Vote expectations and pre-electoral tariff cuts in Flemish municipalities

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Abstract

Using data covering 3 election moments (1988-2000) for 294 Flemish municipalities we examine whether the decision to cut tariffs before elections depends on the government's expectations of staying into office. Election moments are central to both the political budget cycle literature and the strategic debt models. The combination of both theories could suggest that, at least in theory, both winning and loosing governments seem to benefit from pre-electoral tariff reductions and as such we expect to find a great many municipalities to engage into tariff cuts. The dataset however shows this is clearly not the case. We argue that the differences in the fiscal policy reaction of governments facing elections might have to do with their expectations of staying into office. In our analysis we make the decision to change tariffs dependent on the expected vote percentage of the government party (parties). As we do not possess reliable ex ante data on the perceived re-election probability, we estimate a vote-function to predict the percentage of votes. Our analysis shows that tariff reductions in election years are more prone when governments expect not to reach majority again in next elections.

Key-words : tax policy, political budget cycles, strategic debt, vote-function, local government

JEL : H30, H71

1. Introduction

This paper deals with the question whether the expectation of getting voted out of office is linked to the incumbent government's tax policy in the election year. The paper joins ideas from 3 different literatures: the budget cycles literature, the strategic debt models and the studies concerning the choice of tax tariffs.

The study of the politicians' behaviour at election moments is the central focus of the electoral cycle models (Nordhaus (1975), Tufte (1978), Hibbs (1977) and Rogoff (1990)). An impressive amount of studies have been testing various predictions coming from political business or fiscal cycles models. The findings are of particular importance for the analysis done in this paper, as we are investigating the effect of elections on the local tax policy of Flemish municipalities. We focus on fiscal policy, rather than on economic policy as the evidence concerning budget cycles seems much more robust (Franzese, 2002).

Next to the electoral cycle literature, we rely on insights from the strategic debt models (Persson & Svensson (1989) and Alesina & Tabellini (1990)). In these models incumbents are consciously engaging in deficit spending or debt accumulation, the aim being to jeopardize the fiscal stance of the next government. The models suggest that incumbents are triggered to do so when today's government fears to be voted out of office at the next elections. According to the strategic debt models, the perceived probability of defeat thus might be a key parameter in explaining policy choices preceding election moments. In our contribution we examine whether the probability of being a member of the next majority somehow determines the tariff changes of local taxes in election years. Unfortunately we do not possess data on the perceived chances of re-election resulting from surveys or face-to-face interviews. Instead of working with post election results concerning the effective vote distribution (see Petterson-Lidbom, 2001), we use the outcomes of an estimated vote function. As such, the expected votes are depending on the actual popularity of the government, on its fiscal policy and on the economic conditions. Additionally we adopt variables reflecting the institutional framework of local elections. As more recent contributions (Goodhart (2002), Ashworth & Heyndels (2002), Nelson (2000), Huber et al. (2003) and recently Geys (2007)) are suggesting, we expect government fragmentation to affect the opportunity to electioneer.

Finally, only a limited number of electoral cycles studies focus on tax policy. Most of the time expenditures, deficits or debt are the fiscal instruments under study (see Rogoff (1990), Alesina et. al (1992), de Haan & Sturm (1997), Schuknecht (2000), Brender & Drazen (2005), Alt & Lassen (2006), Mink & de Haan (2006)). Yet, scholars generally agree that incumbents prefer to manipulate the instruments the most visible to their electorate. As tariff changes are highly visible (cfr. Mickesell (1978)), the dependent variable in this study is representing the relative tariff changes of the local income tax in the election year. This surcharge tax is levied by almost every local community. It collects almost 40% of total local government fiscal income (Dexia, 2006) and tariff cuts are affecting the majority of taxpayers.

To test whether vote expectations explain fiscal policy choices, we use panel data covering 3 election moments (1988, 1994, 2000) for 294 Flemish local governments. Vote expectations are generated first, starting from the vote function estimated by Vermeir & Heyndels (2006), which we slightly adapted for the purpose. Next, fixed and random effects models were tested. Next to the key variable, we introduce variables representing scale, budgetary position and government fragmentation. The results indicate that the expectation of being a member of the next majority is indeed related to the magnitude of the local income tax tariff cuts.

The remainder of the paper is organised as follows. Section 2 provides a literature review. Section 3 formulates our research question and hypothesis. Section 4 presents the dataset, the model and the results of the empirical analysis. Finally some concluding comments are given in section 5.

2. Literature

The propositions made in this paper are related to some well-established models in the fiscal policy literature. In this section we briefly discuss the contributions of political business and budget cycle models and strategic debt models to the understanding of politicians'.

Political business/budget cycles

Political business cycle models expect incumbents when facing elections to engage in specific policies. Originally the models focussed on politicians stimulating the economy by manipulating macro-economic policy (political *business* cycles). By taking employment or wealth inducing measures, the government's popularity, and as a consequence its chance of staying in office was expected to increase. Still, Drazen (2000) concludes that models based on manipulating the economy via monetary policy are unconvincing both theoretically and empirically. However, studies studying fiscal policy (political *budget* cycles – PBC) are much more robust. A lot of empirical evidence is supporting the idea that lowering taxes, increasing expenditures or raising grants before elections could raise the government's chance of re-election. A general overview of the theory of PBC can be found in e.g. Franzese (2002) or Drazen (2000).

After Nordhaus (1975) several generations of political economists were attracted by the idea of political cycles. Their contributions are the result of changing assumptions about the incumbents' motivation or about the voter's attitude. Incumbents are expected to be opportunistic or partisan. Whereas opportunistic politicians are primarily driven by the desire to retain office and care little about policies or outcomes, the politicians featuring in partisan models exhibit strong ideological differences. Concerning the voters, later models assume them to act in an adaptive way or to be rationally voting citizens. Adaptive voters are retrospective voters. Their expectations about the future policy are determined by past policy. Rational voters on the contrary, are rather concerned about the impact of their vote after the election. Based on the combination of these different types of incumbents and voters Alesina (1988) discerns four generations of models.

