Political Competition and Local Government Performance: Evidence from Flemish Municipalities

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Abstract

The argument has recently been made that political competition may have a similarly virtuous effect on economic performance as market competition. The present paper provides a further empirical assessment of this proposition by looking at local level governments in Flanders. The results indicate that political competition at elections does have a beneficial effect on the efficiency of municipal performance. However, these beneficial effects are mitigated somewhat by the fact that such competition may lead to more fragmented governments (and there is some evidence that this works against efficiency). Overall, though, the beneficial effects outweigh the unfavourable ones. Hence, political competition is found to be a force for efficiency in Flanders.

Keywords: Competition, Government performance, Efficiency, Rent extraction.

Introduction

One of the things we teach in undergraduate micro-economics courses is that the absence of competition leads to excessive prices and restrained supply levels. Consumer welfare thus is severely reduced by the rent extraction of monopolists. Such arguments are most often restricted to economic markets. Nevertheless, some scholars have argued that lack of competition may similarly lead to excessive rent extraction by politicians. In other words, arguments have been made that political and economic competition might have analogous effects in terms of rent extraction and inefficient provision of (public) goods (e.g. Stigler, 1972; Becker, 1983; Wittman, 1989, 1995). Indeed, a consensus appears to be emerging on the view that "competition for political office reduces the potential for opportunism by politicians" (Wittman, 1989, 1396). More formal analyses by Polo (1998), Svensson (1998) and Besley *et al.* (2005) likewise indicate that the absence of political competition might cause excessive rent-seeking or inefficient provision of public goods by the government. The reason for this effect is that a large electoral advantage (or, more generally, a lack of political competitors) is likely to moderate the extent to which politicians are held accountable for their actions at election time – thus allowing them to serve narrow economic (or selfish) interests without jeopardizing their re-election odds.

Previous empirical analyses tend to support the ensuing hypothesis that political competition decreases rent extraction and/or government inefficiency. Svensson (1998), for example, shows that health spending leads to a lower drop in infant mortality rates in highly polarized (politically less competitive) countries and that overall government spending significantly negatively affects economic growth only in these countries (while having no significant effect in competitive countries). Besley *et al.* (2005) find more competition to be positively related with personal income growth in the US states. However, these analyses provide only *partial* or

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indirect evidence as higher levels of rent extraction under non-competitive environments are inferred from variations in economic outcomes and not by assessing explicitly the incumbent's inefficiency or rent extraction. The present paper aims to provide more *direct* evidence that political competition decreases rent extraction and government inefficiency by assessing Flemish local government efficiency ratings. High (low) efficiency indicates that the government generates high (low) levels of public goods with limited (high) spending. As such, it reveals how effective the local government is in translating public spending into public goods – or, reversely, how strongly it indulges in rent-seeking or inefficient behaviour. The results – using data from 308 Flemish municipal governments in the year 2000 – corroborate the hypothesis that higher competition reduces inefficiency.

The remainder of the paper is organised as follows. Section 1 discusses the prior literature regarding the effects of political competition on policy outcomes. Specific attention is given to recent theoretical extensions that specifically regard the similarities between economic and political competition, arguing that both types of competition may similarly affect the extent of rent-seeking behaviour (by firms and incumbents respectively). Section 2 gives some background information on the Flemish local institutional setting and describes the indices of political competition which are used in the empirical analysis. The results of the empirical analysis are in section 3. Section 4 concludes.

1. Theoretical framework and previous literature

In economics, it is generally accepted that competition in the private sector improves consumer welfare. Specifically, compared to a monopoly situation, prices are lower and quantities provided are higher under perfect competition, leading to a larger consumer surplus in the

latter situation. The reason is that the rivalry between alternative producers for a share of the market induces them to set prices and quantities such that all profits (or monopoly rents) dissipate. This virtuous effect of 'economic' competition in the private market led to the appeal for increased 'economic' competition in public service provision. Indeed, so the argument goes, "the counterparts of oligopoly and monopoly distort prices and outputs in the public as well as in the private sectors" (McKean, 1965, 502). Hence, an increase in competition, for example allowing private schools or hospitals to compete with public ones, should lead to better service provision as indicated by higher quantity and/or quality, lower prices and so on. The general tenor of empirical analyses is weakly supportive of competition's virtuous effects in the public sector (for reviews, see Boyne, 2003; Mueller, 2003).

This study takes a different approach to competition in the public sector. Rather than regarding the effect of 'economic' competition on public goods and services providers, the present paper concentrates on the effect of 'political' (or electoral) competition on the incumbent's policy decisions. The underlying idea is that the extent of competition between politicians (or parties) affects the decisions of those politicians (or parties) currently in power. The reason is that an incumbent's re-election odds provide a harsher constraint on policy decisions when competition is higher than when (s)he has a large electoral advantage. There is, in other words, "a more credible threat of removal from office" when political competition is high (Skilling and Zeckhauser, 2002, 127). This more pressing electoral constraint is expected to affect policy choices.

This idea is not new. In fact, the policy consequences of political competition have been extensively discussed both in political science and public choice.[1] Two main foci can be

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[1] In such studies, measures of political competition have been based on election results, the seat division in parliament (or government), the number of parties in an election (or obtaining

identified in this foregoing literature. First, some authors have investigated the effects of political competition on the size of government and the type of policies pursued. Second, attention has been given to the impact on the efficiency of public goods provision. As the empirical analysis of this paper regards local government efficiency, we here also restrict our attention to studies focussing on efficiency. [2] Particularly, such studies most often and most basically argue that more stringent political competition between parties (or politicians) may lead to a reduction in rent extraction and inefficient provision of public goods – much like economic competition in the private market reduces monopoly rents. Or, to frame the issue more negatively, when political competition is low, "the state will exercise its monopoly power, provide fewer public services, and earn greater rents" (Lake and Baum, 2001, 590). This approach thus provides a more direct comparison between the effects of political competition on public policy decisions and of economic competition in the private market (early contributions are e.g. Stigler, 1972; Becker, 1983; Wittman, 1989, 1995).

