335.75	143.44
OD-Operating Spending	Census of Ministry of Finance	4393	.06	10.31	-155.92	135.97
OD-Equipment Expenditure	Census of Ministry of Finance	4393	-35.45	92.91	-1738.65	232.79
\% change of transfers from central government	Census of Ministry of Finance	4350	127.53	1220.78	-100	45176.51
Years mayor	Ministry of Internal Affairs	4393	9.76	8.12	0	49
Government's Party	Ministry of Internal Affairs	4393	.36	.48	0	1
Right	Ministry of Internal Affairs	4393	.45	.5	0	1
Number of Lists	Ministry of Internal Affairs	4393	3.13	1.3	1	11
Population density	INSEE	4393	1171.92	1877.98	0	25958.57
% Population over 65 years old	INSEE	4393	16.77	6.15	0	51.56
Average real wages per capita	Census of Ministry of Finance	4393	13502.46	3631.99	5535.79	39792.23
Equipment expenditure per capita	Census of Ministry of Finance	4393	338.09	259.85	-312.58	7208.29
Operating expenditure per capita	Census of Ministry of Finance	4393	1054.53	435.23	321.09	8749.03
Total expenditure per capita	Census of Ministry of Finance	4393	1568.66	673.99	477.2	14107.7
Capital Transfers per capita	Census of Ministry of Finance	4393	69.08	83.32	0	2563.02
Municipal to interco equipment expenditure ratio	Census of Ministry of Finance	4251	.03	.17	.03	3.65
Municipal to interco operating spending ratio	Census of Ministry of Finance	4262	.01	.07	0	4.02
Municipal to interco total expenditure ratio	Census of Ministry of Finance	4262	.01	.1	0	5.12
Unemployment rate (local)	INSEE	4472	9.03	2.46	3.33	17.86
Unemployment rate (national)	INSEE	4393	8.79	1.1	7.68	9.88

Notes: OD: Opportunistic Distortion; INSEE: Institut National de la Statistique et des Etudes Economiques

inhabitants. In the sample, all the departments in metropolitan France are represented. According to different electoral rules, cities of Paris, Marseille and Lyon were excluded from the sample, however. Table 1 presents data sources and the descriptive statistics of the variables mentioned in this study.

In terms of dependent variables, I study the two-way relationship between the win margin of victory of the incumbent mayor and the opportunistic distortion of fiscal policy. On the one hand, the win margin (WM) corresponds to the distance between the incumbent's share of votes and that of her main challenger (candidate with the highest votes share from the opposition) at first round of municipal elections. I consider the results of the first round because it better captures the degree of electoral competition at the local level⁶. In case of defeat of the incumbent, the win margin takes a negative value. On the other hand, the opportunistic distortion (OD) of fiscal policy represents the percentage deviation of public expenditure from its term mean. Its construction closely follows Aidt et al. (2011). As municipal elections take place in March, this study considers that the opportunistic distortion could be higher in the year before the election⁷.

In the time period under review, three municipal elections were held (2001, 2008 and 2014). The election of 2001 is not included in the analysis whenever lags, term averages or deviations from term averages are included.

In the full sample, 7 percent of all elections are single-candidate, while more than 35 percent had 2 candidates, 30 percent had 3 candidates, 16 percent 4 candidates and 11 percent had between 5 and 11 candidates. To exclude single-candidate elections, the general sample is restricted to be within 80% winning margin. Table 2 presents the frequency and percentage distributions of the win margin of victory for the resulting sub-sample. 75% of mayors won with a difference of vote shares of 0 to 40%. The mean value of the win margin is 19.38%.

Regarding the opportunistic distortion of fiscal policy, I consider three different components of public expenditure: Total, Operating, and Equipment expenditures.

Operating spending includes personnel expenditures, current transfers and other charges. In this subcategory, personnel expenditures cover payments of salaries to local government employees both under long term contracts ("Permanent personnel") and those under short term

⁶Dubois and Paty (2010) also restricted their analysis to the first round in order to avoid the modelling of complex configurations in the second round.

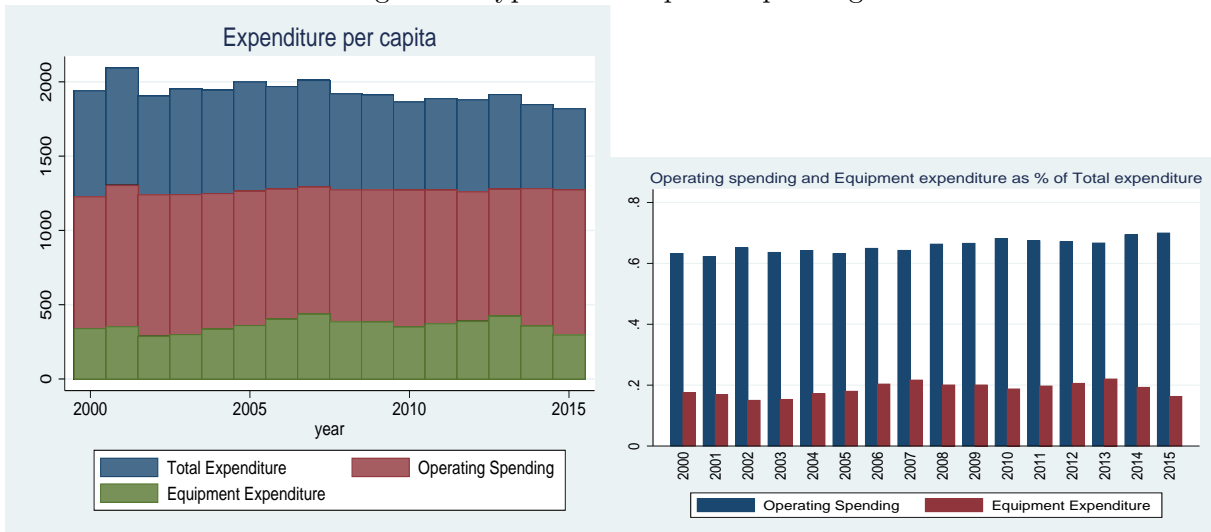
⁷According to Foucault and François (2005), the implementation of Local Political Business Cycle (LPBC) on the French municipalities raises some difficulties in terms of agenda. While the municipal election is usually planned in March, the budget of year t is voted in December of $t - 1$ year and is theoretically applicable for year t whatever the result of election. This causes a real ambiguity concerning the importance of LPBC analysis. To limit this ambiguity, they suggest to consider that opportunistic cycles are likely to occur during the year before the election ($t - 1$) and/or during the year of election.