The first generation of models refers to Nordhaus (1975) or Tufte (1978). These models assume backward looking voters and opportunistic, office-seeking incumbents. These politicians adopt expansionary policies –regardless of political ideology– in the later year(s) of their term in office to stimulate the economy. While Nordhaus (1975) focuses on macroeconomic policies incumbents pursue to maximize their votes, Tufte (1978) stresses electoral cycles in directly manipulatory policies, such as transfer payments, to buy votes from myopic voters. Voters, being the victims of fiscal illusion, do not take the intertemporal budget constraint of the government into account. By consequence they are overestimating the benefits of recent policy and underestimating the resulting future fiscal burden.

Contrary to Nordhaus (1975) and Tufte (1978) Hibbs (1977, 1987) believes incumbents to be driven by partisan or ideological objectives. As in the first generation models, voters are expected to judge retrospectively. In Hibbs' models (1977, 1987) incumbents contest and voters adjudicate elections in partisan terms. Elections are thus ideological driven. Incumbents will try to earn a reputation that attracts voters in accordance with their ideology. Incumbents of the right favour low taxes, prefer low inflation to low unemployment and are sensitive to balanced budgets, the opposite being assumed for left wing voters.

In third generation models incumbents are office-seeking, while voters are expected to have rational expectations. As such they are not easily to be deceived over long periods. We refer to the models of Cukierman & Meltzer (1986), Rogoff & Sibert (1988) and Rogoff (1990). A central issue here is whether voters are able to observe the incumbent's competence level. While each candidate is assumed to know his own level of competency, voters are uncertain about the competency of the incumbents. Voters want to elect the most competent politician and form rational expectations about the incumbents' competency based on observable current fiscal policy outcomes. With the objective of raising re-election probability incumbents can signal their competency by e.g. cutting taxes or rising easily observed spending before elections. If voters enjoy the benefits of these policies before they can evaluate the full cost of them, incumbents will try to signal or feign their competency transferring the bills to post-election moments. According to Alesina (1989, 63) the budgetary process is sufficiently complicated, to reasonably expect even relatively informed and attentive voters to be fooled at least temporarily.

Finally Alesina (1987, 1988), Alesina & Rosenthal (1995) and Alesina et al. (1997) create a model in which partisan incumbents try to attract rational or prospective voters. Their models extend the ideas of the third generation models, but next to the incumbent's competence, elections outcome now is uncertain too. In these models voters could foresee what leftist or rightist governments would bring about, but they don't know the outcome of elections.

A great many of empirical analyses have been testing the propositions resulting from PBC models, but evidence is mixed. Franzese (2002) points out that support for electoral cycles is less robust in developed countries relative to developing democracies. Secondly, the context (political, economic, institutional, structural as well as strategic) in which incumbents operate determinate the incentives to 'electioneer'. Finally, policy adjustments (i.e. budgets, expenditures, taxes, investments) to influence the voter's decision-making are relatively well-

established while evidence for pre-electoral shifts in real outcomes (i.e. gross domestic product, inflation or unemployment) is at best ambiguous[1].

In this paper we look for evidence of an electoral cycle in pre-electoral tax policy in a local context. The setting of local governments excludes monetary policy as an instrument for pre-electoral opportunistic behaviour. Monetary policy is the exclusive power of the federal government, which through its central bank is represented in the ECB decision-making bodies. At the local level, changes in fiscal policy are expected to have a more significant impact on voters' behaviour. We refer to Drazen (2000) who arguments that fiscal policy can clearly signal the government's competence to the electorate. More specifically we will focus on the most visible part of the local fiscal policy, namely tariff changes of important local taxes.

Strategic debt models

Strategic debt models were introduced by Persson & Svensson (1989). Their research question is quite clear : suppose that the current government knows that it will be replaced in the future by a new government with different objectives, then how will this affect the current government's behaviour? In particular, will the current government run fiscal deficits when it knows that its successor's choice of public spending will be influenced by the level of public debt that the successor inherits? Do incumbent policy makers run higher budget deficits than they would have, if they were certain to be re-elected? In their theoretical paper Persson & Svensson (1989) formulate a positive answer on this last question.

The influential paper of Persson & Svensson (1989) was followed by the contributions of Alesina & Tabellini (1990). Both papers emphasize strategic considerations concerning the government's debt policy, yet from another point of view. While Persson & Svensson (1989) focus on the level of spending, Alesina & Tabellini (1990) concentrate on the composition of government spending.

Persson & Svensson (1989) argue that voters have heterogeneous preferences relative to the size of the government. Some of the voters want the government to provide some level of expenditures, while others prefer more of those expenditures to be provided privately. The incumbents reflect the voters' preferences and act accordingly. If the more conservative (in the sense of being less expansionary) incumbents anticipate to be replaced after next elections, Persson & Svensson (1989) expect them to run a higher budget. The idea is to reduce the future public spending opportunities of the following (more liberal) government. The opposite is true for more liberal incumbents that are traditionally less reluctant to higher public expenditures. Persson & Svensson (1989) argue that more liberal incumbents will borrow less when convinced that they will be succeeded by a more conservative government.

Alesina & Tabellini (1990) assume that governments differ with respect to their preferences concerning the composition of government spending. Again this is a reflection of the voters' preferences. When the government knows it will be replaced, the leaving government

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[1] It is not difficult to see that it is for incumbents much easier to manipulate policy instruments than macroeconomic outcomes (e.g. GDP, inflation or unemployment). Governments are able control their own policy instruments whereas they can only hope to have some indirect impact on the economy (Blais & Nadeau, 1992, 390).

will create debt in order to spend a lot of money on the policies in line with their voters' preferences. This can be seen as an advance on the spending cut on those preferences that will coincide with the take-over of the next government. The marginal cost of repaying the additional debt will fall on the policies which matter most for the new government, but are unimportant to the electorate of the leaving government. Alesina & Tabellini (1990) conclude that the equilibrium level of public debt tends to be larger the more likely it is that the current government will not be re-appointed.

