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The effects of fiscal decentralization on the strength of political budget cycles in local expenditure

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Abstract

We analyze the effects of political business cycles and fiscal decentralization on the expenditure categories of Polish municipalities. We find convincing evidence for strong political business cycles in almost all expenditure categories, and in particular for the categories of expenditure relevant for electoral success such as infrastructure and social expenditure. We find evidence that transfers to the municipalities increase the size of the electoral cycle.
JEL classifications: H72, H75, H77, D72
Keywords: local expenditure, political business cycles, fiscal autonomy, decentralization

1. Introduction

This work analyzes political budget cycles in local expenditure of Polish municipalities. Local budget cycles have been subject to interest of researchers throughout recent years and this work adds to the existing literature in several ways. First of all, this is a first work that looks at the topic of political budget cycles for a newly established democracy. As will be further described in the literature review, current research has focused mainly on the established Western European democracies. Additionally, most of the works concentrate on federalist states as opposed to a fairly centralized, unitary country such as Poland, in which municipalities heavily rely on the block grants allocated by the central government.

The main focus of this work is the interrelation between the level of transfers from the central government and the strength of the political budget cycle. The problem of common resource nature of transfers into local entities has been identified in the literature. An important literature in this vein examines the possibility that representatives will seek to externalize

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the costs of government expenditures in their jurisdiction onto citizens of other communities, turning public revenue into a common pool that is quickly overfished (see e.g. Buchanan, 1977; Weingast et al., 1981; Rodden, 2003). The electoral incentives of the mayors, combined with the constraints of legislative institutions, might lead them to tax and spend more or less than the median voter would prefer. As a consequence of the incongruence between spending and taxation that arises when geographically targeted expenditures are funded with general taxation, representatives misperceive the costs of spending and demand an "excessive" amount, because they take into account all of the benefits but only consider the share of taxes that falls on their constituents. This might lead to spending that exceeds the socially optimal amount. According to Wagner and Buchanan (1977), a further problem is that voters do not fully understand the relationship between current deficits and future taxes – they simply reward spending and punish taxation. Politicians with electoral motivations face incentives to take advantage of their "fiscally illuded" voters with excessive deficit-financed spending, especially in the election years.

Extensive theoretical and empirical literature tries to answer the question whether fiscal autonomy decreases the size of the public sector. While most argue that fiscal autonomy leads to a decrease in the public expenditure, some strands of the literature identify the opposite possibility. There are some theoretical arguments for why centrally allocated grants might in fact reduce the size of the local public sector. As argumented by Oates (1990), when the sub-national provision of services has cross-boundary or spillover effects, sub-national decision making may not lead to the optimal nationwide provision of services. If that is the case, the central government could affect sub-national provision by subsidizing the services. Moreover, whenever economies of scale are an important factor, centrally allocated grants could, in fact lead to efficiency improvements. As observed by Bergvall et al. (2006), if financing grants are given for imposed programmes or minimum standards, like those for basic sub-national services in the form of non-earmarked grants (general purpose or block grants), best incentives for subnational jurisdictions to seek opportunities for cost savings are created.

Our main results show that the relationship between the transfers to the municipalities in Poland and the level of local expenditure might be negative. We link this finding to the fact

that the municipalities, due to relying on property management revenues, need to compete in service provision instead of taxes. The size of the electoral cycle, on the other hand, is positively related to the fraction of the local budget transferred from the central government. Additionally we show that the budget cycles have different shape for different categories of local expenditure. With our results we contribute to the discussion of the effects of fiscal decentralization on the size of the public sector.

In the next subsection we briefly describe the institutional and political setting of Polish municipalities. In Section 2 we present an overview of literature on municipal expenditure and political budget cycles. Section 3 contains description of the dataset as well as the main hypotheses. Section 4 presents the results and robustness checks. Section 5 concludes.

1.1. Institutional background

Municipalities (Polish: "gmina") are principal units of administrative division in Poland. There are currently 2478 municipalities of size varying between 1400 and 1700000 inhabitants, out of which 908 are cities. The legislative and controlling body of each gmina is the elected municipal council (*rada gminy*), or in a town: *rada miasta* (town council). Executive power is held by the directly elected mayor of the municipality. Since 2002 mayors are elected in a direct way in a first–past–the–post set–up. The municipal council is elected in a proportional election and the number of seats depends on the size of the municipality. It is important to notice that election timing is entirely exogenous and with the exception of very rare cases of replacement elections (e.g. in the case of deaths or appeal of mayors) cannot be manipulated at the local level. This setting makes the electoral cycle variable entirely exogenous and simplifies the methodology of the analysis.

