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Political Budget Cycles and Intergovernmental Transfers in a Dominant Party Framework: Empirical evidence from South Africa

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Abstract: This paper tests the theory of context-conditional political budget cycles in South Africa's dominant party framework and demonstrates that the central government has both an incentive and the ability to implement PBCs on the subnational level. Using a unique panel dataset comprising South Africa's nine provinces over the period 1995-2010 generates two main results: First, provinces where the national ruling party faces greater electoral competition receive higher per capita transfers in the year before an election. Second, this increase is driven by the conditional grant, which is the non-formula-based component of total the intergovernmental transfer. The ability to implement political budget cycles is successfully constrained when it comes to the formula-based equitable share component of the total transfer for which no evidence of electorally-induced funding is found. Overall, the results suggest that even in a dominant party framework, political competition can function as an incentive to implement political budget cycles.

Introduction

The popular perception that incumbent politicians manipulate fiscal policies to increase their chances of re-election is given formal expression through political budget cycle (PBC) theory. Building on the pioneering work of Nordhaus (1975), the literature explains the phenomenon in terms of a moral hazard model and asymmetric information. Incumbent politicians are predicted to take advantage of informational asymmetries to signal their competence to the electorate, for example, by demonstrating their ability to produce public goods without raising taxes (Shi and Svensson 2002: 70). The result of this behavior is a "periodic fluctuation in a government's fiscal policies induced by the cycle of elections" (Alt and Rose 2005: 1), which is the generally accepted definition of PBCs.

In the past, most empirical studies have tested PBC theory in the context of developed countries and have provided evidence on how the magnitude and composition of cycles varies with respect to different fiscal variables.[1] More recent work has started to analyse PBCs in developing countries and generally finds that cycles there are more pronounced than in developed countries (Brender and Drazen 2003, Block et al 2003, Shi and Svensson 2002, Schuknecht 2000). However, most of these studies use country-level panels, which means that they cannot provide insight into the mechanisms through which PBCs are implemented at the subnational level. While some papers have carried out

[1] See Drazen (2000) or Franzese (2002) for a comprehensive review of the empirical literature.

subnational analyses[2], they have generally focused on traditional PBC variables such as revenue and tax, but not intergovernmental transfers. These are likely to be important channels for PBCs in countries where the subnational level of government has limited revenue-generating power. Moreover, while an emphasis has been placed on studying PBCs in new democracies, the literature has not explicitly applied PBC theory to the context of a dominant party framework. Hence there is little understanding about a dominant incumbent's motivation to use fiscal policy to win votes in such a context.

Motivated by this gap in the literature, this paper examines the presence of opportunistic PBCs in South Africa's intergovernmental transfer system. South Africa is an ideal case to consider as the federal structure offers the possibility to compare across provinces. Moreover, even though South Africa has a dominant party system, the provinces vary greatly in terms of electoral success. In other words, the ANC does not win everywhere all the time, although it controls the national level. This variation in subnational political competition can be exploited to identify its effect on intergovernmental transfers. While provinces are responsible for independently implementing their own budgets, they are almost entirely financed by the central government. Indeed, the provinces' own receipts are typically less than 5 per cent. It is thus intuitive to analyse whether the dominant party can use the centralized intergovernmental transfer system to channel support to where it would be electorally most helpful.

[2] Among others, Akhmedov and Zhuravskaya (2004) carry out a subnational analysis on Russian regions. Moreover, Cerda and Vergara (2007) analyse Chilean municipalities, Gonzales (2002) focuses on Mexican regions, and Khemani (2000 and 2004) on Indian Provinces. To date, no subnational PBC studies have been carried out in Sub-Saharan Africa, for which lack of quality data seems to be an obvious explanation.

This paper finds that more competitive provinces receive higher transfers from the central government. This increase is driven by the conditional grant, which is the non-formula-based component of total intergovernmental transfers. Moreover, the increase in provincial revenue in more competitive provinces displays compositional patterns, with increased spending on education, welfare and roads. Overall, the findings suggest that political competition on the subnational level is a salient feature when it comes to distributing national funds through South Africa's intergovernmental transfer system.

The remainder of this paper is organized as follows. The next section formulates two testable hypotheses based on a discussion of the relevant PBC literature and the South African context. Section 2 describes the data and outlines the estimation strategy. Section 3 presents the results. Finally, the conclusion summarises the results, discusses policy implications and points out areas for future research.

1. Theoretical setting

1.1 Literature on political budget cycles

In the literature there are two main theories that explain why political budget cycles occur: partisan and opportunistic theories. Partisan theory, starting with Hibbs (1977) and Alesina (1987), states that PBCs are predetermined by the ideology of the incumbent government. However, this explanation is unlikely to be useful for studying PBCs in

developing countries, where political parties generally do not exhibit the typical Western left-right pattern (Block, 2002b: 209; Shi and Svensson, 2003: 68). The focus in this paper thus lies on opportunistic theory, which was pioneered by Nordhaus (1975) [3] who assumed two now largely discredited ideas: an exploitable Phillips curve and a myopic electorate (Alesina et al., 1997: 15). Later works, starting with Rogoff and Sibert (1988) and Rogoff (1990) propose models that render "the questionable assumption of a myopic electorate unnecessary by positing asymmetric information regarding the incumbent's competence" (Converse and Kapstein, 2006: 6). Incumbents are predicted to take advantage of the fact that voters cannot directly observe their level of competence. Through the manipulation of fiscal variables, incumbents can signal their competence to the electorate and thus maximise their chance for re-election.

Empirical evidence generally confirms the presence of opportunistic political budget cycles. Originally, most studies focused on developed countries, which is the context in which PBC theory was conceived (Block, 2002a: 2). An increasing number of empirical studies now concentrates on developing countries. Schuknecht (2000), for example, conducts a study of 24 developing countries for the 1973-1992 period and finds evidence for PBCs, particularly in the form of public investment. In a study of sub-Saharan Africa, Block et al. (2002) discover significant election-year increases in public expenditure and net claims on government. Shi and Svensson (2000) find that in a panel of selected

[3] The subject of Nordhaus' theory is the political business cycles, which refers to electorally timed distortions in macroeconomic variables, such as inflation and unemployment. This is different from PBCs, which refer to periodic fluctuations in fiscal policy variables (i.e. variables affecting the budget).

developing countries government spending increases and revenues fall before elections, leading to larger deficits in election years. Crucially, the latter study also finds that the magnitude of PBCs is far greater in developing countries than it is in developed ones. Other scholars have extended this finding to argue that in comparison to developed countries, PBCs are not only more pronounced in developing countries, but also in new democracies (see Brender and Drazen, 2005; Akhmedov and Zhuravskaya, 2004).