The underlying idea in these theoretical contributions is that severe competition for political office reduces the ability of politicians to engage in opportunistic behaviour – in the form of

rent extraction or inefficient behaviour. Such behaviour could in a competitive environment prove too costly because it negatively affects the probability of being re-elected (or, for parties, negatively affects the expected seat share or the probability of obtaining a majority position). Reversely, a large electoral advantage or a lack of (significant) political competitors is likely to decrease the electoral accountability of politicians – allowing for higher rent extraction. "Simply put, in the absence of competition, accountability suffers" (Holbrook and Van Dunk, 1993, 960) and incumbents have the possibility to extract (higher) rents without jeopardizing their re-election odds.

More recently, formal analyses likewise support the proposition that "candidates' competition for office might induce a dissipation of political rents" (Polo, 1998, 3; see also Svensson, 1998; Besley *et al.*, 2005). A lack of political competition is thereby modelled as a bias in the number of committed voters in favour of one party or project (e.g. Polo, 1998; Besley *et al.*, 2005)[3] or the absence of a pool of non-committed voters that could 'swing' the election outcome (e.g. Svensson, 1998). Importantly, however, a caveat may be in order as Persico and Lizzeri (2002) show that defining competition through the number of parties in the system may lead to increases in the accommodation of special interest groups (and thus less efficient policies) with the extent of political competition. Also, Polo (1998) finds that when candidates cannot commit to their proposed platform rent extraction first decreases with the number of parties, but may then increase again.

To the best of our knowledge, empirical evidence on the effect of political competition on government efficiency and rent extraction is scant and of an indirect nature. Svensson (1998), for example, presents evidence that the effectiveness of government spending in attaining

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[3]   See also Grossman and Helpman (1996), Konrad (2002), Chaturvedi and Münster (2005), Wilson and Damania (2005) and Mehlum and Moene (2006) for a similar modelling of competition in different contexts.

given desired outcomes is reduced when political competition decreases. Specifically, his results indicate that the reductive effect of health spending on infant mortality is lower – and the growth-reducing effect of overall government spending higher – in highly polarized (or politically less competitive) countries. While these results are suggestive of the beneficial effect of competition, the evidence is at best partial given that governments are likely to have multiple targets within their health care policies. If that is the case, focusing the analysis on one particular issue (i.e. child mortality) may be misleading in the sense that results on other health-related issues might show different outcomes. Besley *et al*. (2005) find that the increase in political competition in the American South since the abolition of literacy tests and poll taxes is significantly positively related with personal income growth and governor quality. These results are driven by lower taxation levels and the introduction of certain pro-growth policies (such as the introduction of Right to Work laws) in politically competitive environments.

While the findings from these two studies appear to suggest that political competition affects government efficiency, the overall evidence is not conclusive. For one, analyses comparing democracies and autocracies show more ambiguous results. That is, even though political competition in democracies is arguably higher than in authoritarian regimes, the former do not consistently outperform the latter in terms of economic growth (for a review, see Przeworski and Limongi, 1993).[4] Moreover, and arguably more important, the presented evidence, as mentioned, remains indirect as higher levels of rent extraction under non-competitive environments are inferred from variations in economic *outcomes* rather than *policies*.[5] That is, previous empirical analyses, by focusing on economic outcomes have failed to test more

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[4]   Pinto and Timmons (2005) recently argued that this lack of consensus may derive from the fact that political competition has cross-cutting effects on the sources of growth – increasing productivity and human capital accumulation, but decreasing factor mobilization (of both labour and capital).

[5]   The only exception is Svensson (1998) who, as discussed above, analyses the effect of public health spending on infant mortality rates. Focussing on mortality rates allows one to make direct inferences, although only of a very partial nature. Indeed, as health spending has multiple objectives, decreasing child mortality is only one among many.

explicitly for the incumbent's inefficiency or rent extraction. The present paper intends to take a first step at bridging this gap. Particularly, the central research question in our empirical analysis will be whether more stringent political competition between parties (or politicians) reduces rent extraction and inefficient provision of (public) goods by incumbents.

2. Institutional setting and measurement of political competition

2.1. Local government in Flanders

Municipal governments constitute the lowest level of government in Flanders – and, by extension, in Belgium (next to the federal, regional and provincial levels). Nonetheless, they have considerable autonomy to pursue their own policies and assume significant responsibilities in education, local infrastructure, public safety, welfare, … The political system in the Flemish municipalities can be characterized as a parliamentary system where the executive board is formed by a political majority. That is, local governments in Flanders consist of the College of Mayor and Alderman (the executive body) and the local council (the legislative body). Councillors are chosen via municipal elections that take place once every six years (there are no term limits). Following the election, the party or coalition of parties that controls a majority of the seats in the council decides on the composition of the executive board (unlike in, for example, Norway, where the College reflects seats in the council; cfr. Tovmo, 2007).

Important for our purposes, there are several characteristics in the Belgian local institutional setting that allow for high levels of political competition. Firstly, given certain eligibility requirements (e.g. no criminal convictions), all inhabitants of the municipality above age 18 can

stand for election on the local council. Presenting a list in the municipal elections is, moreover, fairly easy. It only requires presentation of the proposed list four weeks prior to the elections accompanied by a limited number of signatures (of individuals eligible to vote in the municipality) in support of the candidacies. This number of signatures depends on the size of the municipality and varies between 5 and 100. The party's list should contain at least one candidate and no more than the number of seats to be allocated. This low barrier to entry allows for active political competition on the local level. Secondly, elections take place using a system of Proportional Representation (i.e. highest average Imperiali – without legal thresholds). In such systems, even small parties have a relatively large probability of gaining representation. Given that voters do not want to 'waste' their votes on parties that are unlikely to obtain a seat and party elites will not want to waste resources on election campaigns if they do not have a realistic chance of gaining representation (Duverger, 1954/1972; Lijphart, 1994), this low threshold of representation will have a positive effect on parties' willingness to enter the political arena.