Municipalities fulfill two types of tasks: own tasks and commissioned tasks. Own tasks serve to satisfy the needs of the community, which include e.g. local infrastructure management, waste removal, public transport, health care, public education, environmental protection, social support and cultural facilities. Commissioned tasks typically include organization of elections and some public administration tasks such as registration of civil affairs and migration recording. However, some of the own tasks are strictly regulated by law and the central government's decisions, and municipalities do not have much freedom managing them,

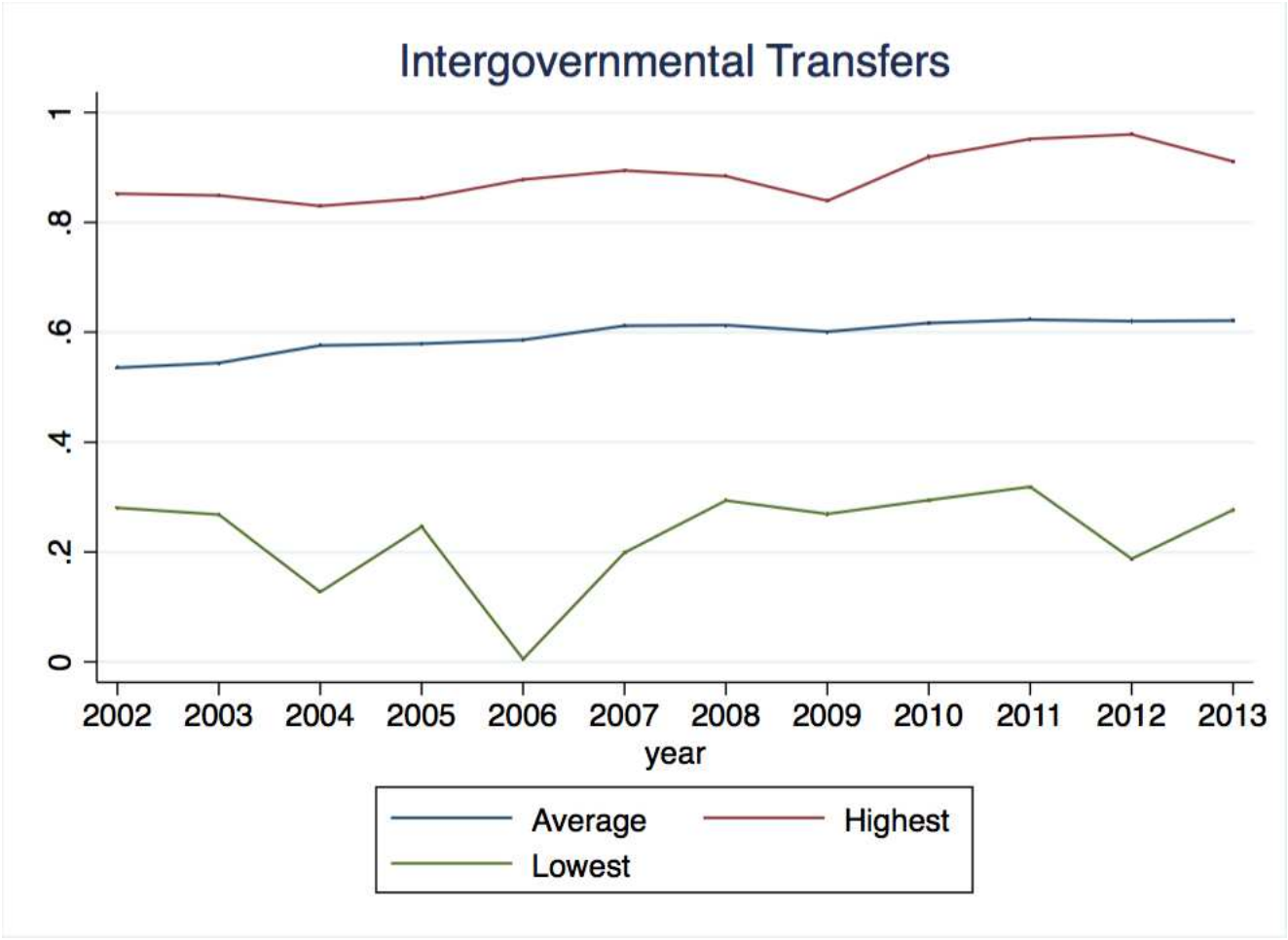
e.g. education or social support. It does not mean that municipalities cannot exhibit their own initiative in fulfillment of these tasks, but this usually concerns wealthier units. Poorer units restrict themselves to what they are required to do by the law, using transfers they receive for this purpose from the central government.

