

Tax policy and yardstick voting in Flemish municipal elections

Vermeir, Jan; Heyndels, Bruno

Postprint / Postprint

Zeitschriftenartikel / journal article

Zur Verfügung gestellt in Kooperation mit / provided in cooperation with:

www.peerproject.eu

Empfohlene Zitierung / Suggested Citation:

Vermeir, J., & Heyndels, B. (2006). Tax policy and yardstick voting in Flemish municipal elections. *Applied Economics*, 38(19), 2285-2298. <https://doi.org/10.1080/00036840500427536>

Nutzungsbedingungen:

Dieser Text wird unter dem "PEER Licence Agreement zur Verfügung" gestellt. Nähere Auskünfte zum PEER-Projekt finden Sie hier: <http://www.peerproject.eu> Gewährt wird ein nicht exklusives, nicht übertragbares, persönliches und beschränktes Recht auf Nutzung dieses Dokuments. Dieses Dokument ist ausschließlich für den persönlichen, nicht-kommerziellen Gebrauch bestimmt. Auf sämtlichen Kopien dieses Dokuments müssen alle Urheberrechtshinweise und sonstigen Hinweise auf gesetzlichen Schutz beibehalten werden. Sie dürfen dieses Dokument nicht in irgendeiner Weise abändern, noch dürfen Sie dieses Dokument für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen.

Mit der Verwendung dieses Dokuments erkennen Sie die Nutzungsbedingungen an.

gesis
Leibniz-Institut
für Sozialwissenschaften

Terms of use:

This document is made available under the "PEER Licence Agreement". For more information regarding the PEER-project see: <http://www.peerproject.eu> This document is solely intended for your personal, non-commercial use. All of the copies of this documents must retain all copyright information and other information regarding legal protection. You are not allowed to alter this document in any way, to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public.

By using this particular document, you accept the above-stated conditions of use.

Mitglied der

Leibniz-Gemeinschaft



Tax policy and yardstick voting in Flemish municipal elections

Journal:	<i>Applied Economics</i>
Manuscript ID:	APE-05-0022.R1
Journal Selection:	Applied Economics
Date Submitted by the Author:	27-Jun-2005
JEL Code:	H71 - State and Local Taxation, Subsidies, and Revenue < H7 - State and Local Government Intergovernmental Relations < H - Public Economics
Keywords:	tax policy, elections, yardstick competition, local government

powered by ScholarOne
Manuscript Central™

Tax policy and yardstick voting in Flemish municipal elections

Abstract.

Recent theoretical papers develop political agency models in which voters compare tax policy with that in neighbouring jurisdictions. In these yardstick competition models voters judge incumbents by comparing their policy with policy in neighbouring jurisdictions. We analyse municipal elections in Flanders during the period 1982-2000 and find empirical evidence for yardstick voting. Incumbents are punished for higher tax rates. Importantly, the electoral punishment also depends on tax rates in neighbouring municipalities. Higher rates in neighbouring municipalities are favourable for the incumbents.

1. Introduction

Several theoretical and empirical papers have explored the influence of tax policy (or fiscal policy) on elections. A recent addition to this literature has been the concept of yardstick voting. Besley and Case (1995) present a political agency model in which voters compare their tax policy with that in neighbouring jurisdictions. They show how yardstick voting can help voters identify bad incumbents. They find empirical evidence for yardstick voting in U.S. state elections in the period 1960-1988. Revelli (2002a) analyses local elections in the UK in the period 1979-1990, but finds no evidence of yardstick voting however. Investigating local elections in more than 3000 municipalities in 1995, 1999 and 2003, Bosch en Solé-Ollé (2004) find that property tax increases have a negative impact on the incumbent vote share, while property tax increases in neighbouring municipalities have a positive effect. Similarly, Agren (2004) finds evidence for yardstick voting in Swedish municipal elections in the period 1983-2002. She finds that voters punish higher income tax rates but that this electoral impact also depends on income tax rates in neighbouring municipalities.

Clearly, there is little empirical research on yardstick voting and evidence remains mixed. The Belgian political context is characterised by highly fragmented municipal governments and councils. We analyse whether the evidence for yardstick voting found in two-party contexts (Besley and Case, 1995) can be generalised to more complex political environments. Empirical work on economic voting has shown that this is not so self-evident. Powell and

1
2
3 Whitten (1993) show that economic voting is weaker in those contexts where the
4 clarity of responsibility of the government for economic policy is low. In a
5 politically fragmented environment the responsibility for economic policy and
6 tax policy is less clear. It is therefore possible that municipal governments are
7 not held accountable for tax policy and as a consequence there is no yardstick
8 voting. Our application on Flemish data allows us to examine whether yardstick
9 voting also occurs in a politically fragmented environment. Analysing
10 municipal elections in the period 1988-2000, we do find evidence for yardstick
11 voting.
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

27 In section 2, we briefly review the existing theoretical and empirical literature on
28 the electoral cost of taxation and more specifically the literature on yardstick
29 competition. Section 3 gives a brief discussion of the institutional context and
30 the role of local taxation in Flanders. Section 4 gives the results from our
31 empirical analysis of Flemish municipal elections. We examine if tax policy has
32 an impact on election results and if yardstick voting occurs. Thereby we
33 concentrate on the two major local taxes: the local income tax and the local
34 property tax rate. Section 5 concludes.
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50

51 **2. The electoral cost of taxation: a review of the literature**

52
53
54

55 Following Downs (1957), rational individuals vote instrumentally. Voters vote
56 for the party or politician from which they expect the highest utility gain. Their
57 expectations on how parties will perform *after* the elections are based on party
58
59
60

1
2
3 platforms and – for incumbent parties – also on past performance. A positive
4
5 evaluation of the incumbent’s past performance will translate into electoral
6
7 gains. This logic underlies the responsibility hypothesis that has been the
8
9 starting point of the empirical literature on vote and popularity functions. The
10
11 central point of attention in that literature has been the electoral effect of macro-
12
13 economic variables. High economic growth, low inflation and/or
14
15 unemployment have been found to positively affect the incumbents’ election
16
17 results or approval ratings (Mueller, 2003). In a way, the voter rewards the
18
19 incumbent for making appropriate use of the policy instruments at its disposal.
20
21 Still, these instruments – notably tax and expenditure policies – are not only
22
23 instruments in macro-economic policy. They, first of all, allow responding to
24
25 the voters’ demand for public goods and redistribution. Further they determine
26
27 how the cost of these goods is distributed over the population. Today,
28
29 governments in industrialised countries raise considerable amounts of tax
30
31 revenue. These taxes directly constrain the individual voter’s capacity to spend
32
33 on private goods and services. As such, it is natural to expect increased taxation
34
35 to lead to electoral losses for the incumbent.
36
37
38
39
40
41
42
43
44
45

46 Several authors view elections in a principal-agent framework.¹ The electorate
47
48 is seen as the principal, and the incumbent government is the agent. Pre-
49
50 election promises are generally non-enforceable. But still as the incumbent
51
52 wishes to be re-elected, voters can discipline the incumbent through
53
54 retrospective voting (Persson and Tabellini, 2000). They either punish or reward
55
56 the incumbent for past performance or they choose the most competent
57
58
59
60

¹ Among others, Ferejohn (1986), Rogoff (1990), Banks and Sundaram (1993), Besley and Case (1995), Persson and Tabellini (2000) and Revelli (2002a).