Martimort (2001) extends the frameworks of Svensson & Persson (1989) and Alesina & Tabellini (1990) by stressing the strategic role of budget deficits when parties differ only with respect to their redistributive concerns. According to Martimort (2001) political regime switching introduces fluctuations of the distribution of utilities in the economy. These fluctuations justify strategic budget distortions by governments currently holding office and willing to favour their redistributive concerns against future majority. Based on his theoretical model Martimort (2001) expects leftist governments to create distortions by means of deficits, while rightist governments are expected to create surpluses. These theoretical expectations are contrary to those of Persson & Svensson (1989).

Empirical research by Pettersson-Lidbom (2001) is consistent with the model of Persson & Svensson (1989). Pettersson-Lidbom (2001) examines the accumulation of debt by Swedish local governments. He finds that right-wing governments accumulate more debt when facing higher probability of defeat, whereas the opposite occurs for left-wing governments.

Other empirical studies by Lambertini (2003) and Franzese (2001) do not support the strategic use of deficits idea. Both examine data concerning OECD-countries. According to Sutter (2003) the insignificance of the results of both papers may have been caused by problems associated with the pooling of cross-country data.

Finally, we refer to Sutter (2003), who relied on experimental design to test the strategic debt model propositions. Sutter (2003) states that ceteris paribus, deficits decrease with a higher probability of being re-elected.

All studies cited so far are referring to budget deficits primarily driven by conscious increases in public expenditures. In this paper we use the strategic debt models from another point of view. Creating a deficit can also be the result of decreasing revenues, while keeping expenditures constant of letting them grow even further. In this contribution we specifically focus on this revenue site of the budget and estimate a tax tariff function.

3. Discussion

We belief this paper contributes to the literature in several ways. First, we explain local pre-electoral tax policy by introducing the perceived probability of getting into office again. Whether an incumbent decides to manipulate tariffs or other fiscal instruments, is depending on the perceived need to take visible actions on the eve of elections. This is in line with Tufte's (1978) statement that electoral cycles require opportunity and motive. Cyclical behaviour becomes more likely when there is political ability to manipulate policy and when it is more

needed. In the strategic debt models this need is formulated in a rather definitive way. The government will engage in deficit-spending or accumulate debt when "the government knows that it will be replaced" (Persson & Svensson, 1989 : 325). In this paper, we mitigate this assumption, stating that uncertainty about getting re-elected is already sufficient to act strategically. We refer to Rogoff (1990, 30) who explicitly states that "the *prospect* of being able to run for re-election again raises the temptation to distort fiscal policy". Additionally, it should be noted that we do not take the viewpoint of individual politicians. Rather we focus on the position of the seated majority. We investigate whether expectations about being a member of the next *majority* might be a decisive factor in the process.

Secondly, the paper contributes to the relatively limited empirical evidence concerning incumbents' strategic behaviour at a local government level. We are only aware of the Pettersson-Lidbom-study (2001) which goes into the debt accumulation of Swedish local governments. The same goes for the PBC.[2] Except for Geys (2007), Drazen & Eslava (2005), Binet & Pentecôte (2004), Veiga & Veiga (2004) and Brender (2003), country level data dominate in PBC literature. Yet a local-level context offers a number of advantages. Flemish municipalities share common political and constitutional systems, experience common economic shocks, employ similar budgetary processes, have identical electoral rules and voter preferences are reasonably homogeneous across municipalities. Unlike studies using country data, we are able to control for institutional aspects and economic conditions that have been found in the literature to play an important role in determining fiscal policy choices. An additional advantage is related to the number of cases in the analysis. Municipal data allow testing panel data models with a much larger number of observations. Finally, the pertinency to look at Flemish local governments from the angles taken by the political budget cycle or strategic debt models is supported by the recent study by Geys (2007). This paper clearly demonstrates that the level of political fragmentation affects both the need for and possibility to engage in opportunistic policy cycles. Though we are both examining local government behaviour, our approach differs from that used in the Pettersson-Lidbom-study. The Pettersson-Lidbom (2001) 'probability of defeat'-variable was reconstructed on the basis of the election outcomes. In this paper we rely on the large literature on vote and popularity functions. Instead of working with the actual post election results, we estimate a specific vote function. We assume that the expected votes are depending on the current popularity of the government, on its fiscal policy and on the economic conditions. Additionally we adopt variables reflecting the local institutional framework. As the contributions of Goodhart (2002), Ashworth & Heyndels (2002), Nelson (2000), Huber et al. (2003) and recently Geys (2007) are suggesting, we expect government fragmentation to affect the opportunity to electioneer.

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[2] Drazen & Eslava (2005) find a pre-electoral increase in targeted expenditures, combined with a contraction of other types of expenditures in Colombian municipalities in the period 1987-2000. Binet & Pentecôte (2004) show that election-motivated tax manipulation in French municipalities can be done by tariff cuts. Veiga & Veiga (2004) find that expenditures of Portuguese municipalities over the 1979-2000 period increase in pre-election periods, especially on items that are highly visible to the electorate (e.g., highways and streets). Brender (2003) shows that fiscal performance of Israeli mayors substantially affected their re-election probability in the 1998 campaign, but not in the 1989 and 1993 campaigns.