In this context, it is important to note that opportunistic PBC theory does not apply equally under all circumstances. For example, if the extent of informational asymmetry is a function of political institutions and voter characteristics, then the possibility to implement PBCs is also a function of these factors. Alt and Rose (2005) use this logic to argue that PBCs are context-conditional. In particular, they employ Tufte's (1978) motive, opportunity and weapon analogy to argue that two conditions must hold: incumbents must have both an incentive and the ability to manipulate policy. The first condition relates to the question of why an incumbent would choose to manipulate public finances. In the literature, the competitiveness of an election has often been used as an explanation. Indeed, Alt and Rose (2005: 12) trace the idea back to Wright (1974) and Tufte (1978) and explain how competitiveness functions as a strategic variable, as "an election that is expected to be 'closer' increases the value and thus the desirability of any action that increases the incumbent's re-election prospects", as long as such an action is costly. This seems intuitive: why would a dominant incumbent manipulate fiscal variables, if he is sure to win the election or for that matter sure to lose it?

Some evidence of a positive relationship between competitiveness and PBCs has been presented in the context of American states by Cingermayer and Wood (1995), Carlsen (1998) and more recently Alt and Rose (2005)[4]. However, empirical analyses of this relationship in the context of developing countries have been scarce. One explanation is the difficulty to access quality data on the subnational level in developing countries. Moreover, most cross-country panels have excluded countries in which national elections are deemed uncompetitive even if there is competition on the subnational level. Examples include Venezuela, Hungary, Kazakhstan, Russia and South Africa, where one dominant party controls the national government and yet there is variation in terms of subnational electoral success. It makes sense to exclude countries with elections that are not competitive from a cross-country analysis of PBCs[5]. Nonetheless, subnational competition can function as an incentive for the implementation of PBCs in different regions, even if one party dominates the polls on the national level. By focusing attention on the relationship between PBCs and political competition in South Africa's provinces, this paper aims to contribute to a better understanding of the role of subnational competition as an incentive to implement PBCs.

[4] These studies use different measures as proxies for political competition. Brender and Drazen (2005: 4) restrict their sample to countries with a POLITY IV score between 0 and 10 (on a scale from -10 to 10). Cingermayer and Wood (1995) use vote margins, Schultz (1995) uses opinion polls and Alt and Rose (2005) use governors' job approval ratings.

[5] Brender and Drazen (2005: 4) argue that "if elections are not competitive, then the basic argument underlying the existence of a political budget cycle loses much of its validity."

The second condition, the ability to manipulate policy, relates to the institutional environment. If the institutional environment makes it difficult to manipulate policy instruments, politicians are less able to resort to electioneering. In many countries, independent central banks have almost entirely eliminated the possibility for politicians to influence monetary policy for electoral purposes. Alt and Rose (2005: 6) cite this as one of the reasons why the literature has shifted its focus from outcomes, such as unemployment and inflation, to policy instruments, such as spending. While politicians tend to have more control over fiscal policy than over monetary policy, the institutional environment often limits political discretion over spending, for example through fiscal rules or greater transparency initiatives.

These factors limit an incumbent's ability to implement PBCs. In a sample of 19 OECD countries in the 1990s, Alt and Lassen (2005) find that higher transparency countries have lower deficits and debt accumulation, while lower transparency countries display a persistent pattern of electoral cycles. In this vein, Rose (2006) shows that fiscal rules can mitigate PBCs by limiting the incumbent's ability to increase spending in the vicinity of an election. Moreover, Bastida et al (2012) show how the balanced budget rule has succeeded in limiting the budget deficit in a sample of the largest Spanish municipalities in 1994-2009. In this sense, Alt and Rose's context-conditionality argument also serves as an explanation for why PBCs tend to be more pronounced in developing countries, where institutions are often fragile and impose few checks and balances. This paper builds on the existing literature on context-conditional PBCs, by analysing the extent to

which South Africa's incumbent government has the incentive and ability to implement PBCs through the intergovernmental transfer system.

1.2 Incentive and ability in the South African context

There are four main reasons why South Africa (SA) is an ideal case to consider for the analysis of subnational PBCs. First, its federal structure offers the possibility to compare across provinces. A main problem with country level panels is the inherent difficulty to control for cross-country differences, such as the rule of law or certain institutions that could be endogenous to fiscal policy. An examination of fiscal variables in the South African provinces avoids many of these problems as the provinces are characterized by high uniformity in electoral rules, institutional framework and governance structures in general. Second, although South Africa's political landscape is dominated by one party on the national level, the subnational level displays high variation in the level of political competition, whereby at least two of nine provinces may be considered swing provinces. This variation makes it possible to identify the effect of political competition on the political budget cycle. Third, provincial revenues derive almost entirely from central government transfers, which implies that investigating intergovernmental transfers to the provinces means investigating the only possible source of PBCs on the subnational level. This circumstance renders the South African setting particularly relevant for the study of PBCs and intergovernmental grants. Finally, SA has the highest level of fiscal transparency among Sub-Saharan African countries. This is a significant advantage because extensive subnational budget information is publicly available, which renders this paper's methodology feasible.

Based on Alt and Rose's (2005) theory of context-conditional PBCs, two questions arise with respect to the South African context: does the South African government have an incentive to instigate political budget cycles? And if so, does it have the ability to implement them? With respect to the first question it seems unlikely that South Africa's main party, the African National Congress (ANC), would have an incentive to implement PBCs on the national level, where it hardly faces any political competition. Winning 63, 66 and 70 per cent in the 1994, 1999 and 2004 elections respectively, the ANC has held a large and increasing majority (Independent Electoral Commission, 2006).