Table 2: Frequency distribution of the Win Margin

Observations	Frequency	Percentage
under -20	89.0	2.0 2
-20-00	447.0	10.0 3
00-20	1,881.0	42.1 4
20-40	1,404.0	31.4 5
40-60	574.0	12.8 6
60-80	77.0	1.70
	4,472.0	100

Source: Author’s calculations.

Figure 1: Types of local public spending.



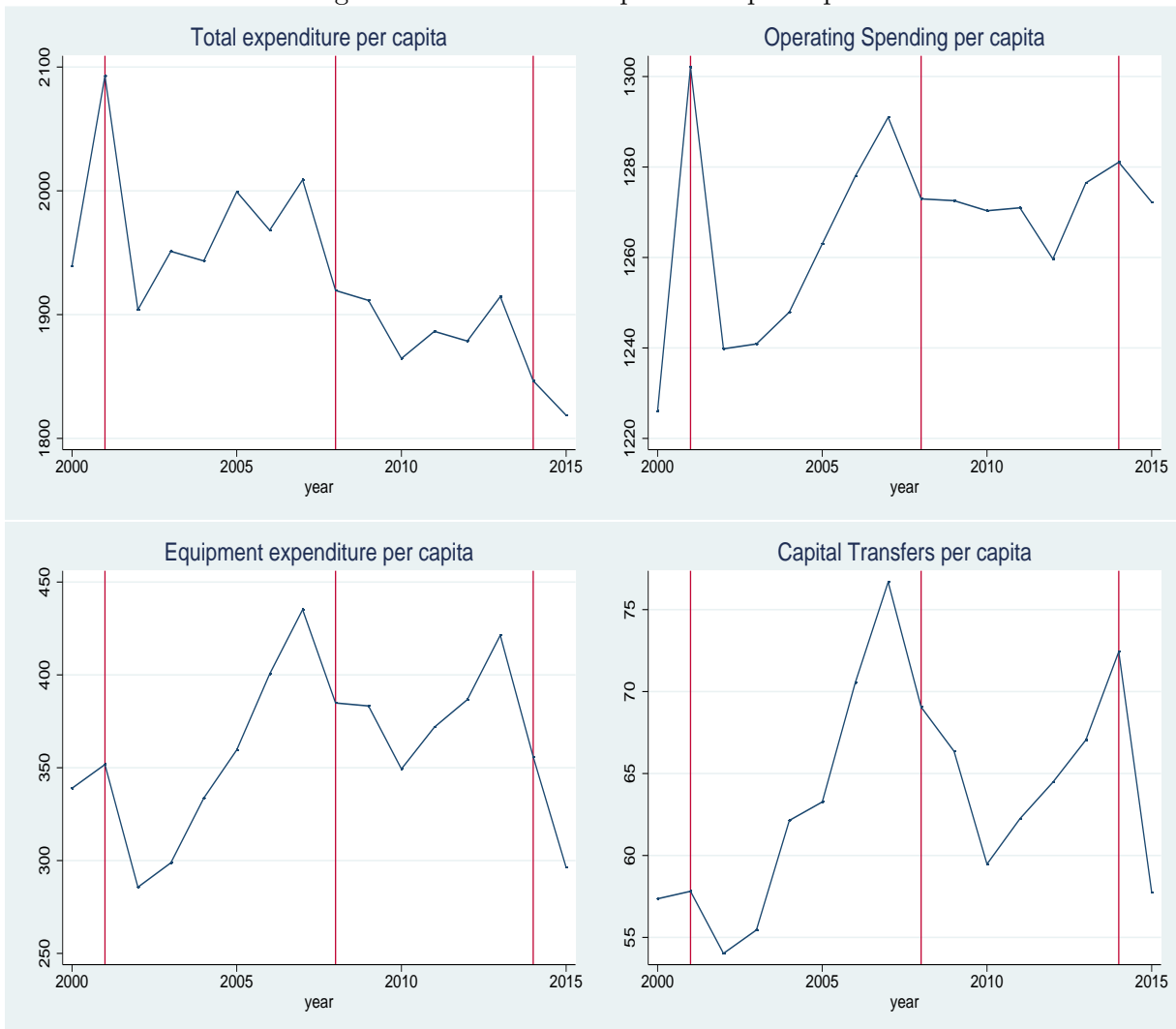
contracts (“Temporary contracts”). Note also that, in the case of French municipalities, “current transfers” refer to benefits and transfers to specific groups or associations. Equipment expenditures include urban infrastructure (housing, marketplaces, public buildings financed by the local government, water provision...) and other investment spending.

Note that from descriptive statistics (Table 1), we can see that the opportunistic distortion is negative for Total expenditure and Equipment expenditure and positive for operating spending, on average. For instance, the increase in operating spending during the year before municipal elections amounts 3% of its term mean while the Total expenditure decrease by 4.95%.

An interesting feature to look at, is the structure of local public spending. Figure 1 helps for that. For instance, it appears graphically that operating spending account for about 62 to 70% of the total. The proportion of equipment expenditure ranges between 15% and 22% over the sample period.

All expenditure variables are expressed in euros per capita, where the Consumer Price Index (CPI) has been used as deflator. The evolution of these variables in volume is depicted in Figure

Figure 2: Evolution of expenditure per capita



2.

From Figure 2, it appears that all types of expenditures increase in pre-election years (2007 and 2013). These observations are in line with Foucault et al. (2008) who confirm the opportunistic behavior of local governments. They note an increase in all categories of public spending in pre-electoral periods. However, this does not reveal if there is a link between the opportunistic distortion (OD) and the win margin of victory (WM), something which I analyze in this paper.

Note also that the Total expenditure shows a reduction during the second term covered by this study - this second term coincides with the period of 2008 financial crisis and its repercussions.