Finally, we would like to point to the fact that this paper is investigating tariff cuts. *Tariff changes* as such very rarely are the dependent variable in PBC research. We are only acquainted with the research of Mikesell (1978), Nelson (2000) and Binet & Pentecôte (2004)[3]. *Tax rates* defined as tax revenues as a share of GDP are more common.[4] *Tax revenues* are another measure in the study of the political manipulation of tax policy.[5] Such data may be a less accurate reflection of elected officials' intentions, as taxes paid also reflect economic conditions. We are convinced that in for the panel of Flemish local authorities it is more convenient to look for tariff reductions. The tax under research is a surcharge tax of which each municipality has to set its own tariff (including 0) while the tax base is based on the same legislation. Consequently, voters can easily compare their hometown tariff with those of neighbouring municipalities or municipalities with the same characteristics.[6] This makes a pre-electoral tariff cut an ideal instrument for incumbents to signal their competence prior to elections.

4. Empirical analysis

In this section we empirically asses whether the prospects of electoral outcome are decisive in pre-electoral tax policy. Section 4.1 familiarizes the unacquainted reader with some crucial characteristics of Flemish local governments and their functioning. Section 4.2 outlines our dependent variable. Section 4.3 presents the methodology and the empirical model. Finally section 4.4 discusses the empirical results.

4.1 Institutional context

In this empirical part of the paper we use a panel data set covering the period 1988 to 2000, containing 294 (of the 308) Flemish municipalities, capturing 3 election moments.

Flemish local governments have a parliamentary system consisting of the local council (the legislative body) and the College of Mayor and Alderman (the executive body). Seats in the council are allocated using a system of proportional representation (PR)[7]. The composition of the College is determined by the party (or parties) holding a majority position in the council.

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[3] Mikesell (1978) shows that tariff cuts in American states have been concentrated in the latter years of the electoral cycle in the period 1960-1977. Tariff increases on the contrary are more likely to occur in the year immediately after election years than in election years. Working on a similar but larger dataset (1946-1993) Nelson (2000) affirmed the occurrence of tariff increases, while he finds little evidence that U.S. state politicians strategically time tariff cuts to occur around election periods. Binet & Pentecôte (2004) show that tariff cuts are used for election-motivated tax manipulation in French municipalities.

[4] To name only two of them Bizer & Durlauf (1990) demonstrate that average tax rates follow a pattern consistent with a political tax cycle and van der Ploeg (1989) shows that a government cuts the tax rate towards election eve in order to gain votes.

[5] Poterba (1994) finds tax increases to be significantly smaller in election years than at other times. Yoo (1998) shows that Japanese tax revenues decrease with a statistically significant amount in the year immediately before the elections of the House of Representatives.

[6] The theory on yardstick competition suggests that this comparison influences inhabitants in their votes (Besley & Case, 1995)

[7] In a system of proportional representation (PR) each party is allocated a certain number of seats in proportion to the votes it obtains in the elections

Our setting is likely to be sensitive to opportunistic political business cycles and strategic debt models. Firstly, elections are held every 6 years at the second Sunday of October so election moments are planned. Secondly, incumbents can be indefinitely re-elected (i.e. there are no binding term limits), giving them the opportunity to carefully prepare their re-election strategy. Thirdly, systems of proportional representation are well established to be inherently more unstable than pluralist electoral systems (Duverger, 1954/1972). As such opportunistic and strategic policies become more tempting.

Flemish municipalities enjoy a far-reaching autonomy in their fiscal policies. Besides taxation, grants from higher levels of government (which are for the most part unconditional) and dividends from municipal associations are the most important sources of revenue. Taxation, the focal point of the current paper, generates approximately half of the Flemish municipalities' revenues. Over four fifths of this tax income derives from surcharge taxes on regional and federal taxes on immovable property (i.e. the local property tax – LPT) and labour income (i.e. the local income tax – LIT). Higher governments define both tax bases while the local Councils are free to set any tax rate (including 0).[8] LPT and LIT rates are voted by the Council in which the parties of the College have a majority.

4.2 Dependent variable

Mostly budgetary variables as expenditures, transfers, surplus/deficit and debt are used to prove a political budget cycle.[9] But also revenue information and more specific tax revenue information can be helpful explaining cycling behaviour. In this paper the dependent variable of the (second) analysis will be tariff changes of the local income tax in election years. By cutting tariffs before elections, the government could give the voter the impression that it works efficient since expenditures can be paid with a reduced tax burden.

From the *PBC-perspective*, we expect incumbents to lower tariffs when it is doubtful that it will get a majority of the votes at the next election. If the government anticipates reaching nearly 50% of the votes, reducing tariffs might just be an opportunistic action aimed at bringing in the necessary additional votes. If on the contrary the government, whatever policy followed to gain additional votes, expects not to get the majority of the votes, it can decide to act strategically and reduce the tax burden to saddle the next government with higher debts. The latter being in line with the *strategic debt models*.

The PBC-point of view suggests that both winning and loosing incumbents profit from lowering taxes. Additional votes strengthens the power of the government. Still, we assume that

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[8] However, besides the surcharge taxes mentioned above, municipalities also collect local taxes of which they set the tax base as well as the tax rate. In fact, the average Flemish municipality collects about 15 of such taxes and the most 'exotic' taxes can be found among the more than 120 local taxes that are currently in use: taxes on private swimming pools, on balconies, on transportation of drunken persons, on dogs, boats and so on.

[9] Blais & Nadeau (1992) show that spending is increased in election years in Canadian provinces. Alesina (1988) finds a significant election year increase in net transfer over GNP for the U.S. Shi & Svensson (2003) consider a panel data set of 91 countries and find that in an election year the government surplus falls significantly. Brender & Drazen (2005) look for budget cycles using expenditures, transfers and the balance in a large cross-section of countries. Geys' (2007) analysis of local public debt data for 296 Flemish municipalities provides empirical support for opportunistic policy cycles.

local governments being sure of succeeding themselves will not engage in such policies.[10] We argue that the marginal cost of this action in the post-election period is larger than the marginal benefits in the year preceding elections. The decision by the current government to cut a tariff would reduce their scope for policymaking during next legislature.