Municipalities in Poland dispose of five major sources of financing: subventions from the central government, designated subsidies, participation in the income and corporate taxes, local taxation and management of municipal property. Municipalities' degree of freedom in income raising differs for diverse categories of financing. For the first three categories there is virtually no financial independence whatsoever. Municipalities have power only over two latter categories, and in particular when it comes to management of municipal properties. With respect to local taxes they have very limited autonomy, although local taxes such as property taxes have a substantially lower impact on the income of the municipalities than the possibility of selling of the local property (Hausner, 2013). Subventions and designated subsidies are mostly transferred as formula based non-earmarked grants: in year 2004, 24.1% of total grants were earmarked formula-based current grants, 5.4% earmarked formula-based capital grants and the remaining 70.5% were general-purpose formula-based non-earmarked grants(Bergvall et al., 2006).

Intergovernmental transfers constituted in 2013 on average 62% of municipalities' revenue, whereas maximum values reach in some cases even 90%. Figure 1.1 additionally shows that the share of transfers in the overall revenues of municipalities has been slowly but constantly increasing in the analyzed period. This process is due on one hand to continued decentralization, with the central government transferring its tasks to the lower level of administration together with resources allowing local governments to fulfill these functions. On the other hand, due to the economic crisis and lowering of income taxes the own revenues of municipalities are decreasing. We also observe that the share of transfers is a great source of variation in our dataset taking values between 20% and 90% percent of the overall revenue. In general we may assume that in smaller and poorer municipalities the share of transfers in municipal revenues was higher than in bigger and richer ones. However, due to the transfers from the central government, the smallest units have often very high revenues per capita (maa, 2013).

Thus, we may treat the information about high share of transfers as a signal that a particular municipality is relatively poor.

Figure 1: Share of intergovernmental transfers in the overall revenue of municipalities



Source: own calculations based on Local Data Bank of Polish Statistical Office

The mayor bears executive power in a municipality. According to Art. 30 of the Municipal Self-Governance Act mayor's tasks include: preparation of draft resolutions of the municipal council, specification of how to implement the resolutions, management of municipal property and implementation of the budget. The two latter competencies give the mayor a relevant power over local finances of the municipalities, as management of municipal property is a substantial source of revenue of the municipalities. This category of income is also the one

which is fairly easily manipulated on the local level. Moreover competence of implementing the budget as well as preparation of local resolutions also gives a substantial power over expenditure to the hands of the mayor. In principle, municipalities are obliged to run a balanced budget, however, Art. 242 of the Public Finances Act allows for municipalities to run short–term deficits financed mostly from past budget surpluses and surpluses on current accounts.

In summary, the institutional setting of Polish municipalities reveals a clear pattern: most of the tasks and therefore most of the expenditure is decentralized whereas the main source of income are centrally allocated subventions. This combination of factors creates an above–mentioned "common–resource problem" and a strong incentive for local governments to extend their expenditure levels, in a possibly inefficient way. Additionally, competencies of the mayor are set in a way, that makes it fairly easy to involve in budget manipulations before elections. We expect the latter problem to be more severe along with increasing role of central funding in municipality's revenue.

2. Evidence of electoral cycles at the local level and evidence for partisan effects

The existence of opportunistic budget cycles was empirically tested both at the national level (Alesina and Roubini, 1992; Alt and Lassen, 2006; Klomp and De Haan, 2013) and for the lower levels of government (see e.g. Galli and Rossi, 2002; Akhmedov and Zhuravskaya, 2004; Veiga and Veiga, 2007; Schneider, 2010; Werck et al., 2008). The obtained results are, however, mixed. In a number of studies, the existence of pre-electoral fiscal cycles was confirmed at the local level, particularly evident in an increase of total expenditure and budget deficit (Galli and Rossi, 2002; Akhmedov and Zhuravskaya, 2004; Veiga and Veiga, 2007) as well as a decline in public debt (Jochimsen and Nuscheler, 2011). Some other researchers, however, do not find the political factors to be important in shaping the level of municipal public expenses.

It was empirically additionally shown that the occurrence of political budget cycles may depend on numerous factors such as the level of country's development and democracy, political system or government transparency (Alt and Lassen, 2006; Klomp and De Haan, 2013).