3.2 Econometric model and estimation method

This study estimates a system of two simultaneous equations. The first equation represents a vote function and the second one is for the *opportunistic distortion* (OD). This specification allows analyzing the existence of a two-way relationship between the *win margin* and the *opportunistic distortion*. I thus write:

$$WM_{it} = \alpha_1 OD_{it} + \alpha_2 (OD)^2 + \alpha_3 MIEx_{i,t} + \alpha_4 YO_{it} + \alpha_5 (YO)^2 + \alpha_6 URG_{it-1} + \alpha_7 INC_{it-1} \quad (1)$$

$$+ \alpha_8 Debt_{it-1} + \alpha_9 WM_{it-1} + \alpha_{10} GovP_{it} + \alpha_{11} NBLIS_{it} + v_i + \epsilon_{it}$$

$$OD_{it} = \beta_0 WM_{it} + \beta_1 (WM_{it})^2 + \beta_2 MIEx_{it} + \beta_3 YO_{it} + \beta_4 URG_{it-1} + \beta_5 INC_{it-1} + \beta_6 Debt_{it-1} \quad (2)$$

$$+ \beta_7 CAPt_{it} + \beta_8 VCAP_{it} + \beta_9 Pop65_{it} + \beta_{10} DENS_{it} + \beta_{11} Right + \gamma_i + \gamma_t + \mu_{it}$$

where i is the index for municipalities and t indicates election years⁸. Municipal fixed effects (v_i) and (γ_i) are incorporated into the two equations and election year fixed effects (γ_t) into the equation 2. α_1 to α_{10} and β_0 to β_{11} are parameters to be estimated and ϵ_{it} and μ_{it} are random error terms with $E(\mu_{it}) = E(\epsilon_{it}) = 0$.

The structure of equation 2 is based on the idea that the win margin could explain the opportunistic distortion. Therefore, I assume that incumbents are characterized by rational expectations. To verify the non-linear effect of the WM and the OD on each other, their square values are included in the estimates. Thus I expect the following sign for these variables of interest: $\alpha_1 > 0$, $\alpha_2 < 0$, $\beta_0 > 0$ and $\beta_1 < 0$.

There are common variables to the two equations. This concerns *Municipal to intercommunality Expenditures ratio* ($MIEx$), *Years in office* (YO), *Unemployment rate gap* (URG), *municipal income* (INC) and *Debt*.

Intercommunities share some identical competences with the municipalities. It is reasonable to expect that these interactions have an impact on mayors' behavior and electoral fortune. Therefore, the variable *Municipal to intercommunality Expenditures ratio* (Municipal term mean expenditure per capita divided by Intercommunality term mean expenditure per capita) is introduced to test for the presence of two effects. We surmise that $MIEx < 1$, means that the municipality has less responsibility than the intercommunality. In this case, one could expect this

⁸The election years are 2001, 2008 and 2014. The election of 2001 is not included in the analysis whenever lags, term averages or deviations from term averages are included.

variable to have no impact on the win margin of incumbent mayors. However, when $MIEx > 1$, it would be positively related to the *win margin* ($\alpha_3 > 0$).

The variable *Years in office* (YO) measures the number of years the incumbent has been in office. On average, Mayors in the sample have been in office for at least 10 years with the long tenure being of 49 years. As documented by Martin (1996) there is a non-monotonic relationship between the number of years the incumbent mayor has been in office (YO) and the *win margin*. Hence, I introduce the variable Years in Office and its square value in the vote equation. I expect a positive sign for the YO (α_4) and a negative sign for its square value ($\alpha_5 < 0$).

Regarding *the unemployment rate (local and national)*, I compute the gap between the national average unemployment rate and that of the municipality⁹. The unemployment rate (local) varies between 8.96% and 17.86%. The *Average real income (INC)*, in euros per capita measures the net disposal income of households in the municipality. This variable ranges from 5535.79 to 52044 with a mean of about 13630.19 euro per capita.

The *Unemployment rate gap* and the *Average real income* capture the local economic conditions and are included in the two equations for the following. Given the fact that voters tend to punish policymakers for bad economic outcomes, higher unemployment rates should lead to a lower percentage of votes for the incumbent mayors ($\alpha_6 < 0$). Likewise, since voters are expected to reward mayors who achieve high level of *average municipal income (INC)* during their tenure, a positive sign is expected for α_7 .

I also include the *Municipal debt (Debt)*; in euros per capita. The introduction of this variable, reflecting the financial liabilities generated in the years analyzed, allows verifying whether the electorate punishes high levels of local debt. Empirical findings suggest that the *Municipal debt* is associated to a negative sign in the vote equation ($\alpha_8 < 0$).

Equation 3 also includes the lagged value of the win margin. This variable picks up unobserved factors such as the mayor's personal characteristics and ideologies, as well as party affiliations of voters. Persistence in voter preferences (and thus in voting behavior) is expected and a positive sign is predicted for α_9 .

The variable *Government Party (GovP)* is a dummy variable equal to 1 if the incumbent mayor belongs to the majority in the Parliament and 0 otherwise. Voters may wish to punish or reward central government at local elections. Thus there is no a priori sign for the variable *Government Party*.

⁹As the local unemployment rate is available only at the employment area level ("zone d'emploi"), I consider the same value for municipalities which belong to the same "zone d'emploi".

Regarding the determinants of fiscal distortion, one expects that greater *Municipal to inter-communality Expenditures ratio* makes it easier to be opportunistic and to create large percentage deviations of public expenditures at election times ($\beta_2 > 0$). It is also assumed that mayors with long tenures are more experienced and so are more able to manage public spending opportunistically ($\beta_3 > 0$). In the same way, there are possibilities through which economic conditions could explain the Opportunistic Distortion. For instance, the distortion would be stronger if the municipality was able to levy more taxes on the rich or the distortion regarding operational spending would be stronger if the municipal government strategically was to increase public employment in high unemployment municipalities. Thus, one expects the sign attached to the URG to be positive ($\beta_4 > 0$). Symmetrically, when the economy does well (income increases), there is less incentive to distort fiscal policy and $\beta_5 < 0$. In addition, it is obvious to note that in highly indebted municipalities, incumbents have less room for strategic manipulation of fiscal policy. Hence the coefficient of the variable Debt is expected to be negative ($\beta_6 < 0$).

In the distortion equation, four other variables are added. On the one hand, we have the *average capital transfers* from the national government during the preceding election term (*CAPTtm*) and the election year *change in the capital transfer* (*VCAP*). These two variables are indicative of the availability of funds. The theory suggests that *capital transfers* increase the opportunistic distortion in election years without having a direct effect on the win-margin. Thus, β_7 and β_8 are expected to be positive.