There is no doubt that tariff changes are visible and strong. Wagner (1971) already mentioned that tariff changes are a relatively visible form of tax legislation changes to voters. Tariff changes get public attention, legislative debate and voter attention (Mikesell, 1978), but possibly the strongest effect is that, ceteris paribus, all voters experience a reduced tax demand. Tariff cuts thus meet the condition Tufte (1978) stipulates that a measure to manipulate vote behaviour 'must yield clear and immediate economic benefits to a large number of voters'. Other modifications of the tax laws (tax base changes, additional exemptions,…) tend to be less visible, are not always well understood by the general public (Nelson, 2000) and rarely reduce tax demand by all taxpayers.

Our analysis explains tariff changes of LIT (ΔLIT_{it}) in election years. Vermeir & Heyndels (2006) show in their research on the electoral cost of tax policy in Flemish municipalities that the level of both the LIT and the LPT rate have a negative influence on the vote for the government parties, which shows that Flemish voters are sensible to tax policy changes. In this study we only use tariff cuts on LIT as the dependent variable of the analysis. Tax cuts of LIT are more appropriate as they are highly visible since all voters benefit from LIT tariff cuts, while only proprietors favor from LPT tariff cuts[11]. Ashworth & Heyndels (2000) show that local politicians indeed prefer changes of the LIT to realize a fall in tax revenue.[12] Compared to other local taxes, LIT does not differ between municipalities except for the tariff as its tax base is defined by national procedures and regulations. Other local taxes vary in frequency and have individual municipal tax codes which make it difficult to compare municipalities.

The dependent variable (of our second estimation) ΔLIT_{it} is the relative change of the local income tax rate in year t compared to year t-1. Positive values indicate tariff increases, while negative values refer to tariff cuts.

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[10] In his research on tax-mimicking in Spanish municipalities Sollé-Ollé (2003) also expects that governments facing high a priori probabilities of re-election do not care all that much about the impact of fiscal policy changes on votes.

[11] LPT is due by proprietors only. Renters are no property taxes indebted so they don't benefit from LPT cuts. Proprietors on the other hand can be domiciled elsewhere and thus not be entitled to vote and reward the government for reducing LPT. Compared to LIT reductions, LPT cuts are less interesting for politicians to gain votes in next elections.

[12] Ashworth & Heyndels (2000, 126) questioned 637 local politicians (48% of population) about how they would realise a given fall in tax revenue. They show that 59,5% of the respondents would realize this by lowering the LIT, while only 8,8% would prefer reducing the LPT. 26,2% would reduce both taxes and only 5,5% would lower other local taxes.

4.3 Empirical model

In this section we present our empirical model. Our model contains two regressions. First we estimate a vote function. Secondly the estimated vote percentage that results from the vote function is used as explanatory variable to explain pre-electoral tariff cuts (ΔLIT_{it}). The second regression will focus on our research question and will show whether or not pre-electoral tax behaviour depends on the government's prospects of the electoral result. Prospects of the electoral result have already been used by Pettersson-Lidbom (2001) to explain debt policy. If we follow his model to explain pre-electoral tariff policy in Flemish municipalities, we could explain ΔLIT_{it} in election years as a function of the incumbent's probability of electoral defeat (D_{it}). More formally,

$$\Delta LIT_{it} = \alpha_0 + \alpha_1 D_{it} + \alpha_2 Y_{it} + u_{it} ; \tag{1}$$

where i = 1,..., N; t = election years 1988, 1994 and 2000

D_{it} is the pre-electoral estimation of the incumbent's probability of electoral defeat, Y_{it} is a vector of variables affecting fiscal policy and u_{it} is an error term. Index i denotes local governments and index t election years 1988, 1994 and 2000.

Pettersson-Lidbom (2001) uses ex post election outcome as a proxy variable to estimate the probability of electoral defeat (D_{it}). To correct for endogeneity and measurement error problems associated with the proxy he uses an instrumental variable approach. The set of instrumental variables is restricted to historic vote results and the frequency of previous government changes.

Still we believe that other variables, like economic, other political and tax variables can have an impact on upcoming electoral results. We refer to what has been studied intensively in the literature on vote functions. In general these functions explain the vote (or the change in the vote) for the government at elections by (the change in) economic, political and tax variables (Nannestad & Paldam, 1994). Mughan (1987, 198) even makes clear that the primary purpose of vote functions should be forecasting –"predicting the outcome of an event before it occurs"– in stead of explaining. If these vote functions indeed give the government an indication of upcoming election results, they can tune their tax behaviour to them. Since the vote percentage the current government receives at next elections is the principal condition for their continuation, we take the *expected* vote percentage as explanatory variable in our model to explain pre-electoral fiscal policy. Of course the continuation of the government depends on the final electoral results.

Our model is based on the Pettersson-Lidbom model, but we replace his crucial variable –probability of electoral defeat (D_{it})– by the predicted values resulting from a variant of Vermeir & Heyndels' (2006) vote function for Flemish municipalities[13]. This vote function takes besides ex post election outcome also economic and fiscal variables into account. In this paper we estimate a new vote function that comparing to Vermeir & Heyndels (2006) leaves out

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[13] Vermeir & Heyndels' (2006) a vote function model for Flemish municipalities shows empirical evidence for yardstick voting.