However, SA's electoral system, which is based on proportional representation with minimum thresholds, has given parties other than the ANC chances of controlling provincial governments, such as the National Party (NP), the Inkatha Freedom Party (IFP), and more recently the Democratic Alliance (DA). Table 2 illustrates the variation of provincial electoral outcomes, by presenting the share of votes achieved by the first and second party in each province in the 1994, 1999, 2004 and 2009 elections. While the ANC won Limpopo province with as much as 92.7 per cent of votes in the 1994 election, it came second in KwaZulu-Natal (KZN) and the Western Cape with merely 31.6 and 33.6 per cent respectively. Based on Alt and Rose's argument with respect to political competition, the closeness of the political race in certain South African provinces, may serve as an incentive to implement PBCs.[6] In the year before an election, it would make

[6] The ethnic census argument, which suggests that the variation in political competition mirrors ethnic patterns, could be interpreted as a disincentive. However, while ethnic voting patterns can explain some of

sense to spend more money where it makes a difference, for example in KZN or the Western Cape, but not in a province like Limpopo where the ANC can expect a vote share in excess of 90 per cent.

Hypothesis 1: The higher the level of political competition in a province, the higher the intergovernmental transfer in the year before an election.

[Table 1 here]

Even if Hypothesis 1 holds, would the incumbent government be able to implement PBCs, given the policy instruments available? In order to answer this question, it is important to understand the South Africa's budgeting system, which changed substantially during the overhaul of government structures after the end of apartheid. Constitutional arrangements made the nine newly created provinces responsible for independently drafting and implementing their own budgets (SA Treasury, 2000: 21). However, Wehner (2000: 71) shows that despite these decentralization efforts the system has operated in a highly centralised manner in practice. As illustrated in Figure 1, the provinces' own revenues constitute less than 5 per cent of total provincial revenues, which means that provinces rely almost entirely on transfers from the national government to fund their activities.

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the variation in South African political competition, Mattes (1995) shows that the nature of elections and political preferences are much more than a racial census. Therefore there is scope for vote-purchasing behavior.

The ability to implement PBCs on the provincial level is contingent on the ability to manipulate the transfer from the national government, which is made up of two components: an equitable share and conditional grants. The largest component of the total transfer is the equitable share, which is determined by a formula[7]. The main idea behind it is that "each level of government shall have a constitutional right to an equitable share of revenue collected nationally so as to ensure that provinces and local governments are able to provide basic services and execute the functions allocated to them" (SA Treasury, 1999: 22). The heaviest weighting measures the need for education, health and welfare, but the formula also uses backlog and economic activity components. Like in any other developing country, this kind of formula is subject to change as information is revised or improved and depends on the availability of data (Momoniat, 1999: 7). However, there is no evidence that these changes have been due to systematic manipulations.[8]

[Figure 1 here]

[7] The equitable share formula is P = A + m + T+ I + B, where the total provincial allocation (P) is equal to the sum of a minimum national standards grant (S), a spillover grant (m), a fiscal capacity equalization grant (T), an institutional grant (I) and a basic grant (B).

[8] Even if the government would have had the intention to manipulate the formula to target swing provinces, this would have been very difficult since Kwazulu-Natal and the Western Cape have very different characteristics relevant for the formula. Indeed, the formula generally favours poorer provinces, which makes the Western Cape an unlikely target on equity grounds.

Unlike the equitable share, the conditional grant largely depends on the central government's discretion. As demonstrated in Figure 1, the conditional grant increased steadily from approximately 30 to 40 per cent of the total transfer between 2000 and 2007. It thus makes up a significant share of provincial revenues. By definition, the conditional grant is to provide for national priorities in provincial budgets (SA Treasury, 1999: 15) and "is voted in the budget of a national department and reflected as a revenue item in provincial accounts, and is also voted in the budgets of provincial departments" (SA Treasury, 1999: 38). This decision making process has been criticized for a lack of transparency as "there is extremely limited information on the design and workings of the conditional component of provincial transfers, although some anecdotal evidence suggests that conditional grants have problematic features." (IDASA, 2004: 12). This criticism is reinforced by Momoniat (1999: 12), former Division Head of Intergovernmental Relations in the National Treasury:

> *"Whilst the equitable share allocations have worked smoothly, there have been problems with conditional grants. Many of these lack a clear purpose and measurable objective, and are poorly designed. They tend to undermine the budget reform process, and fragment the budget process. They undermine co-ordination between policy and budgeting, are not transparent, may lead to budget game-playing and create confusion about accountability."*

On this basis, it appears that the ANC has no control over the equitable share, which is fixed by a formula, but they may be able to implement PBCs through the relatively less transparent conditional grants. Therefore, I expect PBCs to be channeled through the conditional grant component, rather than the equitable share.

Hypothesis 2: PBCs are implemented through the conditional grant component of total intergovernmental transfers.

A caveat to the first hypothesis is that increasing transfers only makes sense for the ruling party if voters correctly attribute the increase to the party. Voters may, however, attribute an increase in spending or the provision of certain public goods to the competence or bargaining success of the provincial government, which may be controlled by another party (e.g. the IFP or DA). The ruling party therefore only has an incentive to implement PBCs, if it can claim credit to goods and services that are visible to voters. This argument strengthens the second hypothesis as claiming credit by the ruling party is straightforward with respect to conditional grants. These are paid from the national budget and based on nationally-set criteria that are documented in policy announcements and documents. For example, provincial allocations are listed clearly in the annual Division of Revenue Bill, which makes it easy to identify what goods and services they deliver. Hence, whatever conditional grants provide is more likely attributed to the national ruling party by recipient voters than service financed from the unconditional transfer. This argument renders the conditional grant a likely channel for the implementation of PBCs.

2. Empirical strategy

2.1 Data and key variables

The empirical analysis is based on a unique panel data set, consisting of annual observations of South Africa's nine provinces for the period 1995 to 2010.[9] The data on the fiscal variables to be tested for PBCs have been provided by the South African Treasury and are based on the Intergovernmental Fiscal Reviews (1997 – 2011). The fiscal variables include provincial revenue variables (total transfer from national government, equitable share, and conditional grant) and provincial spending variables (total expenditure as well as the main categories education, health, welfare, housing, and roads and transport).

The time span of the data set includes three elections in 1999, 2004 and 2009. As is the case in most empirical studies of PBCs, the timing of these elections is taken to be exogenous to fiscal policies.[10] In the case of South Africa, this is an appropriate assumption as the timing of these elections was fixed by constitutionally predetermined five-year intervals. The elections were not strategically delayed or advanced, and it would have been extremely difficult to do so. The national and provincial government fiscal year

[9] The time period has been determined by the availability of data; 1995 being the earliest and 2010 being the most recent year for which data are currently available.