2.2. Measuring political competition

As argued before, various approaches have been introduced in both the theoretical and empirical literature to measure political competition. The most straightforward of these measures is clearly the number of parties that enter the electoral 'battle' (e.g. Polo, 1998; Persico and Lizzeri, 2002). The more parties contesting the election (ELPAR), the higher political competition tends to be.[6] The number of parties gives the number of options or substitutes

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[6] One might argue that competition is higher when two parties of roughly equal strength compete in an election compared to the situation where one party has a significant lead over multiple others. This can be addressed by applying weights to each party depending on its (expected) political strength. However, such weights should be based on ex ante expectations rather than ex post

from which the voter can choose. Political parties have to 'work harder' to convince voters to vote for them. As a rule, competition is thus expected to increase in the number of parties.

Still, much depends of course on the voters' perspective. If voters are for some reason fully committed to 'their' party, then competitive pressure on the politicians may be relatively low as this would imply that voters do not consider the different parties as being substitutes. Full commitment is, of course, a theoretical notion. In reality, at least part of the electorate is non-committed and tends to change parties occasionally. These changes, which in essence measure the extent to which parties are close substitutes, put competitive pressure on the parties (cfr. Svensson, 1998). Unfortunately, we lack information on the number of non-committed voters in each election in the Flemish municipalities. However, we can use the ex post information on changing 'market shares' as proxies. This change in the electoral fortunes of parties (in terms of vote or seat divisions) over time can be captured through the measure of political volatility (Pedersen, 1979):

$$\text{VOLATILITY}_{t-1,t} = \frac{1}{2} \cdot \sum_{i=1}^{n} \left| p_{i,t} - p_{i,t-1} \right|$$

where $p_{i,t}$ is the vote (or seat) seat share of party i in the election at time t and n refers to the number of parties (municipality index is left out for convenience). This index – based on Hymer and Pashigian's (1962) market share mobility index – takes a value 0 if the vote (or seat)

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election results. These are, unfortunately, not available in the Flemish municipal setting. Technically, one might also use the *seat* division in parliament after the election as an indication of relative party strength. However, this has the difficulty that it may not only indicate the level of competition in the party system, but also captures possible gridlock effects deriving from multi-party governments (e.g. Roubini and Sachs, 1989; Ashworth *et al.*, 2005). Moreover, and especially in majoritarian electoral systems, seats in parliament can be captured with a narrow electoral lead. If the same party obtains all seats in the parliament with a such a narrow lead, electoral competition is high while a measure of competition based on seat divisions indicates total absence of competition (see also Rogers and Rogers, 2000). To avoid these issues, we rely on the absolute number of parties competing.

share of each party remains unchanged between two elections. The volatility index takes its maximum value of 1 when parties receiving votes (seats) at t-1 have no votes (seats) at all at t. This corresponds to a situation where the full set of parties in the election at t is replaced by a non-overlapping alternative set of 'new' parties. As such, higher values of the index refer to higher volatility in the sense that there is larger variation over time in the vote (or seat) shares obtained by the parties competing in the elections – and therefore indicate more competition.

We build on this measure of electoral volatility to create our second indicator of the political competitiveness of a municipality. Specifically, we generate this variable in two steps. The first step entails the measurement of the volatility between each set of elections using the VOLATILITY measure explained above.[7] We thereby exploit available data for each of the seven 'parties' in Flanders (i.e. SP.a, CD&V, VU, AGALEV, VLD, Vlaams Belang and the miscellaneous group of 'others' – the latter grouping all local parties)[8] in the elections of 1976, 1982, 1988, 1994 and 2000 in all 308 Flemish municipalities. This allows us to generate a measure of political volatility for each municipality for the legislations 1976-1982, 1982-1988, 1988-1994 and 1994-2000. In a second step, we take the unweighted average over the four legislative periods as our measure of political competitiveness (POLVOL) of a municipality:

$$\text{POLVOL} = \frac{1}{4} \cdot \sum_{t=1}^{4} \text{VOLATILITY}_{t-1,t}$$

It should be noted that the ex post observed volatility reflects both demand and supply side changes. The former refer, as discussed, to non-committed voters changing parties. Still,

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[7] Two versions of this variable were considered, using either seat or vote shares. The tenor of the results is not affected by this choice (and we use seats throughout the analysis presented).

[8] While this rest category is clearly not optimal, our data do not allow us to track the electoral rise and fall of each separate local party.

volatility also arises because of a supply side effect, namely when parties merge or break up (or change composition). This occurs relatively frequently in Flanders with the most frequent changes occurring within and amongst local parties (see also Vermeir and Heyndels, 2006). A break-up of a party will as a rule lead to a drop in the initial party's seat share and an 'increase' for the new party (or the party that is joined by the defectors) – inducing our measure to pick up significant volatility. Related, in some cases a party may simply change its name (e.g. a local branch of a national party starts using the national party label). While this may be associated with a re-structuring within the party, it introduces a 'new' party in our dataset. Formally, and in the POLVOL indicator, this is interpreted as a shift of seat shares even though it may well be that all voters remained loyal to their party (with possibly a different 'label').

While the demand side volatility is expected to put competitive pressure on politics, the incentives from supply side induced volatility on politicians is less clear – and one might argue that some of these changes do not even imply 'true' political volatility (e.g. name changes). Lacking detailed information on these supply side changes, we adopt an empirical approach. Thereto, as an alternative to the POLVOL indicator defined above, we purge elections in municipalities where some parties show variations that can be deemed 'too strong'. Indeed, when parties in a given municipality gain or lose more than 15 or 20 percent between elections, this is more likely to be caused by this party, say, changing its name than by true changes in the political reality in that municipality. Hence, some major shifts of party success observed in the data may not be related to changes in the political reality within the municipality. We attempt to correct for this by excluding elections in municipalities where at least one party recorded a steep gain or loss. We thereby define 'too strong' as changes of 10%, 15% and 20%. This implies that our measure of the political volatility in a given municipality i (POLVOL-x) equals the average political volatility excluding those elections where at least one party

surpassed the x percent change benchmark.   We set x equal to 10 %, 15 % and 20 % respectively.