1
2
3 government, using the information about past performance of the incumbent. A
4 recent addition to this literature has been the concept of yardstick competition.
5
6 If cost shocks are correlated with cost shocks in neighbouring jurisdictions, tax
7 policy in those jurisdictions can yield information on the quality of the
8 incumbent government and reduce asymmetric information between voters and
9 the incumbent (Besley and Case, 1995; Wrede, 2001; Revelli, 2002; Bordignon,
10 Cerniglia and Revelli, 2004). Accordingly, voters will use tax policy in
11 neighbouring jurisdictions as a yardstick to overcome political agency problems,
12 analogous to relative performance evaluation and tournaments in the literature
13 on incentives in firms.²
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

29 Empirical evidence for an effect of tax variables (and fiscal variables in general)
30 on elections has been well established. Early empirical research on the link
31 between taxes and elections or incumbent popularity focuses on U.S. state data.
32 Pomper (1968) and Turett (1971), in early papers on the electoral cost of taxation,
33 do not find a consistent significant correlation between tax variables and the
34 election results of U.S. governors. Later studies do find an impact on
35 gubernatorial elections. Eismeier (1979, 1983), Kone and Winters (1993), Niemi
36 et al. (1995) and MacDonald and Sigelman (1999) look at the effects of specific
37 tax policy decisions such as tax introductions or increases. They find a
38 significant effect. An electoral impact is also found in Besley and Case (1995)
39 and Lowry et al. (1998). Hansen (1999), however, finds no influence of the rate of
40 change in tax revenue on the approval rating of governors. Peltzman (1992)
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58

59 ² The idea of relative performance evaluation was introduced by Lazear and Rosen
60 (1981), Holmström (1982) and Nalebuff and Stiglitz (1983). Shleifer (1985) introduced
the concept of yardstick competition. The benefits of relative performance evaluation in
decentralized government were first explored by Salmon (1987).

1
2
3 finds evidence of an electoral cost of spending growth in presidential, senate
4 and governor elections, but less solid evidence for an electoral cost of revenue
5 growth.³ Still, in earlier work on U.S. presidential elections, Niskanen (1975,
6 1979) shows that an increase in federal tax revenues (or expenditures) has a
7 significant negative effect on the vote for the American presidential candidate of
8 the incumbent party.
9
10
11
12
13
14
15
16
17
18
19

20 Outside the US, an impact of tax variables on election results has been found in
21 the UK (Pissarides, 1980; Gibson and Stewart, 1992; Gibson, 1996 and Revelli
22 2002), in Denmark (Paldam and Schneider, 1980), in Sweden (Hibbs and
23 Madsen, 1981; Agren, 2004) in Canada (Happy, 1992; and Landon and Ryan,
24 1997) and in Spain (Bosch and Solé-Ollé, 2004).⁴
25
26
27
28
29
30
31
32
33

34 Several papers look for empirical evidence for yardstick voting. Besley and
35 Case (1995) estimate the probability of defeat of incumbent governors in state
36 elections in the period 1977-1988. They explore the effect of the change in
37 income tax liability of joint filers in the 48 continental states. Importantly, they
38 also look at the impact of the average tax change in the neighbouring states.
39 They find that a tax change increases the probability of incumbent defeat while
40 the neighbours' tax change reduces chances of incumbent defeat.
41
42
43
44
45
46
47
48
49
50
51

52 Revelli (2002a) investigates the impact of property tax rates on English district
53 elections but finds no evidence for yardstick voting. One sample consists of "by
54
55
56
57

58
59 ³ An effect of spending growth on presidential elections is also found by Cuzán and
60 Bundrick (1999).

⁴ Brender (2003) finds an impact of fiscal performance (debt and debt change) in local elections in Israel.

1
2
3 thirds" elections in 87 districts in the period 1979-1990. Another sample consists
4
5 of "all out" elections in 122 elections for the years 1979, 1983 and 1987. No
6
7 significant impact from the neighbours' tax rates on the incumbent vote share is
8
9 found. In the by-thirds elections Revelli finds a significant effect of the local tax
10
11 rates in the district itself. When he controls for the influence of national politics,
12
13 however, the significance of the effect of the own tax rates disappears.
14
15
16
17
18
19

20 In a study of around 3000 Spanish municipalities in three local elections (1995,
21
22 1999 and 2003), Bosch and Solé-Ollé (2004) show that voters do take into account
23
24 both property tax changes in the own municipality and property tax changes in
25
26 neighbouring municipalities in municipal elections. Agren (2004) finds that
27
28 voters evaluate Swedish municipal governments by looking at income tax rates
29
30 in neighbouring municipalities in 276 elections in the period 1983-2002.
31
32
33
34
35

36 If voters take into account policy in neighbouring jurisdictions, policy makers
37
38 are forced to care about policy in neighbouring jurisdictions too and engage in
39
40 yardstick competition (Besley and Case, 1995). Besley and Case find evidence
41
42 for tax mimicking among American states. Other evidence for tax mimicking
43
44 includes Ladd (1992) for American counties, Heyndels and Vuchelen (1998) for
45
46 Belgian municipalities, Solé-Ollé (2003) for Spanish municipalities, Bordignon
47
48 et al. (2003) for Italian municipalities and Revelli (2001, 2002b) for English
49
50 districts.⁵ Bordignon et al (2004) stress that evidence for tax mimicking is not
51
52 sufficient evidence for yardstick competition. Mimicking can also be the result
53
54
55
56
57

58
59 ⁵ Ashworth and Heyndels (1997, 2000) and Heyndels and Ashworth (2003) present
60 evidence that in Flemish municipalities politicians' opinions on whether a tax rate is high (or low) or on whether taxes should be increased, depend on prevailing tax rates in neighbouring municipalities.

1
2
3 of tax competition. They develop a model in which yardstick competition can,
4
5 under certain conditions, even lead to opposite results from mimicking.
6
7 Crucially, Besley and Case (1995) present evidence that tax changes are only
8
9 sensitive to tax changes in neighbouring states when the governor can run for
10
11 re-election. As such, they show that the correlation between tax changes in
12
13 neighbouring states is due to yardstick competition and not to another source.
14
15 Similarly, Solé-Ollé (2003) shows that tax mimicking among Spanish
16
17 municipalities is higher when the electoral margin is low. Finally, Bordignon et
18
19 al. (2003) find spatial interaction in tax setting in Italian municipalities only
20
21 when mayors do not face a term limit and are not backed by a large majority.
22
23
24
25
26
27
28
29
30
31

32 **3. Elections and tax policy in Flemish municipalities**

33
34
35
36
37
38 The Flemish region consists of 308 municipalities. Municipal government is
39
40 important in Flanders, and more general in Belgium. Municipal revenues and
41
42 expenditures have a sizable impact on the economy. Of total Belgian
43
44 government expenditures, 13 % are by local governments.⁶ Of total government
45
46 investments, 44.5 % are by local governments, which makes them the largest
47
48 public investors in Belgium. Finally, 7.8 % of all Belgian government taxes are
49
50 raised by local governments (Dexia, 2004).
51
52
53
54
55
56

57
58 Flemish municipalities have a parliamentary political system using mandatory
59
60 voting. Municipal elections take place every 6 years (the most recent election

1
2
3 year being 2000). In each of the 308 municipalities councillors are elected using
4 a system of proportional representation (“Highest Averages Imperiali”).
5
6 Depending on the size of the municipality, between 7 and 55 councillors are
7
8 elected. A local government (mayor and aldermen) is formed by the party or by
9
10 a coalition of parties that possesses a majority of the seats.
11
12
13
14
15
16

17 The system of proportional representation leads to a highly diverse political
18 landscape. In the most recent municipal elections, on average 5.16 parties
19 presented themselves to the local voter. Whereas in some municipalities only
20 two parties contested, the highest number of parties in a municipal election was
21 as high as 13. Many of these parties have a local character with no or only a
22 modest link to one of the six main “national” parties. For most of the parties,
23 however, such a link was present and made explicit by using the “national”
24 party name in the campaign.⁷
25
26
27
28
29
30
31
32
33
34
35
36
37
38

39 A major responsibility of the Flemish municipal governments is to set taxes.
40 Tax revenues account for more than 40 percent of local revenues, the rest
41 coming mainly from grants. Local governments have considerable freedom in
42 choosing tax policy. This has led to a quite unique situation at the local
43 government level in Flanders: municipalities use on average about 20 different
44 taxes. Taken together, well over 100 different local taxes are in use. Still, while
45
46
47
48
49
50
51
52

53 ⁶ This includes the provinces however.