On the other hand, two variables that are related to the voters' awareness are also included because the theory suggests that voters' awareness tends to reduce the magnitude of the Political Budget Cycle. One way to seize voter awareness is to use a measurement based on education and urbanization, as in Akhmedov and Zhuravskaya (2004). Like Aidt et al. (2011), here the *percentage of the population over 65 years of age* (*Pop65*) is used to proxy for low average education levels and the *population density* (*DENS*) for urbanization; in *inhab/km²*. *Pop65* is expected to be associated with lower levels of awareness while *DENS* is expected to be associated with higher levels of voters' awareness. Thus, the predicted signs of their coefficients are respectively, $\beta_9 > 0$ and $\beta_{10} < 0$. The last variable in this equation is *Right*, a dummy variable that is equal to 1 if the mayor belongs to a right-wing party (UMP, Divers Droite or Droite Libérale). There is no prior on the sign of β_{11} .

To estimate the system of equations 1 and 2, various methods exist and include: Three Stage Least Squares (3SLS), Full Information Maximum Likelihood (FIML) and Generalized Method

of Moments (GMM).

In order to choose between these methods, let us look at the problems raised by the specification here and the efficiency comparison of estimators. In the vote equation, there are two endogenous variables: the lagged-dependent variable and the *OD* while, in the equation 2, the win margin figures as an explanatory variable. Thus, one has many problems to address; in particular, the Nickell (1981) bias¹⁰ and the simultaneity bias.

Regarding the dynamic panel structure of equation 1, Blundell and Bond (1998) show that to estimate the coefficient of the lagged-dependent variable with the GMM-system, the sufficient conditions apply for $T \geq 3$. Albeit this study covers three elections, the construction of the win margin reduces the sample to $T = 2$. Thus, it is impossible to use the GMM-system estimator. Moreover, according to Akhmedov and Zhuravskaya (2004) there is not a good instrument for the opportunistic distortion because all variables that sufficiently strongly correlate with it have an independent-of-the-cycles effect on the popularity of incumbents.

I thus turn to the other adequate estimators (3SLS and FIML). Nevertheless, the choice between 3SLS and FIML is less clear. If FIML is efficient among all estimators, Greene (2000) indicates that “3SLS dominate FIML nonetheless”. Hence, I use the 3SLS estimator and results are shown in the next section.

4 Results

In this section, the main results of the voting function (Equation 1) and of the Opportunistic distortion’s equation (Equation 2) are discussed. The main results for the statistical analyses can be found in Table 3. Column (1) presents the results when considering Total expenditures, while columns (2), and (3) relate to the sub-components of public spending (respectively operating spending and equipment expenditures).

4.1 Analysis of vote shares difference

I begin the discussion of results by those attached to the vote equation (1). The first point to be scrutinized is the presence of a linear or a non-linear relation between the win margin of victory and the opportunistic distortion of fiscal policy. From Table 3, it appears that the opportunistic distortion appears to be significantly positive while its square value comes up to

¹⁰In auto-regressive equations, Nickell (1981) points that the dependent variable’s coefficient is biased due to the correlation between the fixed effects and the lagged dependent variable.

be non significant. However, the Wald test does not reject the joint significance of the two variables. Thus, I kept them in the regressions.

Table 3: Vote difference and Opportunism: main results

	(1)	(2)	(3)
	Total expenditure	Operating Spending	Equipment expenditure
Eq 1: Win Margin			
Opportunistic Distortion	2.833*** (0.601)	1.844*** (0.531)	0.313*** (0.0316)
Opportunistic Distortion Squared	0.000751 (0.00252)	0.000908 (0.00215)	0.404** (0.158)
Municipal to interco expenditure	-2.073 (9.200)	1.480 (5.095)	-4.918* (2.663)
Years mayor	0.986*** (0.207)	0.873*** (0.124)	0.767*** (0.101)
Years mayor squared	-0.0177*** (0.00557)	-0.0169*** (0.00377)	-0.0155*** (0.00299)
Government's Party	-2.269*** (0.876)	-5.560*** (0.704)	-6.828*** (0.720)
Win Margin in the Previous Election	0.469*** (0.0500)	0.504*** (0.0223)	0.486*** (0.0257)
Difference to national unemployment rate	0.255 (0.424)	0.287 (0.201)	0.929*** (0.218)
Average real wages per capita	0.000327 (0.000264)	-0.000203 (0.000132)	0.000366*** (0.000136)
Municipal debt	-1.555** (0.721)	-0.493 (0.325)	-1.304*** (0.371)
Right	7.150*** (2.046)	5.192*** (0.962)	5.116*** (0.969)
Number of candidates	-0.0248 (0.316)	0.143 (0.259)	0.00849 (0.270)
_cons	47.84*** (11.97)	26.54*** (5.211)	43.91*** (6.080)
R^2	0.317	0.126	0.332
Eq 2: Opportunistic distortion			
Win Margin	-0.359*** (0.0809)	-0.427*** (0.0484)	-3.264*** (0.409)
Win Margin Squared	0.0105*** (0.00126)	0.0117*** (0.000799)	0.0914*** (0.00665)
Municipal to interco expenditure	2.621 (3.345)	1.648 (2.493)	4.135 (9.416)
Years mayor	-0.0697* (0.0414)	-0.0201 (0.0245)	0.0920 (0.209)
Capital transfers (term mean)	0.491** (0.198)	0.364*** (0.130)	3.951*** (1.090)

% change of transfers from central government	-0.000186 (0.000133)	-0.000217** (0.000109)	-0.00294*** (0.000881)
% Population over 65 years old	-0.0599 (0.0384)	-0.0588** (0.0298)	-0.125 (0.165)
Population density	0.000234*** (0.0000769)	0.000246*** (0.0000863)	0.00251*** (0.000631)
Difference to national unemployment rate	0.0562 (0.154)	0.130 (0.0898)	-1.666** (0.764)
Average real wages per capita	-0.000196** (0.0000944)	0.0000973* (0.0000552)	-0.00136*** (0.000477)
Municipal debt	0.186 (0.268)	-0.184 (0.163)	1.079 (1.390)
Right	-0.435 (0.702)	-0.104 (0.399)	1.095 (3.397)
_cons	-11.04** (4.331)	8201.0*** (788.2)	79201.4*** (7252.8)
Observations	4179	4179	4168
R^2	0.117	0.376	0.168
Municipal FE	Yes	Yes	Yes

Standard errors in parentheses. Significance levels: * $p < .1$, ** $p < .05$, *** $p < .01$

Estimation method: Three Stage Least Squares.