To illustrate the extent of political competition in Flanders, it is of interest to mention that on average just over 5 parties compete in municipal elections. This ranges from a minimum of 2 parties to a maximum of 13 parties. The political volatility in the average municipality is also considerable. The average for our POLVOL measure equals 20.93 %, indicating that political parties are confronted with a (net-)change of one out of five voters in every election. As mentioned above, this observed volatility may be partly attributable to supply side volatility. To remove such effects, POLVOL-x is calculated for three values of x (i.e. 10 %, 15 % and 20 %). For POLVOL-20% - that is, excluding all election in which at least one party shifted more than 20% in terms of votes – the average value of the volatility index reduces to 12.24 %. It should be observed here that *no* POLVOL-20 % volatility is calculated for 10 municipalities as there was at least one party which vote share changed by 20 % or more in *every* election over the period. In the empirical analysis, we pick this up by giving these municipalities the maximum observed volatility and adding a dummy variable DVOL20+. This variable equals 1 if the municipality was in that situation (i.e. 'imputed' maximum volatility) and 0 in all other cases. Using the stricter thresholds of 15 % and 10 % results in average volatility over all municipalities being 10.34 % and 7.38 % respectively. The corresponding number of municipalities for which we attribute the maximum observed volatility due to overly strong electoral shifts in all available elections (that is, for which DVOL15+ and DVOL10+ equals 1) is 24 and 72 of the 308 municipalities respectively.

3. Empirical analysis

3.1 Model and hypotheses

In order to asses the main hypothesis raised in section 1 – i.e. political competition decreases politicians' rent-seeking behaviour – we employ data from the 308 Flemish municipalities in 2000. Flanders provides an interesting setting for our purpose since all municipalities have the same powers to enact policies, but nonetheless face significant differences in the level of political competition. Whether this affects the level of rent-seeking by local politicians is tested by looking at how efficient local governments are in providing local public goods. Efficient governments can be defined as those that need fewer resources to generate a high level of public goods provision while inefficient governments use a high level of resources to generate moderate or low levels of public goods. Government efficiency thus indicates how effective the government is in turning public expenditures into public goods – or, conversely, how strongly it indulges in rent-seeking behaviour. Hence, in very basic terms, our empirical model relates this efficiency to the level of political competition in the municipality:

$$\text{EFFICIENCY}_j = b_0 + b_1 \text{ CONTROL}_j + b_2 \text{ COMPETITION}_j + u_j$$

Where EFFICIENCY is a measure of how well the municipality is performing; CONTROL is a vector of control variables to account for non-competition elements that may affect efficiency within the municipality and COMPETITION is a vector of variables reflecting different aspects of political competition within the municipality (as defined in section 2.2). Subscript j indicates the jth municipality and u_j represents the error term (assumed to be i.i.d.).

Given our definition of (in)efficiency (see above), a measure of Flemish local governments' efficiency can be devised by relating their total expenditures (i.e. the inputs used) to their provision of public goods (i.e. the outputs produced). While several methods have been brought

forward in the literature to estimate this relation between inputs and outputs (see Lovell, 1993), the results are generally highly correlated (De Borger and Kerstens, 1996; Geys and Moesen, 2007a) and we employ the non-parametric approach of Data Envelopment Analysis (assuming variable returns to scale) developed by Farrell (1957). In this approach, a 'best practice' frontier is generated as a piecewise linear envelopment of the data (thereby imposing that the production possibilities set is convex) and any deviation from the best practice frontier is interpreted as inefficiency.[9] Our input variable equals total expenditures in the municipality in the fiscal year 2000. Our output variables relate to the level of local public goods provision in sectors where local governments in Flanders assume the prime responsibility (e.g. education, social, administrative and recreational services). The approach follows previous work on government efficiency in Flemish (and Belgian) municipalities (see Vanden Eeckaut *et al.*, 1993; De Borger *et al.*, 1994; De Borger and Kerstens, 1996; Geys, 2006; Geys and Moesen, 2007a, b). The proxies used to create the output are (a) the number of subsistence grants beneficiaries, (b) the number of students in local primary schools, (c) the share of inhabitants older than 65, (d) the total population and (e) the surface of public recreational facilities (measured in hectare). Though following accepted practice in the previous literature, these output indicators are obviously not ideal. For example, the number of subsistence grants beneficiaries and total population are rather crude proxies for the services rendered to low-income families and the administrative tasks of the local government respectively (De Borger *et al.*, 1994; De Borger and Kerstens, 1996). Unfortunately, better measures are not available, nor is information on the quality of the employed outputs. This, regrettably, reflects the general problem with defining and measuring public sector inputs and outputs (see Levitt and Joyce, 1987; De Borger and

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[9]   Given the existence of measurement error and other stochastic influences, it may not be appropriate to designate all deviations from the frontier as inefficiency (Aigner *et al.*, 1977; Meeusen and van den Broeck, 1977). However, in this case, various approaches to measure efficiency (i.e. Free Disposal Hull, Data Envelopment Analysis assuming constant returns to scale and both a deterministic and stochastic parametric frontier approach) are all highly correlated and so the final choice was determined by the measure that gave the best fit.

Kerstens, 1996).[10] For the efficiency measure deriving from this analysis, it holds that higher

values point to more efficient municipalities with a limit at unity for municipalities on the

efficiency hull.[11]

Turning to the control variables, we identify three sets of variables capturing potential

influences from respectively the demand side, the budgetary situation and the political context.

Demand side variables include per capita income (INCOME), income equality (INEQ) and

population density (DENS).[12] The wealth of residents as measured by their average income

may be important when efficient provision of public goods entails a significant investment of

resources. For example, the use of up-to-date techniques (which enable efficiency) may be

limited by the wealth of the community and its inhabitants. Furthermore, the rich may be

more effective in (and have bigger incentives for) demanding greater efficiency (Knack, 2002).