tax variables to avoid econometric problems in the second regression of our model.[14] Equation (2) estimates the vote percentage of the government party (or parties[15]) in Flemish municipalities:

$$V_{it}^{[t-6,t]} = \alpha_0 + \alpha_1 V_{it-6}^{[t-6,t]} + \alpha_2 \text{EXP}_{it} + \alpha_3 \text{NEXP}_{it} + \alpha_4 \text{INC}_{it} + \alpha_5 \text{UNEMPL}_{it} + \alpha_6 \text{NPAR}_{it} +$$

$$\text{year dummies} + u_{it} \qquad (2)$$

where: i = 1,..., N; t = election years

$V_{it}^{[t-6,t]}$ represents the vote percentage obtained at election year t in municipality i by the party (or parties) that was (were) in government over the previous legislature. The vote percentage of the same party (parties) six years before in the previous elections ($V_{it-6}^{[t-6,t]}$) is introduced to control for the possible existence of an 'incumbency advantage', that suggests that once in power, it becomes more difficult to lose the support gained from the public. $V_{it-6}^{[t-6,t]}$ is expected to have a positive impact on the number of votes.[16] Per capita expenditures (EXP_{it}) are included to measure for the quantity (and/or quality) of public output. A positive impact on the votes is expected. We refer to the theory of yardstick voting to include also the average per capita expenditures of the neighbouring municipalities (NEXP_{it}).[17] Here a negative sign is expected. As literature on economic voting suggests that governments are held accountable for economic developments[18], income per capita (INC_{it}) and unemployment rate (UNEMPL_{it}) are introduced. Income is expected to have a positive effect on votes, while the opposite is true for unemployment. Political characteristics enter vote function (2) through the number of government parties (NPAR_{it}) measuring for clearity of responsability. More coalition partners are expected to reduce the transparency. Fragmented governments are thus held less accountable for positive and negative developments (Powell & Whitten, 1993). As governments are more punished for negative developments than they are rewarded for positive developments, Nicholson & Segura (2002) show that fragmented governments generally suffer smaller

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[14] The introduction of the tarriffs in the vote function would cause econometric problems as the second regression estimates tarrif changes and introduces the predicted value of the vote function, which would capture the impact of the tariffs, as explanatory variable.

[15] The vote share corresponds with the sum of the share of the coalition partners in the case of coalition governments.

[16] Remark that this lagged term implies that the dataset does not contain data of all Flemish municipalities. Sometimes it is impossible to calculate previous election results of the government. Parties may split up, merge with another party or change their names. Also parties can disappear and not compete in next elections or a member of the government can change parties. The dataset that corresponds with that of Vermeir & Heyndels (2006) only contains observations of which previous election results can be undisputebly calculated. We thus are confronted with an unbalanced panel as we do not have observations for every election in every municipality. Finally our dataset contains 688 observations of 294 (out of 308) municipalities.

[17] The theory on yardstick competition suggests that voters compare the own municipality to their neighbouring municipalities when deciding on their vote (Besley & Case, 1995).

[18] Remark that these economic variables are the result of macro-economic policy which is mainly a federal and regional responsibility. Despite their objective to interfere local governments may still have a (marginal) influence or may be held accountable by the electorate. Local governments can e.g. approve the layout of additional company grounds or decide to lower local company taxes to stimulate local economic activity.

electoral losses. A positive effect of the number of government parties on the vote is thus expected. The possibility of vote swings between the governments is another possible explanation for a positive coefficient. Year dummies are introduced to capture possible year effects.[19] Descriptive statistics of all explanatory variables are shown in Table A1 in appendix.

Next we use vote function (2) to predict the vote percentage at upcoming elections. Correlation analysis shows that predicted values ($V_{p_{it}}^{[t-6,t]}$)[20] are highly correlated with the actual ex-post election results (r_p=0,85). Mean value over all election periods is 54,93 which indicates that a government on average awaits to get 54,93% of the votes and thus expects to be continued in the next legislature.[21] Then we transform $V_{p_{it}}^{[t-6,t]}$ by reducing their values with 50 to get positive and negative values. $V_{p-50_{it}}^{[t-6,t]}$[22] is called the *expected vote balance* as positive values express the surplus of expected vote percentage above majority, while negative values express the expected shortage of vote percentage to continue the current government.

When replacing D_{it} by $V_{p-50_{it}}^{[t-6,t]}$ equation (1) can be written as :

$$\Delta LIT_{it} = \ \beta_0 + \beta_1\ V_{p-50_{it}}^{[t-6,t]} + \beta_2\ Y_{it} + u_{it}\ ; \tag{3}$$

ΔLIT_{it} is the relative change of the local income tax rate in election year t compared to the year before. Negative values represent tariff cuts, while the opposite is true for positive values. Following PBC and SD models, we do not expect positive values. Table A3 (in appendix) presents descriptive statistics of ΔLIT_{it} and shows indeed that all values are negative. On average tariffs are cut by 1,02% in election years. Variable Y_{it} in equation (3) stands for variables affecting fiscal policy. Although we expect strategic or opportunistic motivations for pre-electoral tariff reductions, other motivations could explain tariff reductions. For these −mainly financial− variables we add control variables. E.g. the use of an earlier amassed financial surplus could be an explanation for tax reductions. $BALANCE_{it-1}$ controls for the existence of a surplus (positive) or a deficit (negative) in the year before elections. A municipality with a surplus in the previous year could opt to transfer this to its taxpayers by cutting its tariff.[23] A negative sign is thus expected. We also control for the impact of the revenue level. REV_{it} is the level of revenues per capita in the year of elections. As the relative impact of tariff changes on the total revenue level is smaller the higher the level of revenues, we expect a negative sign. We add a variable to control for changes in the taxable income that could explain tariff cuts. ΔTI_{it-1} measures the change of the taxable income during the previous year in percentage of the taxable income of the year before that. If the taxable income increases, a tariff cut could be expected, so a negative sign is awaited. Besides financial reasons we can also think

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[19] We refer to Vermeir & Heyndels (2006) for more information on the vote function and its explanatory variables.
[20] We add suffix p to indicate that values are predicted.
[21] We refer to table A2 in appendix for more descriptive statistics on the predicted and actual votes.
[22] We add suffix -50 to indicate that values are rescaled.
[23] Contrary a deficit in a previous year could be financed by raising taxes in the year thereafter.