The results suggest that the opportunistic distortion increases the win margin of victory whatever the expenditure item considered. A one percentage deviation from the term mean of total expenditure, operating spending and equipment expenditure increases the win margin of victory by respectively 2.83%; 1.84% and 0.31%. In other words, the fiscal distortion prior to elections pays off. These results seem to verify the previous studies of Veiga and Veiga (2007) and Aidt et al. (2011).

It is interesting to notice that the impact of operating spending is higher than that of equipment expenditure. This could be seen as corroborating the prediction of Rogoff's (1990) seminal paper. Indeed, operating spending like raising salaries or increasing municipal employment even by temporary contracts is immediately noticeable. Moreover, Jones et al. (2012) give a micro-foundation to this mechanism. They argue that, for voters to reward higher spending at the margin, it has to be the case that increases in spending are welfare enhancing from their perspective. This could happen: (i) in a hard budget constraint scenario because the extant level of spending and taxation is too low, or (ii) in a soft budget constraint scenario because increases in spending at the margin are largely financed from external sources as opposed to taxes on local citizens. The politically successful politician is the one who is able to expand the local budget

constraint by obtaining more funds from the central government. Then, I argue that French voters reward operating spending increases because it is largely (if not entirely) financed by central government transfers (“Dotation Globale de Fonctionnement, DGF”). As shown below, municipalities benefiting from large central transfers, are more opportunistic. Thus, the result obtained here could traduce a reward of partisan loyalty. Joanis (2011) shows in the case of districts in Québec that districts which display loyalty to the incumbent government receive disproportionately more spending, especially close to an election.

As far as the variable *Municipal to Intercommunality Expenditures ratio* is concerned, it does not have a significant effect on the win margin. Surprisingly, greater municipal expenditure relative to that of the intercommunality reduces the win margin in equipment expenditure specification (column 3). For instance, 1.0 unit change of the municipal to intercommunality equipment expenditure ratio produces 4.92 change in the win margin. However, an immediate interpretation of these numbers is misleading, given that term mean expenditure ratio and win margin are measured on different metrics. Consider, then, what happens to the win margin when the term mean expenditure changes one standard deviation. With such an increase, the expected decrease in the win margin is 0.83 percentage points (4.92×0.17). That change translates into a 0.04 standard deviation change in the win margin.

From the estimates of equation (1), the number of years the incumbent has been in office has a non linear effect on her win margin. For instance, the estimated functional effects of the variable years in office on the win margin exhibit a U-shaped form. Albeit voters are attached to their mayors, a “fatigue effect” appears. This effect emerges after 4 terms in office. In other words, experience is good but there is a risk of fatigue.

The coefficient of the variable win margin in the previous election is positive and highly significant. This indicates that the win margin is persistent. This gives a strong support to the fact that voters are attached to their mayors. This result may also reflect a strong degree of partisanship, a result in line with Farvaque and Jean (2007).

Regarding the variable Government’s Party, its coefficient is negative. Similar results are obtained in studies by Aidt et al. (2011), Cassette and Farvaque (2014) and Sakurai and Menezes-Filho (2008). As Aidt et al. (2011) point out, the explanation for this negative relationship could be that voters want to prevent a concentration of power in a single party at both national and local levels, or that they use the local elections to express their dissatisfaction with the national government.

The estimations show also that the unemployment rate gap (difference between the national and the local unemployment rates) impacts positively the win margin of victory. This means that when the local economy performs better than the national level, this increases the support for the incumbent. Concerning the magnitude of the effect, when the local unemployment is one point of percentage higher than the national unemployment, the incumbent's win margin decreases by approximately 0.3 to 1%.

As many previous studies find it, the municipal debt reduces the win margin of victory. The decrease is about 1.3 to 1.6% for an increase of the municipal debt by 1%. This result is in line with Cassette and Farvaque (2014) who study the impact of debt accumulation on the re-election possibilities of French local governments. Their results indicate that the accumulation of debt during the whole term adversely affects the probability of re-election. Finally, results also indicate an increase in the win margin for the mayors belonging to the right-wing party while the number of candidates seems to have no effect.

4.2 Determinants of opportunism

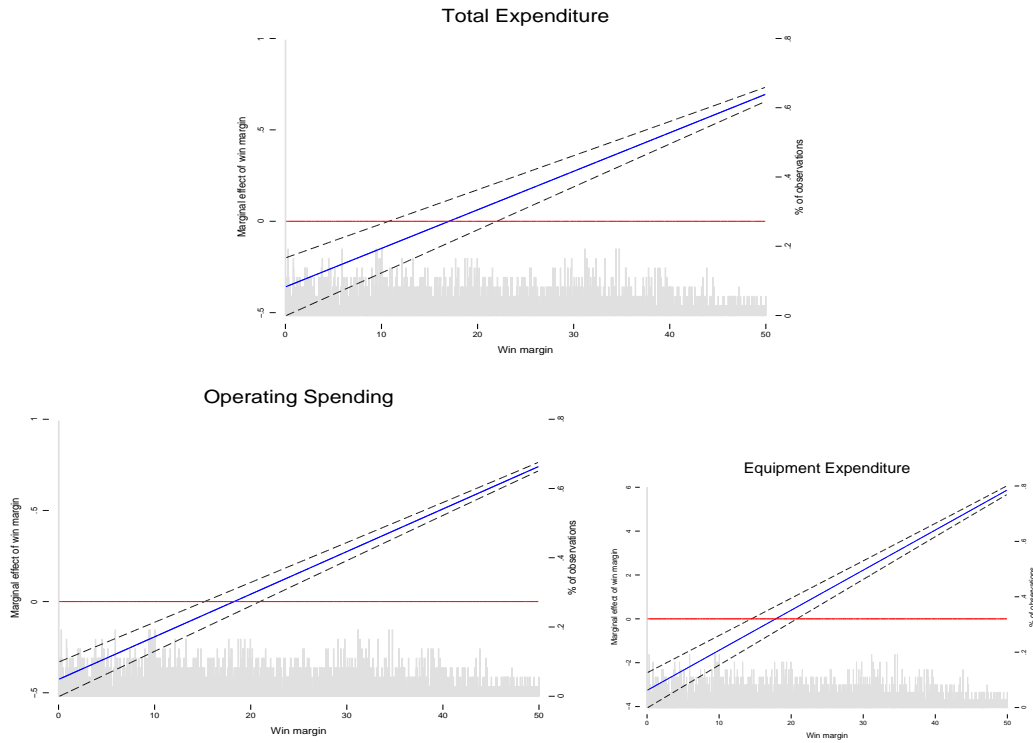
I now turn to the discussion of the estimates of Equation (2). This equation identifies the determinants of opportunistic behavior over the components of public expenditures.