[10] Shi and Svensson (2002), among others, relax this assumption with respect to countries in which the timing of elections is set strategically, for example at the time of an economic boom. However, they do not find a significant effect on their results when they exclude the countries in which they classify elections to have been endogenous (Shi and Svensson, 2002: 10). Khemani (2004) applies an instrumental variable to distinguish early and scheduled elections.

starts on 1 April and ends on 31 March the following year.[11] The elections took place during the first quarters of the fiscal year, on 2 June 1999, 14 April 2004 and 22 April 2009. This means that the fiscal year before the election is most relevant when it comes to the implementation of PBCs. In order to estimate the effect of these elections on the fiscal variables, the dummy *pre-election* takes the value one in the year before an election (i.e. in 1998, 2003 and 2008) and zero otherwise. While this variable changes over time, it is constant across provinces as elections are held at the same time in all provinces.

Most of the empirical literature uses voting data in order to measure the number of swing voters in a province.[12] However, the main problem with using such a measure is that voting behaviour is endogenous to the policy variables of interest. Larcinese et al (2006) address this issue by using exit polls to measure voter preferences and partisanship. While this may be a more appropriate measure, such data are not available for South African provinces. Therefore, the difference between the share of votes won by the first party and the second party is used to obtain a quantitative measure of political competition. In order to render this variable as exogenous as possible, I use 1994 election results, rather than the results of elections during the sample period. In the case of South Africa, the exogeneity argument for this variable is strong: it is unlikely that votes in the 1994 election – which represented the transition from apartheid to democracy, extending

[11] The first quarter starts on 01 April and ends 30 June; the second quarter starts 01 July and ends 30 September; the third quarter starts on 01 October and ends on 31 December; the fourth quarter starts on 01 January and ends on 31 March.

[12] For example, Case (2001) Dahlberg and Johansson (2002) and Banful (2010) use regional vote share of the incumbent government as a measure of its popularity.

the franchise to approximately 20 million South Africans who had never voted before – were endogenous to spending after the end of apartheid.

Based on the election outcomes reported in Table 2, the difference between the ANC and the NP in the 1994 election is 63.2 per cent in the Free State, while it is 31.5 per cent in Gauteng. This indicates that the Free State is less competitive than Gauteng. Anecdotal evidence regarding the competitiveness of the provinces is in line with the ranking of provinces by this measure. For ease of interpretation and for the purpose of the subsequent analysis, I subtract this difference from 100 per cent, such that a higher percentage indicates more competition and vice versa. On this basis, the variable *competition* is created and while it changes across provinces, it remains constant over time as the 1994 competition measure is used for all time periods.

To provide an overview of the key variables discussed in this section, Table 3 presents definitions and descriptive statistics for the key variables. Additionally, Table 4 provides further information on the characteristics, construction and sources of these variables, as well as other variables included in the regressions that follow.

[Tables 3 and 4 here]

2.2 Specification

The aim of the identification strategy is to test the validity of the hypotheses formulated above, i.e. whether the ANC implements PBCs in swing provinces, using conditional

grants. For a given fiscal variable per capita[13] (*fiscal*) the baseline specification takes the following form:

$$\log(fiscal_{it}) = \beta_1(competition_i \times pre\_election_t) + \gamma Z_{it} + \sigma_i + \tau_t + u_{it} \quad (1)$$

In this specification, *fiscal* is the dependent variable, which corresponds to each of the 10 fiscal variables to be tested for evidence of PBCs. Subscript *i* indexes the nine provinces (*i* = 1,2,3…9) and *t* indexes the years (1995, 1996…2010). The variable $competition_i$ measures political competition as discussed in the previous section. The variable $pre\text{-}election_t$ is a dummy equal to one in the year before an election and zero otherwise. Z_{it} is a vector of control variables, GDP per capita and demographic variables, σ_i represents province fixed effects and τ_t represents year fixed effects. Finally, u_{it} is the error term, which is estimated using autocorrelation and heteroskedasticity robust standard errors.[14]

The rationale behind equation (1) is that the dependent variable in each specification can be tested for the evidence of political cycles, following the standard specifications in the

[13] Since provinces differ largely in terms of population, and since spending and revenue is highly correlated with population, per capita measures are used to make comparisons across provinces.

[14] As fiscal variables for each province are likely correlated over time, it is generally advisable to use cluster standard errors. However, with a number of clusters less than 50, it is generally argued that "the cure would be worse than the disease" (Nichols and Schaffer, 2007: 7). With only nine possible clusters, robust standard errors appear to be a more reliable option.

PBC literature (see for example Faal, 2007).[15] The coefficient on the interaction term between *pre-election*$_t$ and *competition*$_i$, $\beta_{1,}$ measures the extent to which the level of competition in the year before an election affects fiscal variables; it is thus the key coefficient of interest. As per the two hypotheses formulated above, β_1 is expected to be positive and significant with respect to the conditional grant.

Province fixed effects, σ_i, control for time-invariant omitted variables and also absorb much of the effect of any slowly-changing variables such as the level of development development or ratio of economically active population in a province. These variables are important determinants of how much funding a province receives, while at the same time also determining political competition. For example, low levels of education in a province require higher educational spending, while also being associated with a higher share of votes for the ANC in the 1994 election (Johnson, 1996: 126). Year fixed effects, τ_t, controls for aggregate shocks and the business cycle effect, which have been found to exacerbate the electoral cycle in a given year, thus leading to an overestimation of PBCs (Kwon, 2005: 331).

3. Results

[15] In the literature, lagged dependent variables are often used to control for fiscal inertia. However, as the lagged dependent variable in combination with fixed effects introduces a bias of magnitude 1/t (where t is only 16), I will not use this method in this context.

3.1 Estimation results

Table 4 reports the estimation results for the three main fiscal variables, the total transfer, the equitable share and the conditional grant, based on Equation 1. The positive and statistically significant coefficient of the interaction term in Column (1) indicates that per capita transfers increase with electoral competition in the years before the 1999 and 2003 elections, *ceteris paribus*. This serves as evidence in favor of Hypothesis 1, i.e. that intergovernmental transfers increase with the level of political competition in the year before an election. While the coefficient on the interaction term is also positive in the extended sample (see Column (2)), which includes the 2009 election, it loses its statistical significance. The rationale for presenting the results separately and an explanation for why the inclusion of the 2009 election dilutes the results are discussed below.