54 ⁷ The six “national” parties were: the ecologist Agalev, the Christian democratic CD&V,
55 the social democratic SP.a, the liberal democratic VLD, the nationalist VU and the
56 extreme-right Vlaams Blok. For these parties, we put the word *national* between
57 quotation marks, as their political action is limited to only the Flemish Community, i.e.
58 the Flemish speaking subset of the Belgian population. In federal elections, French-
59 speaking ecologists, Christian democrats, ... participate too. These parties are separate
60 entities without formal links with their Flemish speaking sister parties. At the

1
2
3 this remarkable diversification is indeed a prominent characteristic of the
4
5 Flemish municipal tax system, revenues are highly concentrated in only two
6
7 taxes. Table 1 shows the most important municipal taxes in terms of revenue.
8
9 The local income tax (LIT) and the local property tax (LPT) generate about 80
10
11 percent of all tax revenues. Their tax base is defined uniformly for the 308
12
13 Flemish municipalities. To test whether and how tax policy influences election
14
15 results we can therefore focus on the electoral impact of those two tax rates.⁸
16
17
18
19
20
21
22

Table 1

about here

23
24
25
26
27
28
29
30
31
32
33 Both taxes are single rate surcharges on the federal income tax and the regional
34
35 property tax respectively. The LIT is calculated as a percentage of the federal
36
37 tax liability. The average local income tax rate in 2000 was 6.59 %. This means
38
39 that residents in the average municipality pay 6.59 % times their federal income
40
41 tax bill. Local income tax rates ranged from 0 tot 8.5 % in 2000. It should be
42
43 observed that the local income tax was more important in terms of revenues in
44
45 2000 than the property tax. The average LPT rate was 1073 % in 2000. This
46
47 means that in the average municipality the LPT was 10.73 times the amount of
48
49 the regional property tax on which it was a surcharge. The regional property
50
51 tax itself corresponds to 2.5 % of the assessed net rental value of the properties.
52
53
54
55
56
57

58 beginning of the seventies Belgian political families split up in Dutch speaking party
59 and a French speaking party.

60 ⁸ Note that the local property tax is levied in all 308 municipalities; the local income tax is in use in 305 municipalities.

So, the average local tax corresponds with $(10.73 \cdot 2.5 =)$ 28.8 % of the net rental value. Given that – for budgetary reasons – no re-assessment took place since 1979 (when property values were expressed in 1975 prices) the tax base does not “really” reflect the net rental values. Since 1991, property values are adjusted for inflation (but not re-assessed). As a result, the link between the actual market (rental) value of properties and the tax weakened. Just as for the local income tax rate, important variation exists for the local property tax rate, which ranged from 438 % to 2000 % in 2000.

4. Empirical Analysis

In this part we estimate a vote function. A vote function relates the votes obtained by the incumbent party (parties) - V - to economic, political and budgetary variables (Paldam and Schneider, 1980; Nannestad and Paldam, 1994; Revelli, 2002). Our vote function is specified as follows:

$$V_{it}^{[t-1,t]} = \alpha V_{it-1}^{[t-1,t]} + \beta T_{it} + \gamma \sum_{j=1}^n w_{ij} T_{jt} + \delta X_{it} + \lambda_t + \Omega P_{it} + \eta_i + \varepsilon_{it}$$

$V_{it}^{[t-1,t]}$ is the vote share obtained at the elections in year t in municipality i by the party that was in government over the period $[t-1, t]$, that is since the previous election. In the case of coalition government the vote share corresponds with the sum of the shares of the coalition partners. As explanatory variable we include $V_{it-1}^{[t-1,t]}$, the

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

vote share obtained in the previous elections (at $t-1$) by the *same* parties - those in power over the period $[t-1, t]$.⁹ T_{it} are tax and expenditure variables in municipality i in election year t , while T_{jt} are the tax and expenditure variables in neighbouring municipality j . X_{it} is a vector of municipality characteristics thought to influence the vote share. We discuss the dependent variable $V_{it}^{[t-1,t]}$ in section 4.1. and further present our empirical model and the explanatory variables in section 4.2. In section 4.3, we discuss the estimation method. The empirical results follow in section 4.4.

4.1. Dependent variable

We study the elections of 1988, 1994 and 2000 in 307 of the 308 Flemish municipalities.¹⁰ Our dependent variable is the percentage of the vote for the government parties.¹¹ However the vote percentage of the government parties at the elections is not always available. Sometimes government parties do not participate at the elections following their government term. They may split up, or merge with another party - sometimes an opposition party - or simply disappear. From the data sources available it is not always possible to determine which party participating in the election corresponds to a government party. A party may participate in an election with a different name. However in that

⁹ Note that this is not a lagged dependent variable. This is only a lagged dependent variable when the previous government remained in power, i.e. when $V_{it-1}^{[t-1,t]} = V_{it-1}^{[t-2,t-1]}$.

¹⁰ The municipality of Herstappe is considered as an outlier and is left out. The municipality, the smallest in Flanders, had only 85 inhabitants and 72 voters in 2000.

¹¹ The electoral data come from the Elections Database of the Political Science Department of the Vrije Universiteit Brussel. Data on municipal governments come from the municipal data collection "Gemeentelijk Zakboekje" (1985, 1994, 1999, 2002).

1
2
3 case, it is difficult to determine which party is the “successor” of the original
4 party. Therefore we only consider these cases where government parties
5 participate in the elections with the same name.¹²
6
7
8
9

10
11
12 We introduce the vote of the government party or parties in the preceding
13 election as an explanatory variable to control for the influence for past events.
14
15 Again, it is not always possible to calculate the vote percentage at the previous
16 elections, because government parties did not always participate at these
17 elections *in the same form*. A government party may be a part of a cartel list or a
18 breakaway faction that formed a new party, and it is impossible to know which
19 percentage of the vote this party would have received if it had participated in
20 the previous elections in its current form.
21
22
23
24
25
26
27
28
29
30
31
32
33
34

35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Table 2

about here

The consequence of this is that we do not have an observation for every election in every municipality (see Table 2). Our panel is unbalanced. Moreover, we also dropped these observations where a mayor or alderman (any member of the municipal government) was a candidate on a new list or the list of an opposition party in the next election. In those cases it is difficult to determine

¹² In this we follow Buelens and Deschouwer (1997).

1
2
3 which parties are to be considered as the real government parties and
4
5 accordingly which parties are to be held responsible for tax policy. As a result
6
7 our dataset includes 689 observations – of the possible 921 observations.¹³
8
9

10
11
12 Why so much instability? Why do parties in Flemish municipalities change or
13
14 disappear so often? A first reason is that many parties are so called “local”
15
16 parties. These parties are often formed around one or more political
17
18 personalities or issues in a municipality, and as such are not so stable. An
19
20 example are the “lists of the mayor”, parties created around the current mayor.
21
22 By omitting a connection with a “national” party, they have the advantage of
23
24 attracting voters and candidates of different ideologies and “national” parties.
25
26 Of course, these parties only exist as long as that certain politician is in office or
27
28 in politics. Another reason is the existence of cartel lists. The district magnitude
29
30 in Flemish municipalities is not so large. It pays off to be a large party. Also,
31
32 the distribution of seats is based on the Imperiali method, which is more
33
34 advantageous to larger parties. As a consequence, parties benefit from
35
36 presenting themselves to the voters together in a cartel list. However, cartel lists
37
38 come and go, because of internal conflict.
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58

59 ¹³ As we include the per capita expenditures in Flemish neighbouring municipalities in
60 our regression, we lose an additional observation (the municipality of Voeren has no
Flemish neighbours.) This leaves us with 688 observations. We did not have
expenditure data for Brussels and Walloon municipalities.

4.2. Empirical model

Next, we discuss the explanatory variables. X_{it} , the vector of municipality characteristics includes two economic variables and one political variable. The literature on economic voting states that governments are held accountable for economic developments. While (macro-) economic policy is – of course – mainly a federal and regional responsibility, local governments may have a (marginal) influence or may be held accountable by the electorate despite their objective inability to interfere. Therefore we include the real per capita income and the unemployment rate in our regression. We expect income to have a positive effect – prosperity translating into electoral support – and unemployment to negatively affect the incumbent's election result.

As political variable we include the number of government parties in the regression. When a government is made up of more parties, the responsibility of each party for policy and economic developments is less clear.¹⁴ The result is that fragmented governments are less held accountable for positive and negative developments (Powell and Whitten, 1993; Whitten and Palmer, 1999). Given that, on average, they are more punished for negative developments than they are rewarded for positive developments, fragmented governments suffer a smaller electoral loss (Nicholson et al., 2002). Also, voters can shift their votes between different government parties (Powell and Whitten, 1993). Accordingly, the number of government parties is expected to have a positive effect on the vote.