On the other hand, it is possible that a wealthy population simplifies raising revenue, such that

there are fewer requirements to be efficient. Thus the anticipated effect is uncertain.   In

addition to income, income inequality (INEQ) may also affect municipalities' ability to be

efficient. Income inequality is measured by the ratio of the interquartile difference in income to

the median value. Inequality may reflect heterogeneity in the population which may imply a

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[10] Though panel data might resolve some of the problems related to these measurement issues, time
series data were not available for various output variables. Merging our efficiency ratings with those
generated by previous Belgian studies was also unfeasible. Indeed, this previous work regarded
either all Belgian or only the Walloon municipalities, while our data are restricted to the Flemish
municipalities.

[11] The data are calculated using the EMS-program (version 1.3.0) by Hodger Scheel (University of
Dortmund).

[12] Clearly, a number of the variables suggested are liable to be collinear with each other. However, our
vector of control variables is determined in large part by the findings in previous studies of
government efficiency (e.g. De Borger *et al.*, 1994; Grossman *et al.*, 1999 and De Borger and Kerstens,
2000 for a review). It should be noted that as population has been used to create the efficiency
measure and there may thus be an element of a double-count with the density variable when
including it also in the model explaining efficiency, though as can be seen, there is only a minor
effect. Population is not used and so there is no direct examination of potential scale economies
though it was used in determining the dependent variable.

more complex set of needs and/or demands for public good provision. Such complexity may make efficient policy less evident. Finally, population density may also be a relevant factor as it will affect the nature of demands. A number of social problems that are associated with urban centres may make achieving efficiency more difficult. On the other hand, density may have a bearing on efficiency through the supply side also. The reason is that some services may be harder to provide if the population is less heavily concentrated. For example, the elderly in isolated communities may be more difficult to service.

The budgetary context of the municipality may affect efficiency ratings. First, the size of the budget gives an indication of the scale of the public sector, which may affect efficiency. The larger scale (budget) of the public sector may allow taking advantage of scale economies unless (or until) this advantage is offset by co-ordination problems that tend to characterize large scale organizations. It should be observed that the 'nature' of the budget may be relevant too. Indeed, as is common for local authorities, Flemish municipalities rely on two main sources of revenue: tax and grant revenues. For the local governments, perceived accountability to the public (for taxes) and the Regional governments (who provide the grants) may differ. In order to examine this matter we include total tax revenues raised by the municipality (TAXREV) and (unconditional) grants (GRANT) as separate control variables. Second, while tax and grant revenues capture the current budgetary situation, past budgetary behaviour may also affect a municipality's ability to be efficient in the present period. For example, if a municipality has some debt (per capita, DEBT) carried over from the past, this may limit its ability to be efficient in a given year (given that payment of interests and amortization reduces the funds available to provide public goods in the current period). Nevertheless, it may also be that the municipality gets the benefits of the investments without needing to resort to additional spending in the

current time period and so is (apparently) more efficient in the given period.[13]   Any of these arguments can be reversed for (current account) surpluses (SURPLUS). Still, as there is no guarantee that debt and surplus will have identical effects on efficiency (in terms of size) and as there may be asymmetric effects, the two variables must be examined separately.

Finally, we include a set of political control variables.   The nature of the ruling coalition (or majority) as well as its relative position to the opposition parties is considered.   First, it is generally assumed that left-wing governments favour larger public sector provision.   The question then arises as to whether this increase in size is efficient. To pick up this effect we include the average ideology of the incumbent party or parties (IDEO) which measures the ideology along a left to right scale (see Ashworth and Heyndels, 1997).   A second crucial characteristic of the government is its degree of fragmentation. As convincingly shown in the large literature on the so-called Weak Government Hypothesis (e.g. Roubini and Sachs, 1989; Volkerink and de Haan, 2001; Ashworth *et al.*, 2005, 2006; Coffé and Geys, 2005; Geys, 2007; Goeminne *et al.*, 2007; Tovmo, 2007), fragmentation has a negative impact on decision-making powers. As a consequence, we expect that it may impinge on the ability of governments to be efficient.   To capture this (and allowing for non-linear effects of the number of parties in government), we introduce two variables: a dummy variable (SOLE) indicating whether the incumbent is a single party government or not and a variable capturing the number of coalition parties (NUMCOAL).[14]   We expect single party governments not to suffer (as much) from a gridlock of decision-making and thus to have more 'opportunity' to be efficient. Still, it should

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[13]   Flemish municipalities are in principle only allowed to generate debt through financing long-term capital investment projects (e.g. on infrastructure). For more details on these rules, see Ashworth *et al*. (2005). There is a case for considering debt relative to income. However, the results using such an operationalization are qualitatively similar to the ones presented.

[14]   While in this paper, we rely on simple measures of fragmentation, it is clearly possible to extend the analysis.

be recognised that these governments, while having the opportunities, may not have the incentive to be efficient as their monopoly power may allow for higher rent extraction.

The political majority does not work in a vacuum. Its actions, notably the efficiency of its policy, may depend on the relative strength of the opposition. To capture this, we include the size of the majority of the ruling party (or coalition) measured through the number of seats that it has (they have) relative to the combined opposition (EXCESS). We expect more comfortable majorities (more excess seats) to have fewer incentives to be efficient. Apart from the size of a government's majority (and thus the size of the opposition), the opposition's level of fragmentation may also matter. That is, a more fragmented opposition can be expected to put less pressure on the incumbent. Thus we expect the number of opposition parties (NUMOPP) to negatively affect efficiency.