As expected, the PBC in total transfers does not derive from the equitable share, on which political competition has a positive but statistically insignificant effect in the year before an election (see Column (3) and (4)). This finding gives credit to the equitable share formula as it suggests that it is not being manipulated for electoral purposes prior to an election. Yet, if the equitable share is unavailable as an instrument to implement PBCs, then the conditional grant is the only alternative to channel additional funds through the intergovernmental transfer system.

[Table 4 here]

As reported in Column (5) of Table 4, a one standard deviation increase in political competition is associated with a staggering 52.8 per cent increase in the conditional grant per capita in the year before an election.[16] This finding is statistically significant at the 5 per cent level. In line with Hypothesis 2, PBCs are implemented through the conditional grant, the instrument that the central government is able to control. When using the extended sample until 2010, the coefficient remains positive but loses its statistical significance (see Column (6)).

In order to visualize the evolution of conditional grant transfers over the sample period, Figure 3 presents the predicted percentage deviation from the trend in all provinces, whereby vertical bars mark the years prior to the elections. The Western Cape and KwaZulu-Natal display clear deviations from the trend in the years prior to the 1999 and 2004 elections. In KwaZulu-Natal the spikes are particularly pronounced with a 40 per cent deviation from trend before both elections. Although the deviation is about half of that in the Western Cape before the 1999 and 2004 elections, the cyclical nature of conditional grant spending is clearly visible. Before the 2009 election, a 10 per cent increase can be observed.

[Figure 3 here]

In order to get a better sense of the effect of political competition on the conditional

[16] As reported in Table 2, the standard deviation of *competition* is 30.17; the interpretation of the coefficient is therefore: $30.17 \times 0.0175 = 0.528$

grant, it is useful to consider a counterfactual in which Limpopo province, a relatively uncompetitive province, would be as closely contested as the swing province KwaZulu-Natal.[17] Based on the measure $competition_i$ Limpopo province scores 11 per cent compared to 83 per cent in KZN. According to my results, Limpopo would receive an additional 126 per cent of conditional grant payments per capita from the national government in the year before the 1999 or 2003 elections, if Limpopo were as competitive as KZN. In monetary terms this would have amounted to an additional ZAR 4.22 million (approximately USD 600,000) in the year 2003. This is particularly worrying considering that the share of the conditional grant component of total intergovernmental transfers has been increasing over time. The potential for vote purchasing is therefore on the rise.

Complementing the analysis of the revenue side, additional regressions were run to determine how the composition of spending changed in the years before the 1999 and 2004 elections. The three social spending variables are education, health and welfare spending and constitute around 80% of total provincial spending. Roughly three quarters of education spending is used to compensate employees, the remainder is spent on teaching inputs such as textbooks and stationery. The two largest components in the health-spending variable are district health services and provincial hospital services. Welfare spending includes social welfare services and development and research. Notably, this variable has been adjusted to exclude social assistance grants, which became the responsibility of the national government when the South African Social Security

[17] The idea for providing this counterfactual scenario is taken from Kwon (2005: 338).

Agency (SASSA) was established in April 2005.[18] Housing subsidies and human settlement grants are the largest housing-spending components as they make up over 80 per cent of provincial housing budgets. Spending on roads includes provincial roads and traffic management, which are exclusive provincial functions. Taken together, housing and roads constitute the majority of the remaining 20% total provincial spending.

Table 5 reports estimation results for these spending variables. When testing for cycles, the results do not appear to follow a coherent pattern. Out of the three social services categories, political competition has the greatest effect on welfare spending: a one standard deviation increase in political competition is associated with a 20.82 per cent increase in pre-electoral welfare spending per capita (see Column (3)). Political competition has approximately the same effect on roads and public works as on welfare. Finding cycles in welfare spending is not surprising in the sense that it is an area that the ANC can easily claim credit for: all social welfare services are financed through intergovernmental transfers and social grants are distributed by the SASSA, a national agency. Moreover, welfare spending is the most direct and visible way of targeting poor voters who have the worst possibilities for consumption smoothing (Akhmedov and

[18] Historically, welfare spending included social assistance grants, social welfare services and development and research. This role was reduced to the latter two through the implementation of the Social Assistance Act 2004, which shifted responsibility for social security grants from the provincial to the national sphere of government. As of 2006/07 the budget for social assistance no longer gets transferred to provinces either through the equitable share or by means of conditional grants (SA Treasury, 2006: 49). In order to control for this change, the welfare has been adjusted to exclude social assistance grants for the entire sample period.

Zhuravskaya, 2004: 1304). Indeed, it includes highly visible spending items such as childcare and protection services, crime prevention and support, services to people with disabilities, and care and support services to families and the elderly (SA Treasury, 2006: 57). However, it is difficult to reconcile the visibility argument with the South African context as health and housing, two spending categories that are also highly visible to voters, appear insignificant.

3.2 Evaluation and further discussion

Why does the inclusion of the 2009 election in the extended sample dilute the results? The coefficients in the extended sample (reported in Columns (2), (4) and (6)) are smaller and the standard errors have increased. Although the inclusion of the 2009 election has increased the sample size, there is more background noise. The coefficients on the total transfer and the conditional grant are still much larger than the standard errors, but they are no longer significant at the 5 per cent level.

Qualitatively there are three explanations for why the inclusion of the 2009 election dilutes the results. First, the quality of the competition indicator is likely to decrease over time as it becomes more removed from the true level of political competition. Fixing the competition variable to vote margins from the 1994 greatly helps to reduce the risk of endogeneity. However, the downside of this measure is that it gets less precise over time. Indeed, the ANC results in 2009 do not bear a close resemblance to those in 1994. This is particularly noticeable with respect to KZN where the ANC won just over 30 per cent of votes in the 1994 election and then more than doubled its share to over 60 per cent in the

2009 election (see Table 1). This serves as an explanation for the increased error term in the extended sample.

The evolution of political competition in KZN opens up a second line of argument, which relates to the role of ethnicity. In December 2007 Jacob Zuma took over the ANC presidency and subsequently became the ANC's candidate for the 2009 presidential election. His Zulu heritage meant that unlike his Xhosa predecessor Thabo Mbeki, Zuma could be sure of a loyal support base in his home province KwaZulu-Natal. This explains the surge in ANC votes to over 60 per cent in KZN in the 2009 election. If the value of an instrument depends on the availability of substitutes, then ethnicity reduced the value of using PBCs before the 2009 election. Thabo Mbeki who ran for election in 1999 and 2004 did not have this substitute available, which increased the value of PBCs as an instrument for winning votes in a competitive region. The depiction of the deviations from the trend of conditional grants to KZN in Figure 3 reinforces this argument. This qualitative assessment serves as a possible explanation for why the inclusion of the 2009 election dilutes the results.