1
2
3 The vector of tax instruments T includes the rates of the local income tax and the
4 local property tax (LIT and LPT). We use the level of tax rates in the election
5 year. We expect these to have a negative effect on the election result. The
6 theory on yardstick competition suggests that voters use information on tax
7 rates in neighbouring municipalities when deciding on their vote. We follow
8 Besley and Case (1995) and Revelli (2002a) in looking at border sharing
9 municipalities. They argue that geographic neighbours are likely to experience
10 similar shocks and therefore information on tax variables in those municipalities
11 may be a more informative yardstick to voters. Additionally, information about
12 policy in those municipalities may be more easily available to voters. More
13 specifically we create a spatial weight matrix $W = \{w_{ij}, i, j = 1 \dots 308\}$ where w_{ij}
14 is one if i and j are border sharing municipalities and is zero otherwise. The
15 spatial weight matrix is then row-standardized (such that the row elements sum
16 up to one). We then pre-multiply the vector of tax rates with the spatial weight
17 matrix. This means we use the unweighted average of LIT and LPT rates in
18 border-sharing municipalities as our neighbour variables.¹⁵ The level of tax rates
19 in neighbouring municipalities is expected to have a positive impact on the
20 election results. Finally, we include the per capita expenditures in the
21 municipality. In as far as expenditures measure the quantity (and/or quality) of
22 public output, we would expect a positive effect on the vote, as we already
23 control for the cost of output through the tax rates. Analogously to the tax rates
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57

58 ¹⁴ The argument is also true for divided government (Nicholson et al., 2002).

59 ¹⁵ We also include neighbouring municipalities in the Brussels and Walloon region, as
60 the context is very similar. The local income tax and the local property tax are also the
major local taxes and the tax bases of both taxes are defined on the federal level.

1
2
3 we also include the average per capita expenditures in neighbouring
4 municipalities.¹⁶
5
6
7
8
9

10 Some taxes have been found to be more electorally costly than others. This
11 difference in political cost is generally attributed to the difference in visibility of
12 taxes (Kone and Winters, 1993). Possibly, in the context of Flemish
13 municipalities, the income tax and property tax rates could also have a different
14 political cost. Concentrating on the specific characteristics of those taxes, we see
15 two reasons why the local income tax is more likely to be underestimated than
16 the local property tax and thus have a *lower* political cost. At the same time, two
17 arguments can be found that suggest the income tax has *higher* political costs.
18
19
20
21
22
23
24
25
26
27
28
29
30

31 First, in contrast to the local income tax, the local property tax is more likely to
32 be perceived as a truly *local* tax. Both taxes are surcharges. This means that - in
33 practical terms - they are collected together with the federal (regional) tax on
34 which they are based. As a consequence, taxpayers may fail to identify the
35 “municipal component”. The local component of the income tax is only a
36 marginal fraction (around 7 %) of the total tax liability. In contrast, the local
37 property tax is much larger than the regional tax on which it is based (the local
38 component is about 90 % of the tax liability). As a result, taxpayers may not
39 distinguish between the respective components of the tax and consider “the
40 income tax” as a federal tax and “the property tax” as a local one.¹⁷ To the
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55

56 ¹⁶ As we do not have expenditure data for the Brussels and Walloon region, the average
57 per capita expenditures in neighbouring municipalities take only into account Flemish
58 neighbours.
59

60 ¹⁷ However, a study by Heyndels (1989) shows both the local income tax and the local
property tax are identified as a local tax by around half of the voters. Voters were asked
to name the most important taxes in their municipality. Around 61 % of the voters could

1
2
3 extent that this is the case, the property tax is expected to have higher electoral
4 costs for the incumbent government.
5
6
7
8
9

10 A second crucial difference is the collection process of both taxes. The local
11 income tax is collected through a Pay As You Earn-system whereby employers
12 withhold taxes. In the case of the property tax the whole amount is paid when
13 the tax notice arrives, which is once a year. As the explicit payment of the whole
14 amount is more visible, the property tax may have a larger political cost.
15
16
17
18
19
20
21

22
23
24 On the other hand, the local property tax is a tax on (mainly) residential
25 property. For rented properties, it is formally paid by the owner and (partly)
26 shifted to the renter. To the extent that renter illusion occurs, renters may not
27 perceive (or underestimate) their tax burden. As a result, the local property tax
28 may have a *lower* electoral cost among renters.¹⁸
29
30
31
32
33
34
35
36
37

38 In addition to these perception-related differences between both taxes, it should
39 be noted that both differ also in terms of the definition of the tax base. While
40 the income tax is residence based, the property tax is source based. This opens -
41 in the latter case - the possibility for tax exportation, possibly lowering the
42 expected political cost associated with the property tax.
43
44
45
46
47
48
49
50
51

52 A final thing to note is that local elections do not take place in a (political)
53 vacuum. The impact of national or regional politics on local elections is well
54
55
56
57

58 name a local tax. Of this group respectively 49.5% and 48.5 % mentioned respectively
59 the local property tax and the local income tax as a local tax.

60 ¹⁸ Heyndels and Smolders (1994) analyse the presence of different types of fiscal illusion
in Flemish municipalities. They find no evidence for renter illusion.

1
2
3 established (Heath et al., 1999; Jérôme and Lewis-Beck, 2000 and Revelli, 2002).
4
5 In extreme situations, local elections can be considered as referenda for national
6
7 politics and, consequently, the local election results may show little relationship
8
9 with local developments and policies. Such a multi-level dependency may, in
10
11 the Belgian situation, reveal itself by the fact that changes in the popularity of
12
13 national parties translate into changes for the corresponding municipal parties.
14
15 To capture this possibility, we included a set of party-year dummies (P_{it}).¹⁹ In
16
17 what follows, we will present the results with and without these dummies.
18
19
20
21
22
23
24

25 We also include year effects (λ_t) and municipality fixed effects (η_i).²⁰ We
26
27 discuss the municipality effects further in section 4.3.
28
29
30
31
32

33 **4.3. Estimation method**

34
35
36
37 The estimation of our model presents several econometric challenges. First, as
38
39 has been stated in the literature, the tax variables cannot be assumed to be
40
41 exogenous. The error term in our model could be correlated with the tax rates.
42
43 It has been shown in the literature on politico-economic models, that politicians
44
45 adapt their policies according to their stock of popularity. For example Frey and
46
47 Schneider (1978) show that the stock in popularity (more specifically the deficit
48
49 in popularity necessary to secure re-election) affects tax policy in the UK.
50
51
52
53
54
55

56
57 ¹⁹ We include party-year dummies for the five “national” parties that participated in
58
59 municipal government. A dummy is one if a certain party was part of municipal
60
government in that election.

²⁰ These year effects measure the electoral change common to all governments in a
certain year. They could for example measure the electoral rise of the extremist party
Vlaams Blok (which was not present in any of the municipal governments).

Schneider and Pommerehne (1980) show this for Australia. Therefore estimation with instrumental variables is in order.

Furthermore, there could be spatial correlation in the error term. In that case, the presence of the neighbours' tax variables introduces a bias (Revelli, 1999). This is the case if the error term follows a first order spatial auto-correlation process:

$$\varepsilon_{it} = \sum_{j=1}^N w_{ij} \varepsilon_{jt} + \zeta_{it}$$
 . Again estimation with instrumental variables is more appropriate.

Besley and Case (1995) instrument the change in tax liability with year indicators and changes in the proportions of elderly and young. The neighbours' tax change is not instrumented. In a footnote they mention that they find no evidence for spatial correlation in the errors. Revelli (2002a) instruments the property tax rate in the district itself and in the neighbouring districts with values of the tax rates lagged two periods or more.

We present results both for OLS regressions and 2SLS regressions. In the 2SLS regressions, own tax rates and per capita expenditures are instrumented by the proportion of young people and elderly (as in Besley and Case, 1995), the average sale price of small and middle sized houses, the area of the municipality and finally the number of inhabitants.²¹ The same variables were used for the neighbouring tax rates and per capita expenditures. The average sale price of

²¹ We had only data for house prices for the period 1990-2000. We therefore used data from 1990 for the election in 1988.