3.2 Empirical results

Before presenting the results of the estimations, a number of methodological issues remain to be mentioned. Firstly, the dependent variable is constrained to a maximum of unity (i.e. it is right-censored at 1). Whilst this may not be severe as only a small proportion of the municipalities are actually on the production frontier (i.e. 39 out of 308), it is nonetheless a problem that must be addressed. The obvious way to deal with this issue is by employing a Tobit analysis. However, matters are further complicated by the fact that it is by no means clear that all the independent variables are exogenous. For example, if the governing party/parties are inefficient, this may lead to greater political competition. Similarly, inefficiency may lead to debt (or efficiency to surpluses). Moreover, if the rich demand higher efficiency, this may lead to a Tiebout effect whereby rich people move into an efficient area (either for the lower taxes directly or, more indirectly, for the better services their taxes give

them; see Oates, 1969). To accommodate for these possible endogeneity issues, it is necessary to consider estimation via instrumental variables. While no instruments are readily available for all these variables, artificial variables need to be constructed following the procedures suggested by Dagenais and Dagenais (1997), which is an econometric variant of statistical work on orthogonality using higher moments.

Turning to the estimation results, we present a number of different results in Table 1 and appendix Table A1. These various sets of results differ only in the estimation method employed, and try to accommodate for the various methodological issues raised above. By comparison of the results using these various estimation techniques, we are not only able to give a more complete picture of the effects uncovered, but also at the same time test for the robustness of our findings to the distributional assumptions made under the various approaches employed. Specifically, in Table 1, we present a set of Tobit estimation results (which account for the bounded nature of our dependent variable). In Table A1 in appendix, estimations using OLS and IVE are presented as a comparison (the latter of which control for the possible endogeneity of some of our explanatory variables).

The first factor to note is the general robustness and consistency of the results over the two tables. Given this similarity, it can be inferred that the truncation problem – generated by the upper bound on our dependent variable – is slight (i.e. the Tobit results are similar to those under OLS and IVE) and that the bias in OLS estimation induced by the possible endogeneity of some of our explanatory variables is minor as well (i.e. IVE estimates do not differ substantively from those using OLS or Tobit). Generally, as can be seen from the diagnostic tests, the equations are well specified.[15] As the results are so similar, the findings using Tobit

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[15] Examination was made of different functional forms for the independent variables, notably examining logs. The overall effect was marginal and J-tests did not indicate one form or the other as

are presented in the main text while the others are reverted to the appendix (the reason is that Tobit deals with the most obvious – i.e. truncation – effect). Table 1 provides three sets of results. In column 2, we present a full estimation using the complete volatility variable, POLVOL. Column 3 introduces the 'outlier-corrected' volatility variable POLVOL-10% and a dummy for the most volatile municipalities DVOL10+ (Note that the results are comparable when using 15 % and 20% seats as a cut-off point; available upon request). Finally, column 4 provides a result with insignificant variables removed; a restriction which tests indicate is allowable.

Initial consideration is given to the control variables before moving to the competition variables. Firstly, a number of the variables do not seem to affect efficiency: income distribution and population density. Secondly, debt and surplus affect efficiency in opposite ways with debt adversely affecting efficiency and surplus increasing it – in line with expectations. Thirdly, the total tax burden has a negative effect on efficiency, which suggests that larger governments are less efficient. Finally, an increase in income per capita leads to lower levels of efficiency. This could imply that the rich are not better at demanding higher value for the taxes they pay or, possibly, bother less about it. Importantly, the only variable that fails to be robust (in terms of losing or gaining statistical significance over the different estimation methods employed) is grants. The general inference here is that larger grants are positively related to municipal efficiency. This may imply that grants in Flanders are targeted correctly and improve incentives for the municipality. Another possible explanation is that the

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superior. We present the results from the linear specification only as these proved superior in terms of goodness-of-fit. Following Ashworth *et al*. (2006), examination was also given to non-linear effects for the political variables. The addition of such variables proved to be insignificant and when examined in place of the dummy for sole power, the turning point proved to be between one and two parties in all cases. Again, as the fit was superior for the results with the sole party dummy, these are the results presented. It is of note that if the government fragmentation variables are removed and only electoral fragmentation is included, competition remains significant with around the same sized effect and, indeed, its significance is increased. The insignificance of the volatility results is also unchanged in that setting.

Flemish government exercises a relatively strict control over local finances, such that inefficient spending (of, for example, grants) is less feasible. Future research should explore this issue further.

Turning to the political variables, we first of all find that government fragmentation leads to lower levels of government efficiency. As can be seen, single party governments are more efficient. The number of coalition parties negatively affects efficiency (though this effect is on the borderline of statistical significance at conventional levels). This finding gives indirect support for the weak government hypothesis. A possible explanation is that competition over resources *within* the government leads to inefficiency. Note that, similarly supporting the general idea that fragmentation undermines the ability to act, the fragmentation of the opposition has the expected negative effect. The more parties there are in the opposition, the less they can 'force' the incumbent into more efficient behaviour (though this effect is not significantly different from zero). Also, the relative strength of the majority / opposition, as measured by the excess seats of the government in parliament, does not seem to affect efficiency significantly. Finally, we find that the ideological composition of the government matters in the sense that right-wing governments in Flanders appear to be more efficient than left-wing governments.

Then, we turn to the central issue of our research: does political competition in the electoral process lead to efficiency? There is a clear positive answer to this question, thereby supporting the work of Svensson (1998) and Besley *et al.* (2005). Increased competition (in terms of the number of parties contesting the election) leads to greater efficiency. Thus the 'supply' of a wider range of options to choose from – in terms of politicians providing the competition – creates efficiency. However, there is much less evidence that the electorate (i.e. the demand side, in the form of swing-voters) engenders increased efficiency. No matter how defined, the

volatility measure is insignificant. Under an unconstrained definition (column 1 in table 1), the effect is insignificant and negatively signed (implying that swing voters lead to more inefficiency in government provision of public services). If extreme volatility is factored out (POLVOL is replaced by POLVOL-10 % and DVOL10+), there is a suggestion that the presence of swing voters may engender efficiency but, again, the effect remains insignificant.[16]

Overall, the conclusion must be that increased competition amongst political parties during elections (which reflects the increased possibility of not being in power after the election) leads to efficiency. Still, the degree of responsiveness of the electorate to this competition does not necessarily reinforce this effect. This suggests that too much change in the form of 'new' parties and/or alliances or large swings in the electorate make it more difficult to provide the services that are required in line with the electorate's preferences – and thus inefficiencies may emerge.