A third explanation is the economic crisis. After 2007 a downward deviation in conditional grant payments can be observed across most provinces (see Figure 3). This is mirrored by an overall decrease in total transfers in these years, due to decreases in GDP during the financial crisis. Tighter budgets are likely to constrain the ability to introduce spending cycles, which would explain the relatively smaller cycle in the Western Cape before the 2009 election.

Although the inclusion of the 2009 election weakens the relationship between the transfer and political competition, the results from the smaller sample provide strong evidence of PBCs before the 1999 and 2004 elections. The findings suggest that political competition on the subnational level is a salient feature when it comes to distributing national funds through South Africa's intergovernmental transfer system. There is no evidence of the alternative conjecture that more funds are channeled to core-support regions. Nonetheless, the empirical analysis is limited by a relatively small dataset, with 144 province-year observations in the extended sample and 117 in the smaller sample. Future analysis could consider a smaller level of aggregation to increase the number of units, e.g. looking at the 256 municipalities. While data limitations do not allow for a municipal analysis of the elections in this sample, this level of aggregation could be used in the future, as more variables become available at the municipal level.[19]

Conclusion

[19] Another option to increase the number of observations is to use more frequent data. Akhmedov and Zhuravskaya (2004) are among the first to do so by using monthly data for their analysis of PBCs in Russia. In the context of South African provinces, quarterly data is available from the first quarter of 2002 until second quarter of 2011. However, this data does not in fact add more observations in this case as intergovernmental transfers are allocated on an annual basis.

This paper builds on the context-conditional PBC literature to present a first analysis of subnational PBCs in South Africa. It demonstrates that the national government has both an incentive and the ability to implement political budget cycles on the subnational level. In line with PBC theory, the empirical analysis generates two main results. First, in the year before an election, more competitive provinces receive higher transfers from the central government. Second, this increase is driven by the conditional grant, which is the non-formula-based component of total intergovernmental transfers. No presence of electorally motivated spending is found in the equitable share, which suggests that its formula-based implementation has successfully constrained political discretion. Overall, the results indicate that even in a dominant party system, political competition can function as an incentive to implement PBCs.

With respect to South Africa's intergovernmental transfer system, these findings have important policy implications. Conditional grants have been shown to be vulnerable to electorally motivated manipulations, in particular the targeting of more competitive provinces in the year before an election. This is possible because the conditional grant – as opposed to the equitable share – is currently not part of a comprehensive budget process. As the findings reinforce the efficacy of determining the equitable share in terms of a formula, a possible solution would be to implement a formula for the conditional grant, at least partially in order to minimise its discretionary elements. While the year leading up to the 2009 election has not been found to display PBCs, it cannot be assumed that PBCs in the conditional grant are a phenomenon of the past. As the competitive profiles of the provinces – and thus the incumbent's incentive to implement PBCs –

continue to change, a formula would go a long way in safeguarding the conditional grant against further manipulations in the future.

However, it is also clear that the South African budget system faces a number of other forms of unofficial misallocations, such as corruption in the form of unauthorized payments, contracts without competitive bidding, manipulation of tenders. These have not been mentioned here because they are beyond the scope of this paper. Some of these issues are not only larger in extent, but also require more immediate attention than the manipulation of the conditional grant. From a policy point of view, however, it is important to point out that in addition to unofficial malpractices, official channels may be subject to manipulation.

Arguably, the results are more important with respect to the existing PBC literature. On the one hand, they suggest that intergovernmental grant systems can function as potential channels through which the central government can distribute electorally-motivated funds across regions. By analysing the relationship between intergovernmental transfers and political competition in other settings, future studies can contribute to a better understanding of the dynamics between central and subnational governments and the role of strategic distributions of central government funds. On the other hand, the results suggest that PBCs may be found on the subnational level even if there is little or no political competition on the national level. The analysis of PBCs in countries that have previously been excluded from cross-country panels due to little or no political competition on the national level is thus encouraged. Indeed, more research should focus

on the subnational level, which has the potential to identify PBCs that would otherwise remain undiscovered.

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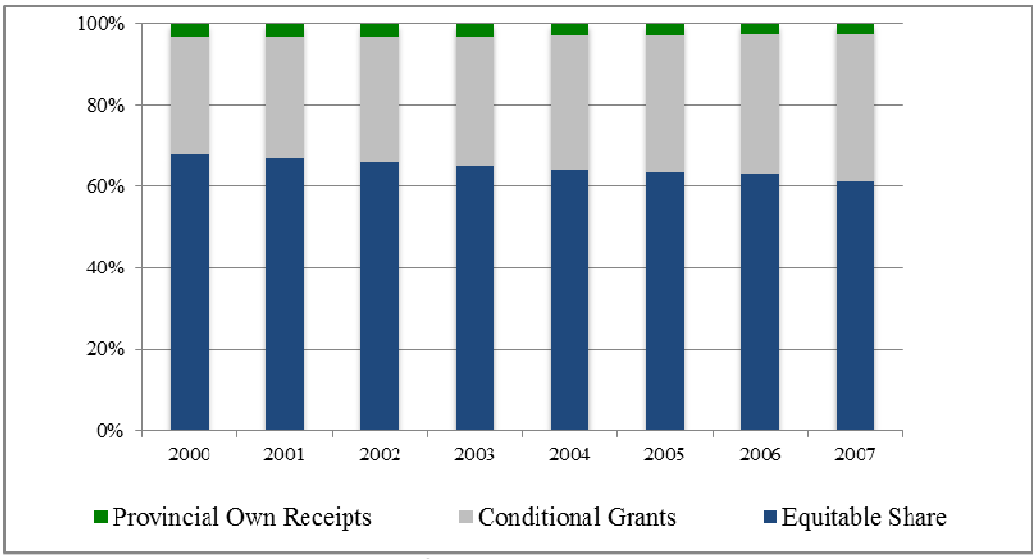
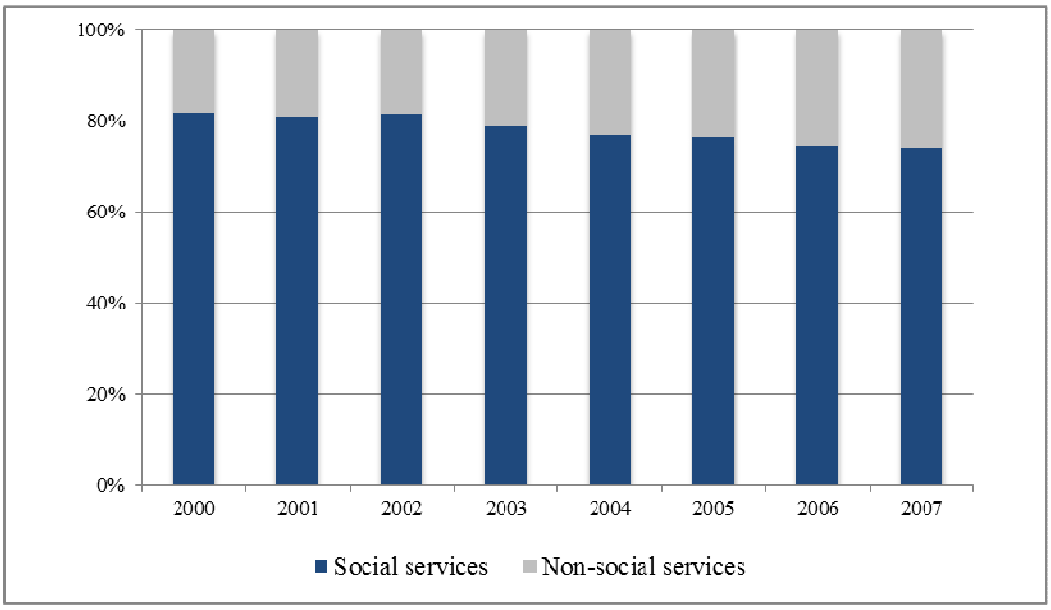
Figures