1
2
3 small and middle-sized houses in the neighbouring municipalities is the average
4 sale price in Flemish neighbouring municipalities only. Several municipalities
5
6 have Brussels or Walloon neighbours and we include them to create our
7
8 neighbours' tax variables. However our dataset of house prices did only
9
10 include Flemish municipalities.
11
12
13
14
15
16

17 We estimate the OLS and 2SLS regressions both with and without municipality
18 fixed effects.²² We present F tests for the significance of the fixed effects. Note
19
20 that, as we have only three time periods, including municipality effects in our
21
22 regression results in a loss of relatively many degrees of freedom.
23
24
25
26
27
28

29 The inclusion of fixed effects in our regression can lead to bias if the other
30 variables are not strictly exogenous. The presence of a lagged dependent
31
32 variable in a fixed effects regression is therefore problematic as it is certainly not
33
34 strictly exogenous. Accordingly, there could be an endogeneity problem with
35
36 the previous vote share of the current government parties. It should be
37
38 observed that the previous vote share of the current incumbent is *not* a lagged
39
40 dependent variable in the strict sense. A lagged dependent variable would be
41
42 the previous vote share of the *previous* incumbent. This may or may not be the
43
44 same party as the current incumbent. However, the previous vote share of the
45
46 current incumbent is equal to the lagged dependent variable in case there is no
47
48 turnover of power. Consequently the variable may still be problematic in a
49
50 fixed effects regression.
51
52
53
54
55
56
57
58
59
60

1
2
3 Revelli (2002a) is confronted with the same problem. His dependent variable is
4 the vote share for the incumbent party and his regression also contains the vote
5 for this party in the previous election. The regression includes district-party
6 fixed effects. Following Arellano and Bond (1991), Revelli therefore takes first
7 differences to get rid of the fixed effects. As the lagged vote variable is now
8 correlated with the error term, he then instruments this variable with the
9 incumbents' vote shares lagged two periods or more. The vote shares lagged
10 two periods or more are valid instruments when there is no serial correlation in
11 the error term - a test for second order correlation in the error term of the first
12 differenced equation is reported. Equivalently, the tax variables are
13 instrumented with values lagged two periods or more.
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40

We think, however, that the Arellano-Bond estimator is not appropriate in our case, given the high turnover rate of power, which is typical of a multi-party system.²³ We therefore present only OLS and 2SLS regressions.

4.4. Results

41
42
43
44
45 First we estimate pooled OLS regressions. Results are shown in Table 3. We
46 show regressions with and without party-year dummies to control for the
47 impact of national politics. The results are broadly similar for the two
48 regressions. A Wald test shows that the party-year dummies are jointly
49
50
51
52
53
54

55
56 ²² In these 2SLS regressions the area of the municipality and the neighbouring
57 municipalities are dropped as instruments, as the first-stage regressions also include
58 fixed municipality effects and the area variables are time-invariant.

59 ²³ Moreover, our dataset is composed of only three time periods. Taking first differences
60 would imply that we are left with only two time periods and lose a significant amount
of observations. With only two time periods left, we would also not be able to present a

1
2
3 significant, implying there is a national effect on municipal elections. We also
4
5 present more efficient regressions in which insignificant variables were left out
6
7 one by one.²⁴
8
9

10
11
12 The vote percentage in the previous election has as significant positive impact,
13
14 as expected. Also the number of government parties has the expected
15
16 significant positive effect on the vote for the government parties. This confirms
17
18 that fragmented governments lose fewer votes. The reason could be that it is
19
20 less clear which party voters should hold responsible for policy or that vote
21
22 swings between the government parties are possible.
23
24
25
26
27
28
29

30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Table 3
about here

Of the economic variables the unemployment percentage has no effect on the
vote. This is not surprising as most policy instruments to fight unemployment
are in the hands of the federal and regional government. Per capita income
however has a significant *negative* impact on the vote for the incumbent parties.
A possible explanation is that at lower levels of per capita income, voters tend to
stay with or go back to traditional government parties, reminding of the

test for second-order autocorrelation, which is necessary to test the validity of the
method.

²⁴ We also leave out insignificant party-year effects. The Wald test is for the remaining
party-year effects.

1
2
3 “clientele hypothesis” by Rattinger (Rattinger, 1981, 1991). Separate regressions
4
5 (not shown here) show us that income has indeed a significant positive impact
6
7 on the vote of the Green Party, a party that was in power in only a few
8
9 municipalities. Per capita income also positively affects the vote of the extreme
10
11 right Vlaams Blok, a protest party that has never been in power. This suggests
12
13 that less traditional parties fare better at higher levels of income and that
14
15 traditional government parties fare better at lower levels of income.
16
17
18
19
20

21
22 The main objective of our analysis was to find out if tax policy has an impact on
23
24 election results. First, we find that per capita expenditures have no impact on
25
26 the election results. This is not surprising, as what we really would like to
27
28 include in our regression is the quality and/or quantity of public output.
29
30 Measures of this are difficult to find however. The relation between
31
32 expenditures and the quality of public output is indeed tenuous. Nannestad
33
34 (2003) for example finds that there is no relationship between municipal
35
36 expenditures spent on schooling and the quality of schooling.
37
38
39
40
41
42

43 We do find an electoral impact of the tax rates. The level of the property tax rate
44
45 has a significant negative influence on the vote for the government parties. This
46
47 shows that tax policy has indeed an effect on elections: incumbent parties are
48
49 punished for higher tax rates. The income tax rate has also a negative impact on
50
51 the vote, although not significant. This could indicate that property taxes have a
52
53 higher electoral cost. As mentioned earlier, this could be due to the fact that the
54
55 local income tax is less perceived as a local tax. Also, income taxes are withheld
56
57 by the employer, whereas the collection of the property tax is more explicit.
58
59
60

1
2
3 The average local property tax rate in the neighbouring municipalities has a
4 significant positive impact on the election result. Also the neighbours' income
5 tax rate has a positive though insignificant effect. This proves that voters indeed
6 use tax rates in neighbouring municipalities as a yardstick to evaluate tax policy
7 in their own municipalities.
8
9
10
11
12
13
14
15
16

17 In Table 4 we show the results for the OLS regressions including fixed
18 municipality effects. The results are not in line with the previous findings. Per
19 capita income loses its significant effect. More importantly for our analysis, the
20 average property tax rate in the neighbouring municipalities does not have a
21 significant effect on the vote anymore. The property tax rate in the municipality
22 itself continues to have a significant negative effect on the vote for the
23 incumbent parties. Note that the municipality fixed effects are not jointly
24 significant at 5 % in the first regression. They are however significant at 10 %.
25 In the more efficient regression and in the regressions including party-year
26 dummies they are strongly significant.
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44

45 Table 4

46 about here

47
48
49
50
51
52
53
54
55 Next we show the 2SLS regressions in which tax and expenditure variables were
56 instrumented (Table 5). Again, we first show the regressions without
57 municipality fixed effects. The Sargan tests do not reject our instruments. The
58 previous vote, the number of government parties and the real per capita income
59
60

1
2
3 have the same significant impact as in the OLS regressions. In the 2SLS
4
5 regressions, not the property tax rate seems to have a significant electoral impact
6
7 but the local income tax rate. The income tax rate has a significant negative
8
9 impact on the election results. The income tax rate in the neighbouring
10
11 municipalities has no significant effect. However, in a more efficient regression
12
13 in which insignificant variables were left out, the neighbours' income tax rate
14
15 has a significant positive impact on the vote. This strengthens the evidence that
16
17 voters use tax policy in neighbouring municipalities as a yardstick.
18
19
20
21
22
23
24
25

26
27 Table 5

28
29 about here

30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

55 Surprisingly, the per capita expenditures in neighbouring municipalities have a
56
57 strongly significant negative impact, while there is no significant impact from
58
59 expenditures in the municipality itself. We do not find a clear reason for this.
60

The regressions with party-year dummies show the same results. Note that this
time the party-year effects are not jointly significant.