of political motivations to reduce the LIT tariff before elections. Since the theory of the PBC shows that manipulation of policy may be easier for strong, one-party governments and become more difficult the larger the number of parties, we add the number of parties of the current government ($NPAR_{it}$) as explanatory variable. More fragmented governments are expected to be less susceptible to pre-electoral tax reductions, thus we expect a negative coefficient (Geys, 2007). Population size (POP_{it}) is introduced to control for the size of the municipality. Small municipalities are expected to cut more easily taxes as large municipalities are confronted with higher expenses (Ashworth et al., 2005) and thus have less financial margin to cut taxes. We thus expect a positive sign. Finally inclusion of the year-specific dummies (D_{1994} and D_{2000}) allows us to control for year-specific effects. When we replace Y_{it} in equation (3) with these control variables[24], equation (3) can be written as :

$$\Delta LIT_{it} = \beta_0 + \beta_1 \, V_{p-50_{it}}^{[t-6,t]} + \beta_2 \, BALANCE_{it-1} + \beta_3 \, REV_{it} + \beta_4 \, \Delta TI_{it-1} + \beta_5 \, NPAR_{it} +$$
$$\beta_6 \, POP_{it} + \beta_7 \, D_{1994} + \beta_8 \, D_{2000} + u_{it} \qquad\qquad (4)$$

4.4 Results

Table 1 and Table 2 present the results of estimations (2) and (4). We show regressions including all variables tested as well as more efficient regressions in which insignificant variables are left out. Both models contain a linear regression on panel data with fixed effects and covers data from 688 observations[25]. For both models we also considered pooled linear regression and panel data analysis with random effects. Formal tests confirm the use of a panel data model with fixed effects. Restricted F-tests rejected the use of pooled linear regressions[26], while Hausman-tests ($p < 0,01$) reject twice the 0-hypothesis that fixed effects and random effects estimators do not differ substantially. By consequence models with fixed effects are preferable (Gujarati, 2003, 268, 651).

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[24] Descriptive statistics of all explanatory variables are shown in table A3 in appendix.

[25] For remarks on the composition of the dataset we refer to footnote 15. A t-test shows that average ΔLIT_{it} does not differ significantly between the sample and the omitted observations ($t = 1.091$ and $p = 0.275$).

[26] $F \cong 2.12$ for the vote function model and $F \cong 4.11$ for the estimation of ΔLIT_{it}.

Table 1 : Panel regression estimation results of the vote-function

Dependent variable : $V_{it}^{[t-6,t]}$	All variables	Significant variables
$V_{it-6}^{[t-6,t]}$	0.541202*** (10.00937)	0.537021*** (10.04166)
EXP$_{it}$	-3.709042 (-0.678441)	-
NEXP$_{it}$	6.802067 (0.910847)	-
INC$_{it}$	-0.603609 (-0.343501)	-1.692760*** (-3.955160)
UNEMPL$_{it}$	30.71368 (0.473219)	-
NPAR$_{it}$	7.141676*** (7.445654)	7.215794*** (7.723841)
D$_{1994}$	-1.254246 (-0.668628)	-
D$_{2000}$	-2.043619 (-0.574095)	-
Intercept	14.22952 (1.452019)	22.27041*** (6.403603)
R²	0.726792	0.725607
Adjusted R²	0.513746	0.517882
F-statistic[27] (p-value)	3.411435 (<0.01)	3.493116 (<0,01)
Hausman (p-value)	64.777084 (<0.01)	63.321776 (<0.01)
N	688	
Number of cross sections	294	
Time series length	3	

Note : Values in parentheses are t-values (except for F-statistic and Hausman test, where p-values are presented); * significant at 10%, ** at 5% and *** at 1%.

Table 1 presents the results of the vote-function estimation. The last column of table 1 presents the most efficient estimation and shows that the lagged vote percentage ($V_{it-6}^{[t-6,t]}$), the income variable (INC$_{it}$) and the number of parties (NPAR$_{it}$) have a significant impact on the vote percentage of government parties. All three variables are significant at the 1% level. The sign of INC$_{it}$ is opposite to the expectations. Vermeir & Heyndels (2006) explain this negative sign by refering to the "clientele hypothesis" that could explain that at lower levels of per capita income, voters tend to stay with of go back to traditional government parties (Rattinger, 1981, 1991). The lack of impact of the expenditure variables could be due to the fact that the level of expenditures is not a good measure of the quality of the public output. Voters do not hold local governments responsible for macro-economic policy, which is indeed a federal responsibility. We find no significant impact of the unemployment rate on the vote percentage of local Flemish governments.

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[27] F-statistic tests the hypothesis that all of the slope coefficients in a regression are zero. If the p-value –the marginal significance level of the F-test- is below the significance level that is testing –which is the case–, the 0-hypothesis that alle slope coefficients are zero is rejected.

Table 2 : Panel regression estimation results of the tariff cut function

Dependent variable : ΔLIT_{it}	All variables	Significant variables
$V_{p-50_{it}}^{[t-6,t]}$	0.001461 (2.492630)**	0.001374 (2.334225)**
$BALANCE_{it-1}$	-4.88E^{-6} (-3.278626)***	-5.61E^{-6} (-4.076637)***
REV_{it}	6.05E^{-7} (0.833663)	-
ΔTI_{it-1}	0.179404 (2.228890)**	-
$NPAR_{it}$	-0.029115 (-3.607662)***	-0.029217 (-3.602896)***
POP_{it}	3.80E^{-6} (1.007728)	6.84E^{-6} (1.987590)**
D_{1994}	0.001908 (0.251013)	-
D_{2000}	0.011137 (03932349)	0.009304 (2.162363)**
Intercept	-0.139658 (-1.863225)*	-0.162288 (-2.325653)**
R²	0.649807	0.643028
Adjusted R²	0.375306	0.368150
F-statistic (p-value)	2.367233 (<0.01)	2.339321 (<0.01)
Hausman (p-value)		
N	688	
Number of cross Sections	294	
Time series length	3	

Note : Values in parentheses are t-values (except for F-statistic and Hausman test, where p-values are presented); * significant at 10%, ** at 5% and *** at 1%.