The results presented in columns (1) to (3) of Table 3 show that the coefficient of variables win margin and win margin squared are statistically significant with, respectively, negative and positive signs. This indicates that the relationship between opportunism over Total expenditure, operating spending and Equipment expenditure and the win margin of victory has a U-shape form. In other words, the estimated coefficients confirm the existence of non-linear effects of the win margin on the opportunistic distortion of fiscal policy. In Figure 3, the solid sloping line indicates how the marginal effect of win margin changes when the win margin increases. The intersection between the solid sloping line and the horizontal red line materializes the threshold¹¹ of the win margin under which the inclination to distort fiscal policy increases. The value of this threshold ranges between 17% and 19% . Interestingly, it is close to the mean of the win margin (19.1%).

The U-shape relationship between opportunism and the win margin of victory means that there is an efficient level of effort the incumbent should exert (see Martinez, 2009). Note also that the above parabolic relationships are in line with Hanusch and Magleby (2014) who argue

¹¹From the first partial derivative of OD over WM in equation 5 one obtains the threshold equal to $WM = \frac{-\beta_0}{2\beta_1}$.

Figure 3: Marginal effect of win margin



that in environments with low polarization, the government popularity affects political budget cycle in a non-linear way. Note that, from 2000 to 2015, the DPI indicates that parties in France differ by an average of 0.6 on a scale of 0 (no polarization) to 2 (the maximum amount of polarization)(Cruz et al., 2016).

With regard to the control variables, *Municipal to Intercommunality Expenditures ratio* does not influence significantly the opportunistic behavior of incumbent mayors. The results indicate also that opportunism depends positively and significantly on average capital transfers from the central government over the election term. Thus, municipalities which receive more transfers, on average, also behave more opportunistically. In terms of sensitivity, a 1 point increase of standard deviation of capital transfers raises the degree of opportunism by 0.03%. The impact is about 0,04% for operating spending and 0,05% as regards equipment expenditure.

The number of years the incumbent mayor has been in office tend to reduce the distortion of total expenditure and increase that of equipment expenditure. This traduces the impact of experience on the manipulation of budget composition. Drazen and Eslava (2010) present a model of the political budget cycle in which incumbents try to influence voters by changing the composition of government spending, rather than overall spending or revenues.

The impact of population density on the opportunistic behavior of the incumbent is positive.

Consider that high population density corresponds to big cities and equivalently to high levels of expenditures. Consequently, in order to be noticeable as competence signaling, the distortion should be greater.

The share of older people (population over 65) tends to reduce the incentive to distort municipal expenditures. Noting that older people are those who turnout more, this result is in line with the theoretical findings of the literature according to which voters awareness reduces politicians' opportunism. Shi and Svensson (2006) argue that a large share of informed voters renders fiscal policy manipulation less effective.

Although, the *percentage change in the capital transfers* from the previous year is not statistically significant in columns (1), it reduces the incentive to distort operating spending and equipment expenditure.

Economic conditions are expected to have an indirect impact on win margin through the incentive to behave opportunistically. The estimated coefficients of unemployment rate gap and average municipal income appear to be non significant for the former and significant for the latter. For instance, an increase of the average municipal income tend to reduce the incentive to distort total and equipment expenditures.

Finally, the fiscal liabilities of the municipality (as measured by its debt level) induces less opportunism. It is straightforward to notice that in highly indebted municipalities, mayors have less room to maneuver principally with respect to equipment expenditure. This result is in line with the fact that French municipalities are allowed to borrow only to fund investment expenditures.

To conclude this section, notice that the above results are obtained by pooling the 2 terms (2001-2008 and 2008-2014) summarized informations. Hence, it is important to check their robustness. To this end, I split the sample according to municipal population size. Table A.1 in the appendix presents the results of this strategy. I also run a cross-section test, re-estimating the system of equations (1) and (2) using the data that summarize the informations over terms separately. The results are displayed in Table A.2 in the appendix.

Regarding the focal variables, the sample split test and the cross-section test confirms findings from the semi-panel regressions (the presence of a non-monotonic relation between the win margin of victory and the magnitude of the cycle). As for differences, , the relationship between the win margin and the opportunistic distortion is an inverted U-shaped in municipalities of more than 10,000 inhabitants.

In the cross-section regressions, the dummy variable *Right* is dropped from the win margin equation due to collinearity with the variable *Government party* during the term 2001-2008. The manipulation of public spending increases the reelection chances of incumbent mayors. The non-linear effect of the win margin on the opportunism degree is confirmed.

Specific results indicate that in small cities (population less than 10,000 inhabitants), an increase of the number of candidates reduces the incumbent's win margin of victory while this is beneficial to her in big cities (population greater than 10,000 inhabitants).

Before the 2008 municipal election, the municipal debt plays against opportunistic behavior. But, during the 2008-2014 term, it tends to give mayors a leeway to act opportunistically (see Table A.2 in the appendix).

5 Conclusion

There is an extensive literature focusing on the Rational Political Business cycles. Nevertheless, the past literature presents ambiguous evidence about the bidirectional and causal influences between the government popularity and the size of the fiscal cycle. Aidt et al. (2011) introduced an innovation which is to acknowledge this interaction. This paper adds a new set of empirical evidence to this innovation by taking advantage of a large data-set of French municipalities of more than 3,500 inhabitants.