The coefficients of the income tax rate and the neighbours' income tax rate are
economically important. A 1 % higher LIT rate results in a 5.4 % lower vote
share (in the more efficient regression). A 1 % higher LIT rate in the
neighbouring municipalities leads to a 6.8 % higher vote share. So, incumbents

1
2
3 are only punished for a high tax rate if the LIT rate is lower in the neighbouring
4 municipalities. They seem to interpret a higher than average rate as a sign of
5 incompetence or of rent seeking and therefore vote for the opposition
6 candidates.
7
8
9
10
11

12
13
14
15
16
17 Finally, we show the 2SLS regressions including municipality effects (Table 6).
18 Only the previous vote, the number of government parties (and the party-year
19 dummies) have a significant effect. The municipality effects are far from
20 significant. We therefore prefer the 2SLS regressions without municipality
21 effects.
22
23
24
25
26
27
28
29
30
31
32

33
34 Table 6

35
36 about here
37
38
39
40
41
42
43
44

45 **5. Conclusion**

46
47
48
49 In our empirical analysis of municipal elections in Flanders we find evidence for
50 yardstick voting. More specifically, our 2SLS regressions show that incumbents
51 are punished for higher income tax rates. Importantly, the electoral punishment
52 increases with lower rates in neighbouring municipalities and equivalently
53 decreases with higher rates in neighbouring municipalities. We thereby show
54 that yardstick voting not only occurs in a two-party system such as the US
55
56
57
58
59
60

1
2
3 (Besley and Case, 1995), but also in a more complex multi-party system such as
4
5 Belgium. The political fragmentation of the councils and the municipal
6
7 governments could be expected to lead to a reduced electoral accountability.
8
9 However, we do find that voters hold incumbents accountable for tax rates that
10
11 are out of line with the average rate in neighbouring municipalities. Our
12
13 empirical evidence supports the view that under decentralised government
14
15 voters can - through relative performance evaluation - reduce information
16
17 asymmetry with the incumbent politicians and so, as Wrede (2001) puts it,
18
19 "tame the Leviathan". By comparing tax rates (and incumbents) with those in
20
21 neighbouring municipalities, voters can identify rent-seeking or incompetent
22
23 incumbents and vote them out of office. While evidence for yardstick voting is
24
25 relevant in itself, it is also relevant for the literature on tax mimicking. The
26
27 analysis suggests that tax mimicking among municipalities, such as found in
28
29 Heyndels and Vuchelen (1998) among Belgian municipalities, is - at least partly
30
31 - due to yardstick competition and not only tax competition.
32
33
34
35
36
37
38
39
40
41
42

43 **Acknowledgements**

44
45
46 We thank participants at the EPCS Annual Meeting in Berlin 2004 as well as at
47
48 the MICE seminar at the Vrije Universiteit Brussel for helpful comments. We
49
50 especially thank John Ashworth, Benny Geys, Martin Paldam, Kurt
51
52 Schmidheiny and an anonymous referee. We thank Jo Buelens for providing us
53
54 with electoral data.
55
56
57
58
59
60

Bibliography

Administratie Binnenlandse Aangelegenheden (2002) *De Gemeentefinanciën 2002: De financiële toestand van de Vlaamse gemeenten op basis van de rekeningen van 2000*, Ministerie van de Vlaamse Gemeenschap, Brussels.

Agren, H. (2004) Yardstick competition - the tax setting behavior of Swedish municipalities?, Unpublished Manuscript.

Arellano, M. and S. Bond. (1991) Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations, *Review of Economic Studies*, 58, 227-97.

Ashworth, J. and B. Heyndels (1997) Politicians' preferences on local tax rates: an empirical analysis, *European Journal of Political Economy*, 13(3), 479-502.

Ashworth, J. and B. Heyndels (2000) A schema-theoretic approach to politicians' definitions on tax issues, *Journal of Economic Psychology*, 21, 21-42.

Banks, J. S. And R. K. Sundaram (1993) Adverse election and moral hazard in a repeated elections model, in *Political Economy: Institutions, competition and representation*, (Eds.) Barnett, W. A., Hinich, M. J. and N. J. Schoffield, Cambridge University Press, Cambridge.

Brender, A. (2003) The effect of fiscal performance on local government election results in Israel: 1989-1998, *Journal of Public Economics* 87, 2187-2205.

Besley, T. and A. Case (1995) Incumbent behavior: Vote-seeking, tax-setting and yardstick competition, *American Economic Review*, 85, 25-45.

- 1
2
3 Bordignon, M., Cerniglia, F. And F. Revelli (2003) In search of yardstick
4 competition: a spatial analysis of Italian municipality property tax setting,
5
6 *Journal of Urban Economics*, 54, 199-217.
7
8
9
- 10
11 Bordignon, M., Cerniglia, F. And F. Revelli (2004) Yardstick competition in
12 intergovernmental relationships: theory and empirical predictions, *Economic*
13 *Letters*, 83, 325-333.
14
15
16
17
- 18
19 Bosch, N. And A. Solé-Ollé (2004) Yardstick competition and the political costs
20 of raising taxes: An empirical analysis of Spanish municipalities taking into
21 account the political context, Paper presented at the 60th Congress of the IIPF,
22
23 Milan, Italy, August 2004.
24
25
26
27
- 28
29 Buelens, J. and K. Deschouwer (1997) De gemeenten en de lokale politiek in het
30 Brussels Hoofstedelijk Gewest, *Res Publica*, 39(1), 89-99.
31
32
33
- 34
35 Case, A. (1994) Taxes and the Electoral Cycle: How sensitive are governors to
36 coming elections?, *Business Review*, March/April, 17-26.
37
38
- 39
40 Cuzán, A. G. And C. M. Bundrick (1999) Fiscal Policy as a forecasting factor in
41 presidential elections, *American Politics Quarterly*, 27(3), 338-53.
42
43
- 44
45 Deschouwer, K. (1996) Nationale partijen en gemeenteraadsverkiezingen, in *De*
46 *dorpsstraat is de Wetstraat niet: Een onderzoek naar de opvattingen van plaatselijke*
47 *woordvoerders van nationale partijen* (Eds.) Beulens, J. and K. Deschouwer.,
48
49 VUBPRESS, Brussels.
50
51
52
- 53
54 Dexia (2004) *De financiering van de lokale overheden in 2003*, Dexia, Brussels.
55
56
- 57
58 Downs, A. (1957) *An Economic Theory of Democracy*, Harper & Row, New York.
59
60

1
2
3 Eismeier, T.J. (1979) Budgets and ballots: The political consequences of fiscal
4 choice in *Public Policy and Public Choice* (Eds.) Rae, D. and T. Eismeier, Sage,
5
6 Beverly Hills.
7
8

9
10
11 Eismeier, T.J. (1983) Votes & taxes: The political economy of the American
12 governorship, *Polity*, 15, 368-79.
13
14

15
16 Ferejohn, J. (1986) Incumbent performance and electoral control, *Public Choice* 50,
17
18 5-25.
19

20
21 Frey, B.S. and F. Schneider (1978) A politico-economic model of the United
22
23 Kingdom, *The Economic Journal*, 88, 243-53.
24
25

26 Gemeentelijk Zakboekje '85/'86 (1985) Kluwer, Antwerpen.
27

28 Gemeentelijk Zakboekje '94/'85 (1994) Kluwer Editorial, Zaventem.
29

30 Gemeentelijk Zakboekje 1999: Databank (1999) Kluwer Editorial, Diegem.
31

32 Gemeentelijk Zakboekje 2002: Databank (2002) Kluwer, Diegem.
33
34

35
36
37 Gibson, J. G. (1994) Voter reaction to tax change: the case of the poll tax, *Applied*
38
39 *Economics*, 26, 877-884.
40
41

42
43 Gibson, J.G. and J.D. Stewart (1992) Poll tax, rates and local elections, *Political*
44
45 *Studies*, 40, 516-13.
46
47

48
49 Hansen, S.B. (1999) Life is not fair: Governors' job performance ratings and state
50
51 economies, *Political Research Quarterly*, 52, 167-188.
52

53
54 Happy, J.R. (1992) The effect of economic and fiscal performance on incumbency
55
56 voting: The Canadian case, *British Journal of Political Science*, 22, 117-30.
57
58
59
60

1
2
3 Heath, A., McLean, I., Taylor, B. And J. Curtice (1999.) Between first and second
4
5 order: A comparison of voting behaviour in European and local elections in
6
7 Britain, *European Journal of Political Research*, 35, 389-414.
8
9

10
11 Heyndels, B. (1989) Fiscale perceptie bij de gemeenteraadsverkiezingen, *De*
12
13 *Gemeente*, 4, 159-63.
14

15
16 Heyndels, B. and J. Ashworth (2003) Self-serving bias in tax perceptions:
17
18 Federalism as a source of political instability, *Kyklos*, 56 (1), 47-68.
19