Given the overall positive effect of political competition in terms of the number of parties participating in the election, and the negative effect of government fragmentation, one might raise the question whether the competition at elections outweighs the potential costs of increased fragmentation in government. If more competition at elections leads to more fragmented governments, which of the competing effects dominates? A consideration of the coefficients would suggest that the effects may cancel each other out. However, given that the number of parties at elections is (often much) larger than the number of parties forming the actual government, the average electoral effect is liable to be greater than the government

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[16] The results presented are for a cap on 10% volatility coming from the electorate with the rest coming from re-definitions of political parties. These results give the maximum positive effects; intermediate definitions using 15% and 20% are much less marked (and remain insignificant). The change to a positive sign on the volatility measure occurs between 15% and 20% cut-off. The dummy is always positive though insignificant. Additionally, if regressions are run using only those municipalities which are not capped there is a minimal change in the size of coefficients and no change of inference in any of the variables.

effect.[17]   As a consequence, it can be concluded that **competition leads to higher levels of government efficiency – or lower levels of rent-extraction.**

5. Conclusion

Competition leads to lower rent extraction in the private sector. That is, monopolies choose to set their prices higher and their quantities lower than what would be the case under perfect competition – and pocket a significant profit (or monopoly rent) in the process. Increasing the number of firms in the sector leads to the dissipation of all such monopoly profits. Recently, political competition has been identified as a mechanism that disciplines the political leadership in much the same way. Politicians that do not face a credible threat of removal from office (i.e. lack political competitors) will tend to reduce the accountability of these political actors. This allows them to serve narrow economic or selfish interests without putting their re-election at risk. Lack of political competition therefore – much like the absence of competition in the market sphere – will tend to lead to higher rent extraction and lower government efficiency.

Testing this proposition on a set of 308 Flemish municipalities, we find support for this proposition.   Electoral competition – measured in terms of the number of parties that participate in the election – has a significant and positive effect on the efficiency of municipal policy.   A second indicator of political competition – i.e. the level of volatility of the outcomes of the elections – suggests a similar positive effect of competition on efficiency.   Still, the results in the latter case are much weaker (and fail to reach statistical significance at

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[17]   It can be seen that this is unequivocal for the OLS and IVE estimations. In addition, it should be noted that the fragmentation in government is on the borderline of significance whereas the electoral effect is highly significant.

conventional level). 'Intertemporal' political competition thus appears only a weak driving force of government efficiency, whereas competition for office at a given election has a strong and significant positive effect. Nonetheless, it should be noted that these beneficial effects are mitigated somewhat in that such competition may lead to (weak) fragmented governments. Moreover, there is some evidence in our analyses that such fragmentation works against efficiency. Overall, though, the beneficial effects outweigh the negative and the conclusion is that competition is a force for efficiency in Flanders.

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TABLE 1
THE EFFECT OF POLITICAL COMPETITION AND VOLATILITY ON THE EFFICIENCY OF LOCAL GOVERNMENT IN FLANDERS

Dependent Variable	Efficiency*	Efficiency*	Efficiency*
Independent Variables	TOBIT	TOBIT	TOBIT
Intercept	**0.554**	**0.548**	0.427
	(0.121)	**(0.120)**	(0.132)
SOLE	**0.039**	**0.042**	0.041
	(0.020)	**(0.019)**	(0.020)
NUMCOAL	***-0.044***	***-0.042***	*-0.062*
	(0.023)	***(0.022)***	*(0.035)*
EXCESS	0.0018	0.0020	
	(0.0014)	(0.0014)	
NUMOPP	-0.004	-0.005	
	(0.019)	(0.020)	
IDEO	**0.049**	**0.047**	**0.052**
	(0.022)	**(0.022)**	**(0.022)**
ELPAR	**0.044**	**0.042**	**0063**
	(0.015)	**(0.015)**	**(0.011)**
POLVOL	-0.000		
	(0.001)		
POLVOL-10%		0.005	
		(0.003)	
DVOL10+		0.051	
		(0.036)	
INCOME (x1000)	**-0.009**	**-0.011**	*-0.007*
	(0.004)	**(0.004)**	*(0.004)*
INEQ	0.008	0.012	
	(0.012)	(0.011)	
SURPLUS	*0.036*	*0.033*	*0.033*
	(0.019)	*(0.019)*	*(0.017)*
DEBT	***-0.016***	*-0.019*	***-0.014***
	(0.009)	*(0.009)*	***(0.007)***
TAXREV	**-0.218**	**-0.207**	**-0.247**
	(0.036)	**(0.036)**	**(0.035)**
DENS	-0.008	-0.011	
	(0.022)	(0.022)	
GRANTS	**0.008**	**0.008**	*0.004*
	(0.002)	**(0.002)**	*(0.002)*
Sigma	**0.132**	**0.131**	**0.130**
	(0.006)	**(0.006)**	**(0.006)**
Pseudo R²	0.459	0.471	0.421
Diagnostic Tests			
NORMALITY	3.770	3.446	4.889
RESET²	0.995	1.225	1.661
RESET³	1.115	0.890	1.223
White Heteroscedasticity	4.113	3.998	5.771
INSIG (2) to (4)			1.886
INSIG (3) to (4)			2.122

Notes: N=308; Estimated standard errors are in parentheses. *Efficiency is calculated relating total municipal expenditures to levels of subsistence grant beneficiaries, pupils in primary schools, recreational facilities, population size and fraction of elderly in the population, see Coffé and Geys (2005) for further details. INSIG is the test of omitting the variables from the most general version of the model in columns 2 and 3 to column 4 and indicates an omission of jointly insignificant variables; Pseudo R² is a goodness-of-fit measure as suggested by Veall and Zimmermann (1996), following Dhrymes (1986). Diagnostic tests for the Tobit model are computed following Pagan and Vella (1989) and follow a t distribution. The only exceptions are those for White unknown form heteroscedasticity test and normality which are computed following Chesher and Irish (1987) and follow a χ^2 distribution. It should be noted that the removal of population density and tax revenues which in various degrees go to make up the efficiency variable do not change the inference from the other variables. The coefficients on the volatility of seats variable is scaled by 100.