Figure 1: Share of total provincial revenue (%), 2000-2007



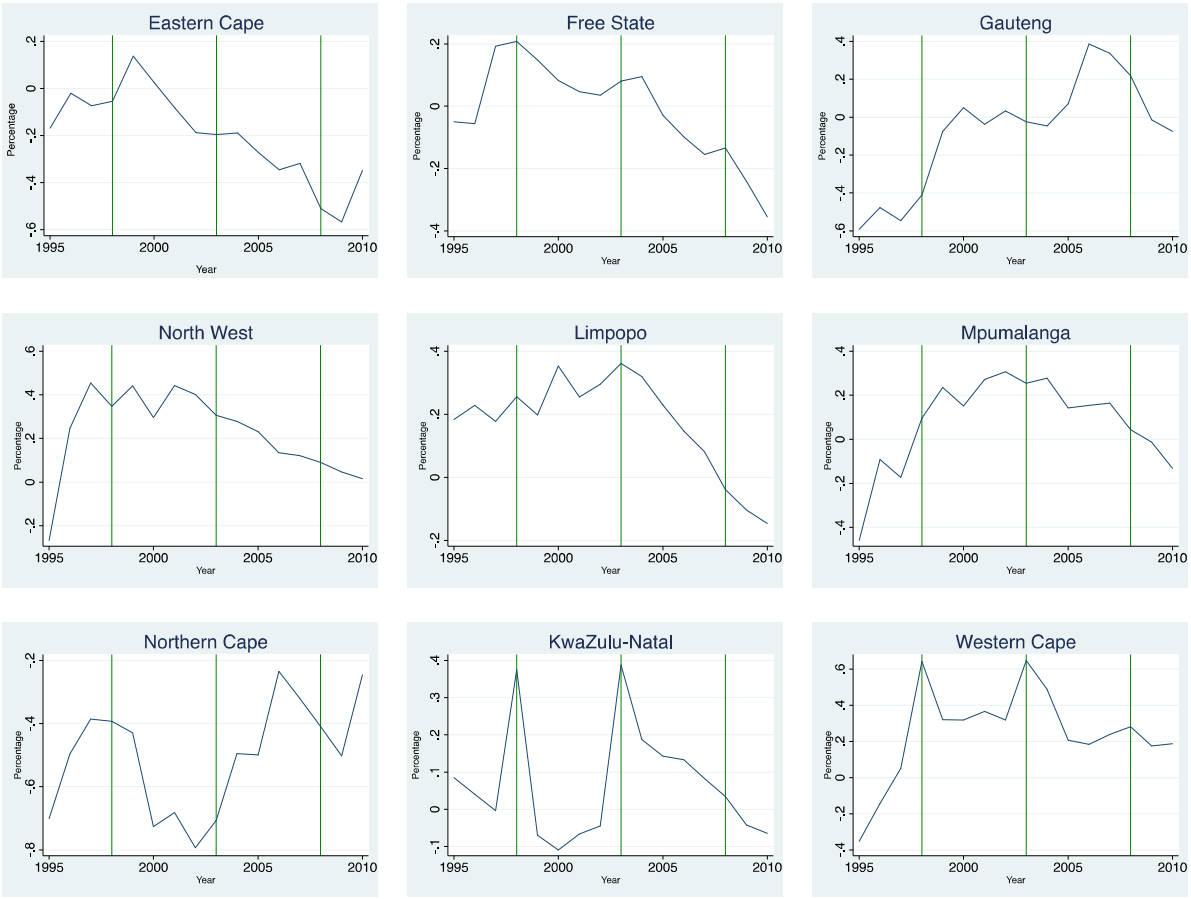
Source: Author's calculations with data from SA Treasury (2000-2007)

Figure 2: Composition of provincial spending (%), 2000 – 2007



Source: Author's calculations with data from SA Treasury (2009:16) and (2007:105).

Figure 3: Predicted Deviation from Trend: per Capita Conditional Grant by Province



Note: These figures were generated by calculating the predicted deviations from the trend for per capita conditional grants in each province. Vertical bars indicate pre-election years.