20
21 Heyndels, B. and C. Smolders (1994) Fiscal illusion at the local level:
22
23 Empirical evidence for the Flemish municipalities, *Public Choice*, 80, 325-
24
25 38.
26
27

28
29 Heyndels, B. and J. Vuchelen (1998) Tax mimicking among Belgian
30
31 municipalities, *National Tax Journal*, 60, 89-101.
32
33

34
35 Hibbs, D.A., Jr. and H.J. Madsen (1981) The impact of economic performance on
36
37 electoral support in Sweden, 1967-1978, *Scandinavian Political Studies*, 4 (1), 33-
38
39 50.
40
41

42
43 Holmström, B.R. (1982) Moral hazard in teams, *Bell Journal of Economics and*
44
45 *Management Science*, 93(2), 284-64.
46

47
48 Jérôme, B. And M. S. Lewis-Beck, (1999) Is local politics local? French evidence,
49
50 *European Journal of Political Research*, 35, 181-97.
51

52
53 Kone, S.L. and R.F. Winters (1993) Taxes and voting: Electoral retribution in the
54
55 American states, *The Journal of Politics*, 55, 22-40.
56

57
58 Ladd, H. F. (1991) Property tax revaluation and tax levy growth revisited,
59
60 *Journal of Urban Economics*, 30, 83-99.

- 1
2
3 Landon, S. and D.L. Ryan (1997) The political costs of taxes and government
4 spending, *Canadian Journal of Economics*, 30, 85-111.
5
6
7
8
9 Lazear, E. P. and S. Rosen (1981) Rank-Order Tournaments as Optimum Labor
10 Contracts, *Journal of Political Economy*, 89(5), 841-64.
11
12
13
14 Lowry, R.C., Alt, J.E. and K.E. Ferree (1998) Fiscal policy outcomes and electoral
15 accountability in American states, *American Political Science Review*, 92, 759-74.
16
17
18
19 MacDonald, J.A. and L. Sigelman (1999) Public assessments of gubernatorial
20 performance. A comparative state analysis, *American Politics Quarterly*, 27,
21 201-15.
22
23
24
25
26 Mueller, D.C. (2003) *Public Choice III*, Cambridge University Press, Cambridge.
27
28
29 Nalebuff, B.J. and J.E. Stiglitz (1983) Prizes and incentives: towards a general
30 theory of compensation and competition, *Bell Journal of Economics*, 14, 21-43.
31
32
33
34 Nannestad, P. (2003) It's not the Economy, Stupid! Municipal School
35 Expenditures and School Achievement Levels in Denmark, Paper presented
36 at the EPSC Annual Meeting in Aarhus, Denmark, April 2003.
37
38
39
40
41
42 Nannestad, P. and M. Paldam (1994) The vp-function: A survey of the literature
43 on vote and popularity functions after 25 years, *Public Choice*, 79, 213-45.
44
45
46
47
48 Nicholson, S. P., Segura, G. M. And N. D. Woods (2002) Presidential Approval
49 and the Mixed Blessing of Divided Government, *The Journal of Politics*, 64(3),
50 701-20.
51
52
53
54
55 Niemi, R.G., Stanley, H.W. and Vogel, R.J. (1995) State economies and state
56 taxes: Do voters hold governors accountable?, *American Journal of Political
57 Science*, 39, 936-57.
58
59
60

- 1
2
3 Niskanen, W.A. (1975) Bureaucrats and Politicians, *Journal of Law and Economics*,
4
5 18, 617-43.
6
7
8
9 Niskanen, W.A. (1979) Economic and fiscal effects on the popular vote for the
10
11 president in *Public Policy and Public Choice* (Eds.) Rae, D. and T. Eismeier,
12
13 Sage, Beverly Hills.
14
15
16 Paldam, M. and F. Schneider (1980) The macro-economic aspects of government
17
18 and opposition popularity in Denmark 1957-78, *Nationaløkonomisk Tidsskrift*,
19
20 2, 149-70.
21
22
23
24 Persson, T. and G. Tabellini (2000) *Political Economics: Explaining Economic Policy*,
25
26 MIT Press, Cambridge.
27
28
29 Powell, G.B. and G.D. Whitten (1993) A cross-national analysis of economic
30
31 voting: Taking account of the political context, *American Journal of Political*
32
33 *Science*, 37, 391-414.
34
35
36
37 Peltzman, S. (1992) Voters as fiscal conservatives, *The Quarterly Journal of*
38
39 *Economics*, 107, 327-61.
40
41
42 Pissarides, C.A. (1980) British government popularity and economic
43
44 performance, *The Economic Journal*, 90, 569-81.
45
46
47
48 Pomper, G.M. (1968) *Elections in America: Control and Influence in American*
49
50 *Politics*, Dodd, Mead & Company, New York.
51
52
53 Rattinger, H. (1981) Unemployment and the 1976 election in Germany: Some
54
55 findings at the aggregate and the individual level of analysis in *Contemporary*
56
57 *Political Economy* (Eds.) D.A. Hibbs and H. Fassbender, North-Holland
58
59 Publishing Company, Amsterdam.
60

- 1
2
3 Rattinger, H. (1991) Unemployment and elections in West-Germany in
4
5 *Economics and Politics: The Calculus of Support* (Eds.) Norpoth, H., Lewis-Beck
6
7 M.S. and J-D. Lafay, The University of Michigan Press, Ann Arbor.
8
9
- 10
11 Revelli, F. (2001) Spatial patterns in local taxation: tax mimicking or error
12
13 mimicking?, *Applied Economics*, 33, 1101-1107.
14
15
- 16
17 Revelli, F. (2002a) Local taxes, national politics and spatial interactions in
18
19 English district election results, *European Journal of Political Economy*, 18, 281-
20
21 99.
22
23
- 24
25 Revelli, F. (2002b) Testing the tax mimicking versus expenditure spill-over
26
27 hypotheses using English data, *Applied Economics*, 14, 1723-1731.
28
29
- 30
31 Rogoff, K. (1990) Equilibrium Political Budget Cycles, *American Economic Review*,
32
33 80(1), 21-36.
34
35
- 36
37 Salmon, P. (1987) Decentralisation as an Incentive Scheme, *Oxford Review of*
38
39 *Economic Policy*, 3(2), 24-43.
40
41
- 42
43 Shleifer, A. (1985) A theory of yardstick competition, *Rand Journal of Economics*,
44
45 16(3), 319-27.
46
47
- 48
49 Schneider, F. And W. W. Pommerehne (1980) Politico-Economic Interactions in
50
51 Australia: Some Empirical Evidence, *The Economic Record*, 56, 113-31.
52
53
- 54
55 Solé-Ollé, A. (2003) Electoral Accountability and tax mimicking: the effects of
56
57 electoral margins, coalition government, and ideology, *European Journal of*
58
59 *Political Economy*, 29, 685-713.
60
- 60
61 Turett, S. (1971) The Vulnerability of American Governors, 1900-1969, *Midwest*
Journal of Political Science, 15, 108-32.

1
2
3 Whitten, G.D. and H.D. Palmer (1999) Cross-national analyses of economic
4
5 voting, *Electoral Studies*, 18, 49-67.
6
7

8
9 Wrede, M. (2001) Yardstick competition to tame the Leviathan, *European Journal*
10
11 *of Political Economy*, 17, 705-21.
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

For Peer Review

Table 1: Five most important municipal taxes in terms of revenue in 2000

Tax	Percentage of total tax revenue
Local Income Tax	45.8 %
Local Property Tax	36.7 %
Tax on Motor-vehicles	2.2 %
Environmental Tax	1.3 %
Tax on domestic waste	1.1 %

Source: Administratie Binnenlandse Aangelegenheden, 2002

Table 2: Missing or dropped observations

Year	1988	1994	2000
Government party/ies (G_{it}) did not participate in election t	49	82	52
Government party/ies (G_{it}) did not participate in previous election $t-1$	4	-	-
Mayor or alderman (of G_{it}) participated in election t as member of new party or opposition party	22	12	12
Total	74*	94	64

* One observation belongs to the first and the second category, which is why the observations in 1998 do not sum up to 75.