TABLE A1
THE EFFECT OF POLITICAL COMPETITION AND VOLATILITY ON THE EFFICIENCY OF LOCAL GOVERNMENT IN FLANDERS

Dependent Variable	Efficiency*	Efficiency*	Efficiency*	Efficiency*	Efficiency*	Efficiency*
Independent Variables	OLS	IVE	OLS	IVE	OLS	IVE
Intercept	**0.563**	**0.508**	**0.554**	**0.516**	**0.569**	**0.850**
	(0.119)	**(0.117)**	**(0.119)**	**(0.115)**	**(0.113)**	**(0.186)**
SOLE	**0.034**	*0.038*	*0.035*	*0.039*	*0.032*	**0.058**
	(0.017)	*(0.020)*	*(0.019)*	*(0.020)*	*(0.017)*	**(0.027)**
NUMCOAL	***-0.026***	***-0.024***	***-0.034***	***-0.022***	*-0.031*	***-0.023***
	(0.014)	***(0.012)***	***(0.018)***	***(0.012)***	*(0.016)*	***(0.014)***
EXCESS	***0.0026***	0.0022	***0.0028***	0.0019		
	(0.0014)	(0.0019)	***(0.0015)***	(0.0018)		
NUMOPP	-0.008	-0.007	-0.016	-0.013		
	(0.018)	(0.025)	(0.019)	(0.029)		
IDEO	**0.043**	*0.038*	*0.042*	*0.038*	0.042	*0.038*
	(0.021)	*(0.020)*	*(0.021)*	*(0.020)*	(0.020)	*(0.021)*
ELPAR	**0.073**	**0.068**	**0.071**	**0.067**	**0.062**	**0.074**
	(0.012)	**(0.011)**	**(0.012)**	**(0.011)**	**(0.007)**	**(0.012)**
POLVOL	-0.009	-0.006				
	(0.007)	(0.004)				
POLVOL-10%			0.005	0.004		
			(0.003)	(0.003)		
DVOL10+			0.037	0.038		
			(0.027)	(0.028)		
INCOME (x1000)	**-0.009**	**-0.013**	**-0.011**	**-0.012**	**-0.011**	**-0.018**
	(0.004)	**(0.006)**	**(0.004)**	**(0.006)**	**(0.005)**	**(0.009)**
INEQ	0.003	0.004	0.006	0.005		
	(0.011)	(0.023)	(0.011)	(0.024)		
SURPLUS	*0.038*	*0.033*	*0.037*	*0.032*	*0.043*	*0.031*
	(0.020)	*(0.018)*	*(0.020)*	*(0.017)*	*(0.022)*	*(0.016)*
DEBT	***-0.013***	**-0.018**	***-0.015***	**-0.019**	**-0.018**	**-0.018**
	(0.007)	**(0.009)**	***(0.008)***	**(0.009)**	**(0.008)**	**(0.009)**
TAXREV	**-0.198**	*-0.220*	**-0.188**	*-0.221*	**-0.193**	*-0.319*
	(0.035)	*(0.112)*	**(0.035)**	*(0.112)*	**(0.003)**	*(0.181)*
DENS	0.001	-0.005	-0.001	-0.005		
	(0.002)	(0.023)	(0.002)	(0.023)		
GRANTS	**0.004**	*0.003*	**0.004**	*0.003*	0.004	*0.004*
	(0.002)	*(0.002)*	**(0.002)**	*(0.002)*	(0..002)	*(0..002)*
Sigma						
Pseudo R²	0.437	0.310	0.446	0.320	0.427	0.299
Diagnostic Tests						
NORMALITY	4.269	**7.422**	3.997	**7.770**	4.308	5.987
RESET²	1.728	0.282	1.311	0.254	0.002	0.340
RESET³	1.419	0.550	1.197	0.612	0.332	0.996
White Heteroscedasticity	0.938	10.425	0.884	7.569	0.339	4.789
Sargan		3.728		2.942		7.667
Hausman (IV Exogeneity)		0.885		0.993		1.003
INSIG (columns 2, 3) to (6, 7)					1.041	0.934
INSIG (columns 4, 5) to (6, 7)					2.006	1.503

Notes: N=308; Estimated standard errors are in parentheses. *Efficiency is calculated relating total municipal expenditures to levels of subsistence grant beneficiaries, pupils in primary schools, recreational facilities, population size and fraction of elderly in the population, see Coffé and Geys (2005) for further details. The Sargan test of mis-specification of the instruments indicates that the choice is satisfactory. The instruments used are a constant, $z_1 = x*x$, and $z_4 = x*x*x – 3x[E(x'x/N)*I_k]$ with x reflecting the right hand side variables in the equation in deviation from mean form and * designating the Hadamard element by element matrix multiplication operator (see Dagenais and Dagenais, 1997, 197-198). Similarly, the Hausman test indicating exogeneity implies a satisfactory estimating equation. INSIG is the test of omitting the variables from the most general version of the model in columns 2 and 3 or columns 4 and 5 to columns 6 and 7 and indicates an omission of jointly insignificant variables; Pseudo R² is a measure as suggested by Veall and Zimmermann (1996), following Dhrymes (1986). Diagnostic tests are computed following Pagan and Vella (1989) and follow a t distribution. The only exceptions are those for White unknown form heteroscedasticity test and normality which are computed following Chesher and Irish (1987) and follow a χ^2 distribution. It should be noted that the removal of population density and tax revenues which in various degrees go to make up the efficiency variable do not change the inference from the other variables. The coefficients on the volatility of seats variable is scaled by 100.