Tables

Table 1: Provincial electoral outcomes, 1994, 1999, 2004 and 2009

Province	**1994**		**1999**		**2004**		**2009**	
	Party	Vote share*	Party	Vote share*	Party	Vote share*	Party	Vote share*
Eastern Cape	ANC	84.4	ANC	73.9	ANC	79.3	ANC	68.8
	NP	10.6	NNP	12.9	UDM	8.9	COPE	13.7
Free State	ANC	77.7	ANC	81.0	ANC	82.1	ANC	71.1
	NP	14.5	DP	5.9	DA	8.9	COPE	11.6
Gauteng	ANC	59.1	ANC	68.2	ANC	68.7	ANC	64.0
	NP	27.6	DP	17.7	DA	20.3	DA	21.9
KwaZulu-Natal	IFP	48.6	IFP	40.5	ANC	47.5	ANC	63.0
	ANC	31.6	ANC	39.8	IFP	34.9	IFP	22.4
Limpopo	ANC	92.7	ANC	89.3	ANC	89.7	ANC	84.9
	NP	3.6	UDM	2.6	DA	3.8	COPE	7.5
Mpumalanga	ANC	81.9	ANC	85.3	ANC	86.3	ANC	85.6
	NP	10.3	DA	5.0	DA	7.2	DA	7.5
Northern Cape	ANC	49.8	ANC	64.4	ANC	68.8	ANC	60.8
	NP	41.9	NNP	22.5	DA	11.6	COPE	16.7
North West	ANC	83.5	ANC	80.5	ANC	81.8	ANC	72.9
	NP	10.1	UCDP	7.5	UCDP	6.5	COPE	8.3
Western Cape	NP	56.2	ANC	42.6	ANC	46.3	DA	51.5
	ANC	33.6	NNP	34.4	DA	26.9	ANC	31.6

Note: ANC = African National Congress; COPE = Congress of the People; DA = Democratic Alliance; DP = Democratic Party; IFP = Inkatha Freedom Party; NP = National Party; UDM = United Democratic Movement; UNCDP = United Christian Democratic Party. Source: Independent Electoral Commission (2012); * denotes per cent as unit of measurement.

Table 2: Definition and descriptive statistics for key variables (extended sample: 1995-2010)

Variables	Definition	Obser-vations	Mean	Stand. dev.	Min	Max
Education	Pre-primary, secondary and tertiary education spending per capita.	144	1,204.67	400.38	599.29	2,221.01
Health	Hospital, clinical and public health services spending per capita.	144	712.53	296.64	172.09	1,513.291
Welfare	Social security and welfare services spending per capita.	144	405.65	273.41	54.95	1,304.71
Housing	Housing and community affairs spending per capita.	140	131.87	65.80	4.17	356.00
Roads and Public Works	Road construction, maintenance and regulation spending per capita.	144	179.16	113.50	30.83	728.66
Total Transfer	Sum of equitable share and conditional grants per capita.	144	2,840.23	818.67	1,356.15	5,325.22
Equitable Share	Equitable share per capita given by the formula.	144	2,383.69	692.97	183.13	4,234.11
Conditional grant	Conditional grants per capita as discussed in Section 1.2.	144	5.11	37.95	7.41E-3	313.53
competition	Competition proxy equal 1 minus the difference between the share of votes of the 1st and 2nd party in the 1994 provincial elections.	144	0.52	0.30	0.10	0.92
pre-election	Election dummy equal to 1 one year before an election and 0 otherwise.	144	0.15	0.36	0	1

Note: Fiscal variables are measured in inflation adjusted ZAR per capita.
Source: SA Treasury's Intergovernmental Fiscal Reviews, 1999-2011.

Table 3: Description of variables

Variable name	In regression as	Unit of measure	Construction	Source
Spending variables: - Total provincial spending - Education - Health - Welfare - Housing - Roads - Agriculture - Culture - Safety	Dependent	Log of Rand per capita	Log of inflation adjusted rand of spending variable divided by the number of habitants for each year between 1995 and 2010	SA Treasury, Intergovernmental Fiscal Reviews (1999-2011), Statistics South Africa, Population Estimates (1996-2010)
Revenue variables: - Total Transfer form National - Equitable share - Conditional grants	Dependent	Log of Rand per capita	Log of inflation adjusted rand of revenue variable divided by the number of habitants for each year between 1995 and 2010	SA Treasury, Intergovernmental Fiscal Reviews, Statistics South Africa, Population Estimates
pre-election	Independent	Provinces	Dummy = 1 one year before an election, 0 otherwise	Independent Electoral Commission Reports.
2pre-election	Independent	Provinces	Dummy = 1 two years before an election, 0 otherwise	Independent Electoral Commission Reports.
election	Independent	Provinces	Dummy = 1 in the year of an election, 0 otherwise	Independent Electoral Commission Reports.
competition	Independent	Provinces	Equals 100 minus the difference between the share of votes of the first and second party in the 1994 provincial elections	Independent Electoral Commission Reports.
Provincial GDP per capita	Control	Rand per capita	GDP divided by the number of habitants for each year between 1995 and 2010	Statistics South Africa, 1995, 2000, 2005, 2010 Income and Expenditure Surveys
Population < 14	Control	Number of people	Sum of habitants under the age of 14	IHS Global Insight (supplied by Gauteng Provincial Government)
Population > 60	Control	Number of people	Sum of habitants over the age of 60	IHS Global Insight (supplied by Gauteng Provincial Government)

Table 4: Intergovernmental transfers

Dep. Variable	**Total Transfer❖**		**Equitable Share❖**		**Conditional Grant❖**	
	(1) 1995-2007	(2) 1995-2010	(3) 1995-2007	(4) 1995-2010	(5) 1995-2007	(6) 1995-2010
pre-election ×competition	0.0036** (0.00072)	0.0033 (0.0023)	0.00088 (0.00085)	0.00080 (0.000866)	0.0175** (0.0076)	0.0142 (0.0089)
Province fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.210	0.327	0.357	0.415	0.203	0.381
Observations	117	144	117	144	117	144

❖ denotes log of variable per capita, ** denotes significance at the five per cent level respectively. Robust standard errors are in parentheses.

Table 5: Composition of spending cycles (1995-2007)

Dep. Variable	**Educ.❖**	**Health❖**	**Welfare❖**	**Housing❖**	**Roads❖**
	(1)	(2)	(3)	(4)	(5)
pre-election ×competition	0.0003** (0.00015)	-0.0001 (0.0001)	0.0069** (0.0032)	-0.0017 (0.0012)	0.0068*** (0.00143)
Fixed effects	Yes	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes	Yes
R^2	0.757	0.344	0.178	0.409	0.028
Observations	117	117	117	117	117

❖ denotes log of variable per capita, *** and ** denote significance at the one and five per cent level respectively. Robust standard errors are in parentheses.