Table 3: OLS regressions

Dependent variable: Vote share government parties	(1)	(2)	(3)	(4)
Prior vote government parties	0.783 (22.34)	0.789 (22.68)	.779 (22.27)	0.794 (23.38)
Number of government parties	1.997 (4.37)	1.838 (4.18)	3.322 (3.65)	1.610 (3.17)
Per capita income	-0.942 (-1.77)	-0.756 (-1.61)	-0.788 (-1.49)	-1.065 (-2.95)
Unemployment rate	-22.240 (-0.72)		-11.402 (-0.37)	
Per capita expenditures	.318 (0.23)		0.466 (0.34)	
Per capita expenditures neighbours	-2.615 (-1.29)		-2.647 (-1.31)	
LIT rate	-0.473 (-1.33)		-0.279 (-0.79)	
LIT rate neighbours	0.774 (1.08)		0.206 (0.29)	
LPT rate	-.004 (-2.24)	-0.004 (-2.66)	-0.004 (-2.34)	-0.004 (-3.03)
LPT rate neighbours	0.006 (2.63)	0.008 (3.57)	0.007 (2.81)	0.006 (3.19)
1994 year effect	-1.335 (-1.33)	-1.807 (-2.06)	3.620 (1.93)	3.776 (2.95)
2000 year effect	-1.864 (-1.42)	-2.320 (-1.90)	-0.363 (-0.19)	
Intercept	11.326 (1.88)	-9.412 (2.48)	9.981 (1.64)	9.746 (2.78)
Party-year effects			YES	YES
Wald test party-year effects: Prob > F			0.0001	0.0000
Adjusted R ²	0.482	0.482	0.504	0.506
Number of observations	688	688	688	688

Note: Values between brackets are t-values.

Table 4: OLS Regressions with fixed municipality effects

Dependent variable: Vote share government parties	(1)	(2)	(3)	(4)
Prior vote government parties	0.530 (9.75)	0.532 (10.04)	0.519 (9.20)	0.538 (10.45)
Number of government parties	7.194 (7.45)	7.088 (7.63)	7.551 (4.72)	6.521 (6.83)
Per capita income	-1.594 (-0.86)		-1.428 (-0.78)	
Unemployment rate	45.543 (0.70)		44.064 (0.67)	
Per capita expenditures	-3.660 (-0.66)		-2.938 (-0.53)	
Per capita expenditures neighbours	8.205 (1.07)		7.742 (1.02)	
LIT rate	0.318 (0.43)		0.671 (0.91)	
LIT rate neighbours	1.425 (0.88)		1.196 (0.75)	
LPT rate	-0.008 (-2.31)	-0.010 (-4.54)	-0.007 (-2.18)	-0.006 (-2.06)
LPT rate neighbours	-0.010 (-1.31)		-0.008 (-1.03)	
1994 year effect	0.774 (0.31)		5.068 (1.69)	3.256 (4.04)
2000 year effect	2.734 (0.59)		2.863 (0.60)	
Intercept	22.590 (1.39)	23.069 (6.75)	15.309 (0.95)	16.784 (4.38)
Municipality effects	YES	YES	YES	YES
F test municipality effects: Prob > F	0.0708	0.0065	0.0478	0.0024
Party-year effects			YES	YES
Wald test party-year effects: Prob > F			0.0018	0.0000
R ²	0.260	0.294	0.288	0.342
Number of observations	688	688	688	688

Note: Values between brackets are t-values.

Table 5: 2SLS Regressions

Dependent variable: Vote share government parties	(1)	(2)	(3)	(4)
Prior vote government parties	0.748 (14.96)	0.753 (17.62)	0.758 (15.79)	0.758 (18.02)
Number of government parties	2.757 (4.10)	2.641 (4.67)	2.285 (1.66)	2.132 (3.61)
Per capita income	-2.367 (-1.90)	-1.480 (-2.88)	-1.971 (-1.61)	-1.625 (-3.24)
Unemployment rate	-21.468 (-0.30)		8.323 (0.12)	
Per capita expenditures	0.707 (0.10)		-2.008 (-0.31)	
Per capita expenditures neighbours	-17.580 (-2.57)	-11.619 (-2.99)	-17.774 (-2.64)	-12.954 (-3.36)
LIT rate	-7.705 (-2.77)	-5.268 (-3.37)	-6.760 (-2.31)	-5.373 (-3.50)
LIT rate neighbours	6.953 (1.28)	8.132 (3.35)	4.103 (0.79)	6.841 (2.76)
LPT rate	0.0004 (0.03)		0.0009 (0.07)	
LPT rate neighbours	-0.002 (-0.10)		-0.0003 (-0.02)	
1994 year effect	2.143 (1.03)		6.062 (2.15)	
2000 year effect	4.033 (1.38)		3.551 (1.12)	
Intercept	37.563 (1.62)	5.329 (0.50)	44.711 (1.96)	16.325 (1.41)
Party-year effects			YES	YES
Wald test party-year effects: Prob > F			0.1488	0.0024
Sargan test of overidentifying restrictions	Chi-sq (4) 1.684 p-value: 0.79	Chi-sq (7) 4.182 p-value: 0.76	Chi-sq (4) 2.891 p-value: 0.576	Chi-sq (7) 2.648 p-value: 0.92
Adjusted R ²	0.098	0.270	0.212	0.296
Number of observations	688	688	688	688

Note: Values between brackets are t-values.

Table 6: 2SLS regressions with fixed municipality effects

Dependent variable: Vote share government parties	(1)	(2)
Prior vote government parties	0.485 (5.71)	0.482 (4.72)
Number of government parties	7.975 (5.29)	8.824 (3.07)
Per capita income	0.608 (0.17)	1.221 (0.37)
Unemployment rate	7.605 (0.08)	-11.633 (-0.11)
Per capita expenditures	64.654 (0.77)	45.927 (0.57)
Per capita expenditures neighbours	-18.298 (-0.33)	-13.408 (-0.26)
LIT rate	0.586 (0.14)	0.905 (0.25)
LIT rate neighbours	2.768 (0.45)	2.598 (0.45)
LPT rate	-0.0008 (-0.03)	0.0008 (0.03)
LPT rate neighbours	0.002 (0.05)	0.010 (0.27)
1994 year effect	-8.806 (-0.85)	-3.324 (-0.39)
2000 year effect	-14.680 (-0.78)	-12.748 (-0.82)
Intercept	-34.675 (-0.53)	-43.378 (-0.74)
Municipality effects	YES	YES
F test municipality effects: Prob > F	0.9717	0.6961
Party-year effects		YES
Wald test party-year effects: Prob > F		0.0111
Test of overidentifying restrictions	Chi-sq (2) 1.652 p-value: 0.44	Chi-sq (2) 1.138 p-value: 0.57
R ²	0.045	0.097
Number of observations	688	688

Note: Values between brackets are t-values.

Appendix

Table 7: Descriptive statistics (sample of 688 observations)

Variable	Mean	Standard deviation	Minimum	Maximum
Vote share (in %) government parties at election t: $V_{it}(G_{it})$	54.93	10.18	24.15	87.3
Vote share (in %) current government parties at election t-1: $V_{it-1}(G_{it})$	56.24	8.32	37.25	88.29
Number of government parties	1.63	0.68	1	5
Per capita income, in 1000 EUR	5.49	0.96	3.21	8.88
Unemployment rate	0.03	0.01	0.006	0.08
Per capita expenditures, in 1000 EUR	0.67	0.25	0.23	2.18
Per capita expenditures neighbours, in 1000 EUR	0.69	0.17	0.42	1.82
LIT rate	6.53	0.89	0	9
LIT rate neighbours	6.58	0.51	3	8
LPT rate	959.61	264.79	170	2000
LPT rate neighbours	975.77	191.66	400	1650

Table 8: Data sources

Variable Name	Source
Vote share government parties	Own calculations based on data from the Electoral Database of the Vrije Universiteit Brussel (Jo Buelens) and "Gemeentelijk Zakboekje" (1985, 1994, 1999, 2002)
Per capita income, in 1000 EUR	National Institute of Statistics
Unemployment rate (number of unemployed divided by population)	RVA/ONEM, National Institute of Statistics
Per capita expenditures	Flemish Ministry of Interior Affairs
Local Income Tax rate	Flemish Ministry of Interior Affairs
Local Property Tax rate	Flemish Ministry of Interior Affairs
Party-year dummies	Own calculations based on data from the Electoral Database of the Vrije Universiteit Brussel (Jo Buelens)