Table 2 presents the results of the estimation of ΔLIT_{it}. The most efficient estimation makes clear that the expected vote balance ($V_{p-50_{it}}^{[t-6,t]}$), the financial balance ($BALANCE_{it-1}$), the number of coalition parties ($NPAR_{it}$) and the number of inhabitants (POP_{it}) are significant at least at the 5% level and all have the expected sign. Dummy variable D_{2000} indicates that year specific effects play a role in 2000.

The expected vote balance variable $V_{p-50_{it}}^{[t-6,t]}$ is significant at the 5% level (0,0201) and positive which leads us to conclude that tax behaviour in election years indeed depends on the government's prospects of the electoral results. The sign is positive which suggests that governments prospecting no majority ($V_{p-50_{it}}^{[t-6,t]}<0$) decide to cut their tariff ($\Delta LIT_{it}<0$). This is in line with the theoretical expectations. The higher the expected shortage of votes to reach majority, the higher the tax cuts and, if re-election indeed does not follow, the higher the impact on next government's policy-making. This could be explained from strategic motivations (SD models). The positive coefficient also indicates that governments expecting a majority ($V_{p-50_{it}}^{[t-6,t]}>0$) do not cut taxes ($\Delta LIT_{it}\geq0$)[28] before elections. This is reasonable as this would reduce current and/or future spending or would need a future tariff increase, which is unlikely as this reduces the government's popularity.

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[28] Our dataset shows that no Flemish municipality increased its tariff in election years.

BALANCE$_{it-1}$ also shows the expected (negative) sign. Governments with a surplus the year before elections seem to offset tax rates with this positive balance. As expected NPAR$_{it}$ has a negative sign suggesting that tariff cuts are more difficult to decide the more government parties have to agree. Finally POP$_{it}$ presents a positive sign and confirms that smaller municipalities more easily cut tariffs.

5. Concluding comments

There is a lot of empirical evidence that supports the theory of the political budget cycle. Contrary to the bulk of the literature that examines expenditures, deficits or debt, this paper looks for the existence of a political *tariffs* cycle. Tariff cuts can be expected before elections, not only from a PBC point of view, but also relying on the theory of the strategic use of debt.

Except for a limited number of papers there is very little known about the determinants of tariff cuts. We can only refer to Mikesell (1978), Nelson (2000) and Binet & Pentecôte (2004). Our analysis contributes to this research by stressing the role of the government's prospects of getting into office again. We introduce the expected vote percentage at the next elections as an explanatory variable for tariff changes in election years. Our model makes use of predictions derived from a vote function as a proxy for electoral outcome expectations. The empirical analysis shows that in election years prospects of the electoral results are decisive for local tax rate changes. Our results suggest that governments expecting to loose a majority position are more prone to cutting the tariffs of the local income tax.

The empirical analysis shows that the expectation of being a member of the next majority is indeed related to the magnitude of the local income tax tariff cuts in election years. Still we are conscious of the fact that our results are exploratory. We are aware of the fact that the expected vote balance is only a proxy to measure for the government's prospects. It might be more convenient to collect survey data about the perceived survival probability in future election years. Further options for future research are to verify the robustness of our model by testing the model using a dataset characterized by a larger time horizon and other tax instruments. Another challenge could be the enlargement of the model with non-election years to look for real cyclic behaviour. Our results (of election years only) only suggest the existence of cyclic behaviour. An extension with non-election years would also permit to control for partisan influences as fiscal post election reactions would become perceptible in the model.

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Appendix

Table A1 Descriptive statistics

	$V_{it}^{[t-6,t]}$	$V_{it-6}^{[t-6,t]}$	EXP_{it}	$NEXP_{it}$	INC_{it}	$UNEMPL_{it}$	$NPAR_{it}$
mean	54.9334	56.2400	0.6679	0.6907	5.4918	0.0272	1.6294
median	54.0441	55.0833	0.6189	0.6672	5.4514	0.0237	2.0000
maximum	87.3000	88.2900	2.1809	1.8196	8.8819	0.0764	5.0000
minimum	24.1543	37.2478	0.2327	0.4176	3.2060	0.0063	1.000
std. dev.	10.1811	8.3241	0.2453	0.1684	0.9614	0.0132	0.6809
observations	688	688	688	688	688	688	688
			per capita in 1000 euro	per capita in 1000 euro	per capita in 1000 euro		

Table A2 Descriptive statistics

	Predicted vote	Actual vote
correlation	0.8518	
mean	54.9334	54.9334
median	54.5724	54.0441
maximum	81.2700	87.3000
minimum	24.6000	24.1543
std. dev.	8.6725	10.1811
observations	688	688

Table A3 Descriptive statistics

	ΔLIT_{it}	$V_{p-50_{it}}^{[t-6,t]}$	$BALANCE_{it-1}$	REV_{it}	ΔTI_{it-1}	$NPAR_{it}$	POP_{it}
mean	-0.0102	4.9334	1094.1132	25338.6582	0.0646	1.6294	18570.6613
median	0.0000	4.5724	1026.6261	24194.7814	0.0606	2.0000	12754
maximum	0.0000	31.2700	7063.4083	77105.1910	0.1585	5.0000	476044
minimum	-0.8333	-25.4000	-6981.8358	9035.8263	-0.0643	1.0000	964
std. dev.	0.0524	8.6725	1625.5049	9375.4852	0.0303	0.6809	26441.6719
observations	688	688	688	688	688	688	688
			per capita in BEF	per capita in BEF			

All econometric and statistical analyses are performed with Eviews 5.1.