This paper enlightens the nature of the functional form of the relationship between incumbent's win margin of victory and the size of fiscal distortion in French municipalities. Here, I find that the pre-electoral manipulation of public expenditure increases the reelection chances of incumbent mayors. As the main determinant of opportunistic behavior, the win margin of incumbent mayor impacts the magnitude of the fiscal cycle in a non-linear way. Overall, the estimated coefficients indicate the existence of a U-shaped relationship between the two variables. Hence, the main contribution of this paper is to evidence these non-linearities controlling for the interactions between municipalities and intercommunalities.

The results indicate also that incumbent mayors who care about their reelection will have to take into account local economic conditions and their fiscal performance. The results confirm that voters tend to be conservative as regards the accumulation of municipal debt. Finally, I note that political alignment with the central government matters in the sense that voters may use municipal elections to punish national politics.

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1 Robustness check

Table A.1: Vote difference and Opportunism by municipality size

	(1)	(2)	(3)	(4)	(5)	(6)
	3500-10000			>10000 inhabitants		
	Total	Operating	Equipment	Total	Operating	Equipment
Eq 1: Win Margin						
Opportunistic Distortion	1.609*** (0.367)	2.934*** (0.643)	0.0273*** (0.00413)	4.242*** (1.428)	6.462** (3.083)	0.0345*** (0.00743)
Opportunistic Distortion Squared	-0.0000855 (0.00210)	-0.0000217 (0.00244)	0.0290 (0.0285)	0.00216 (0.00500)	0.0142 (0.0250)	0.306 (0.214)
Municipal to interco expenditure	-2.701 (6.212)	-1.169 (8.090)	-0.291 (1.632)	53.57 (44.36)	75.75 (47.85)	-6.258** (3.115)
Years mayor	0.891*** (0.161)	0.836*** (0.178)	0.737*** (0.102)	0.893** (0.440)	1.123** (0.465)	0.607*** (0.118)
Years mayor squared	-0.0159*** (0.00438)	-0.0183*** (0.00555)	-0.0153*** (0.00342)	-0.0178 (0.0129)	-0.0179 (0.0114)	-0.00776** (0.00361)
Government's Party	-2.707*** (0.699)	-3.013*** (0.778)	-5.308*** (0.686)	2.721 (2.702)	3.224 (2.129)	-2.044** (1.017)
Win Margin in the Previous Election	0.314*** (0.0358)	0.348*** (0.0391)	0.420*** (0.0181)	1.063*** (0.142)	1.182*** (0.158)	0.826*** (0.0291)
Difference to national unemployment rate	0.309 (0.339)	-0.160 (0.371)	0.673*** (0.154)	0.152 (0.922)	0.805 (0.660)	0.965*** (0.180)
Average real wages per capita	-0.0000216 (0.000212)	-0.000698** (0.000274)	0.0000445 (0.0000962)	0.00100 (0.000633)	0.000448 (0.000409)	0.0000763 (0.000107)
Municipal debt	-1.745** (0.732)	-1.665** (0.740)	-1.549*** (0.323)	-3.150* (1.738)	-0.520 (1.192)	-0.556* (0.322)
Right	6.374*** (1.562)	7.079*** (1.671)	4.538*** (0.683)	5.735 (4.823)	-0.0898 (3.230)	0.698 (0.949)
Number of candidates	-0.616 (0.386)	-0.616 (0.475)	-2.617*** (0.419)	1.557** (0.670)	1.426** (0.663)	0.899*** (0.286)
_cons	50.07*** (11.49)	49.47*** (11.64)	47.82*** (5.096)	70.86** (29.31)	17.65 (22.04)	27.18*** (5.357)
R^2	0.270	2.633	0.217	5.121	0.133	0.214
Eq2:Opportunistic distortion						
Win Margin	-0.255** (0.107)	-0.199*** (0.0596)	1.138*** (0.181)	-0.554*** (0.115)	-0.401*** (0.0539)	0.329* (0.173)
Win Margin Squared	0.0122*** (0.00169)	0.00751*** (0.000951)	-0.0121*** (0.00386)	0.0114*** (0.00182)	0.00787*** (0.000848)	-0.000323 (0.00338)
Municipal to interco expenditure	4.204 (3.777)	2.324 (2.668)	7.682 (10.58)	-12.62 (10.50)	-10.82* (6.032)	22.29* (13.54)
Years mayor	-0.153*** (0.0572)	-0.0323 (0.0314)	-0.192 (0.261)	0.0314 (0.0592)	-0.00471 (0.0277)	-0.0820 (0.191)
Capital transfers (term mean)	0.851***	0.519***	10.41***	0.0222	0.0207	5.988***

	(0.291)	(0.148)	(1.980)	(0.211)	(0.186)	(1.700)
% change of transfers from central government	-0.000160	-0.000128*	-0.00214	-0.00130	-0.000889**	0.0140***
	(0.000157)	(0.0000777)	(0.00132)	(0.00110)	(0.000386)	(0.00468)
% Population over 65 years old	-0.0971*	-0.0641**	-0.123	-0.0246	-0.0199	-0.117
	(0.0529)	(0.0321)	(0.326)	(0.0348)	(0.0242)	(0.291)
Population density	0.000789**	0.000387	-0.00493	0.000198**	0.000146**	0.000881
	(0.000334)	(0.000259)	(0.00357)	(0.0000898)	(0.0000731)	(0.000659)
Difference to national unemployment rate	-0.0143	0.166	-2.235**	0.189	0.0257	-0.348
	(0.205)	(0.113)	(0.964)	(0.235)	(0.111)	(0.787)
Average real wages per capita	-0.000109	0.000165**	-0.00157**	-0.000312**	-0.000130*	-0.000893*
	(0.000130)	(0.0000710)	(0.000619)	(0.000140)	(0.0000663)	(0.000479)
Municipal debt	0.411	0.151	-4.420**	0.632	0.0326	-0.735
	(0.450)	(0.247)	(2.140)	(0.395)	(0.193)	(1.498)
Right	-0.676	-0.403	-5.325	-0.650	0.614	-2.701
	(0.967)	(0.531)	(4.221)	(1.011)	(0.477)	(3.299)
_cons	-21.77***	-11.04***	-85.18**	-8.935	2.529	-90.22***
	(7.359)	(3.998)	(37.70)	(7.061)	(3.663)	(26.12)
Observations	2672	2672	2664	1507	1507	1504
R ²	0.100	0.143	0.127	0.121	0.343	0.434

Standard errors in parentheses. Significance levels: * p<.1, ** p<.05, *** p<.01

Estimation method: Three Stage Least Squares.

Table A.2: Vote difference and Opportunism by election

	(1)	(2)	(3)	(4)	(5)	(6)
	2001-2008			2008-2014		
	Total	Operating	Equipment	Total	Operating	Equipment
Eq 1: Win Margin						
Opportunistic Distortion	2.0788***	5.8225***	0.5851***	3.2850**	2.7915***	0.0197***
	(0.4678)	(1.9289)	(0.1108)	(1.3889)	(0.9758)	(0.0048)
Opportunistic Distortion Squared	0.0020	0.0004	2.8394*	0.0001	0.0001	0.0242
	(0.0024)	(0.0012)	(1.5377)	(0.0055)	(0.0076)	(0.0304)
Municipal to interco expenditure	0.8828	-58.0212	3.6108	-3.1221	4.8261	-4.0174*
	(32.8814)	(44.1054)	(4.8388)	(11.2008)	(7.2626)	(2.1399)
Years mayor	0.5171**	0.4080	0.4116**	1.0890***	1.0503***	0.9140***
	(0.2588)	(0.3552)	(0.1985)	(0.3525)	(0.2085)	(0.1074)
Years mayor squared	-0.0092	-0.0064	-0.0062	-0.0159*	-0.0173***	-0.0160***
	(0.0080)	(0.0113)	(0.0062)	(0.0088)	(0.0054)	(0.0033)
Government's Party	-2.1136	-3.2027	-1.9123	-3.9531***	-4.5278***	-4.9483***
	(2.0175)	(2.8750)	(1.7631)	(1.1836)	(1.0612)	(1.0259)
Win Margin in the Previous Election	0.3395***	0.2974***	0.3771***	0.5261***	0.6055***	0.7172***
	(0.0538)	(0.0747)	(0.0484)	(0.0992)	(0.0443)	(0.0237)
Difference to national unemployment rate	0.6852	-0.3114	1.0783**	-0.2137	0.0441	0.5368***
	(0.4865)	(0.8238)	(0.4296)	(0.6533)	(0.3630)	(0.1642)

Average real wages per capita	0.0001 (0.0003)	-0.0005 (0.0005)	0.0001 (0.0003)	0.0005 (0.0005)	-0.0002 (0.0003)	0.0000 (0.0001)
Municipal debt	0.7017 (0.7750)	2.4841** (1.2067)	0.9907 (0.7167)	-4.1070*** (1.2389)	-1.6202*** (0.5759)	-1.0458*** (0.3157)
Right	0.0000 (.)	0.0000 (.)	0.0000 (.)	13.3989*** (4.0097)	7.1351*** (1.8680)	3.2810*** (0.8250)
Number of candidates	-0.4131 (0.6333)	-0.4917 (0.7706)	-0.6945 (0.5632)	0.9230 (0.7189)	0.8474** (0.3424)	0.2764 (0.3171)
_cons	17.6569 (12.7083)	-7.2086 (19.6758)	16.2701 (11.4892)	82.8979*** (21.8935)	37.7659*** (9.5114)	32.1861*** (4.9687)
R^2	08.789	21.657	17.476	08.117	22.568	12.403
Eq2:Opportunistic distortion						
Win Margin	-1.6626*** (0.3844)	-0.5227*** (0.1840)	-7.1934*** (1.3806)	-0.0984 (0.0680)	-0.1321*** (0.0380)	0.5735*** (0.1768)
Win Margin Squared	0.0339*** (0.0062)	0.0110*** (0.0029)	0.1418*** (0.0224)	0.0056*** (0.0010)	0.0059*** (0.0006)	-0.0017 (0.0040)
Municipal to interco expenditure	0.4067 (17.2119)	10.3994 (7.4693)	-6.7343 (10.2740)	2.0396 (3.3418)	-0.3124 (2.4132)	25.5683* (13.9956)
Years mayor	-0.0322 (0.0677)	-0.0100 (0.0327)	-0.0778 (0.2415)	-0.0952* (0.0544)	-0.0665** (0.0299)	0.1789 (0.2815)
Capital transfers (term mean)	0.9235* (0.4969)	0.2822** (0.1348)	6.3045*** (1.8751)	0.0612 (0.1156)	0.1289 (0.1023)	6.1991*** (1.9269)
% change of transfers from central government	-0.0003 (0.0003)	-0.0001 (0.0001)	-0.0013 (0.0011)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0052*** (0.0017)
% Population over 65 years old	0.0633 (0.0493)	0.0178 (0.0368)	0.3026* (0.1741)	-0.0359 (0.0684)	-0.0538 (0.0390)	0.2940 (0.4041)
Population density	0.0004* (0.0002)	0.0001 (0.0001)	0.0017** (0.0008)	0.0001* (0.0001)	0.0001 (0.0001)	0.0013 (0.0013)
Difference to national unemployment rate	-0.1872 (0.2582)	0.1019 (0.1249)	-1.8487** (0.9072)	0.1907 (0.1989)	0.1551 (0.1096)	-1.6293 (1.0700)
Average real wages per capita	0.0001 (0.0002)	0.0001* (0.0001)	0.0005 (0.0006)	-0.0002 (0.0001)	0.0000 (0.0001)	-0.0017** (0.0007)
Municipal debt	-0.9803** (0.4672)	-0.6150*** (0.2080)	-4.8081*** (1.7381)	1.0436*** (0.3351)	0.2785 (0.1924)	1.5388 (2.1167)
Right	0.2410 (1.0508)	0.3035 (0.5085)	0.0043 (3.7315)	-3.3602*** (0.9822)	-1.5886*** (0.5404)	-13.7790*** (5.1419)
_cons	8.1280 (7.9139)	6.7685* (3.6012)	15.1160 (28.3567)	-20.4427*** (5.6381)	-6.6703** (3.1665)	-141.4269*** (33.4919)
Observations	2025	2025	2023	2154	2154	2145
R^2	5.789	15.657	18.477	0.317	0.168	0.417

Standard errors in parentheses. Significance levels:* p<.1, ** p<.05, *** p<.01

Estimation method: Three Stage Least Squares.