In this study, we analyze one other institutional arrangement: the level of central transfers, which in turn reflect the strength of the common pool problem arising from the dependence of local governments on central funding.

Veiga and Veiga (2007) utilize the panel of observations for Portuguese municipalities over the years 1979-2000 to test for the existence of rational political business cycles. Using the GMM estimator, the authors run a number of linear dynamic panel data models which vary with respect to the dependent variable. More specifically, they use either the budget balance, real total expenditures, the capital expenditures or the investment expenditures (all expressed in the real terms, per capita). The set of explanatory variables include, among others, the lagged values of the explained variables, total (or capital) transfers received per capita, a dummy corresponding to the election year to control for the electoral cycles, dummies related to the mayor's ideology and the geographic location of a municipality and, finally, population density and age structure. A clear evidence of mayors' opportunistic behavior was found, meaning there is a sign of pre-election increases in expenditures for items such as overpasses, streets or rural roads that are highly visible to the society. What this implies is that in view of the upcoming elections, incumbent governments tend to manipulate fiscal policy instruments to ensure they will keep their office. Moreover, the ideology appears to affect the spending choices, namely left-wing oriented mayors tend to behave in a far more opportunistic way before the municipal elections period. Nevertheless, the fact that the mayor's party has a majority of deputies in the municipal assembly (as an indicator of one's support) or that the incumbent is running for another term in office do not seem to have any impact on the spending patterns. Additionally, factors such as transfers or the location along the coastline contribute to higher expenditures, while smaller population and high share of the population under 15 tend to decrease them. Budget balance, in turn, is positively affected by the percentage of youngsters but falls with an increase in the share of elderly people in the population.

Furdas et al. (2015) analyze German cities and find an increase in local spending and decrease in tax revenues before elections. Moreover, the study revealed that the electoral cycles are observed mainly in the visible categories of expenditure. Authors observe an increase in building investments, accompanied by increasing intergovernmental grants for investment

purposes but also a halt in the increase of local tax rates. The extent of these political budget cycles is more pronounced in municipalities that are politically aligned with the state governments and are politically more contested. It is worth mentioning that social support spending is not manipulated at the local level. Similarly, Hayo and Neumeier (2012) for German Länder find no evidence of political cycles in the case of expenditures on social support, public safety, fire protection as well as public administration. Moreover, the composition of public expenditure is affected by the socioeconomic status of an incumbent: lower-class prime ministers spend more on public safety, education, R&D, social security, infrastructure and health. Weak governments (coalition governments and minority governments) spend less on public administration, public safety, and health, but more on social security.

There is mixed evidence on political cycles for other categories of expenditure. Castro and Martins (2014) finds that expenditure components that increased during election periods tend to be related to highly visible items such as general public services, social protection and health care, while defense and economic affairs are the biggest losers in election years. For the case of Italian cities, Dalle Nogare and Galizzi (2011) find a peculiar electoral cycle: mayors spend less on culture just before the elections. On the other hand, Benito et al. (2013) report that Spanish mayors increase the culture expenditures in the election year and reduce it in the second year after. The magnitude of the electoral cycle is influenced by mayor's political ideology rather than political strength and re-election willingness. Finally, Veiga and Veiga (2007) report that for Portuguese municipalities in pre-electoral periods there is an increase in expenditure on items such as roads and street construction (public infrastructure).

Theoretically, left–wing politicians are expected to support spending increases, while the right–wing parties rather prefer deficit reductions (Hibbs, 1977) and are more concerned about decreasing the expenses after the elections (Castro and Martins, 2014). Some of the empirical studies investigating this phenomenon confirm the importance of a ruling party's ideology for the size and composition of public spending (see e.g. Getzner, 2004; Mink and De Haan, 2006; Potrafke, 2011), while others find no evidence of a partisan effect (Potrafke, 2010; Jochimsen and Nuscheler, 2011). We further analyze the puzzling discrepancy in our work.

3. Data, methodology and hypotheses

Our data comprises information about 307 municipalities with population over 1000 inhabitants for the period 2002 to 2013, which includes three periods in office and, thus three electoral cycles. A total number of observations is 3664.

Economic and demographic variables have been collected from the Local Data Bank of Polish Statistical Office and the Polish Ministry of Finance. Electoral and political data as well as education level of the mayors has been collected from the records of the Electoral Commission as well official websites of the local political parties and in certain cases from press releases.

The empirical analysis deals with the total expenditure of the municipalities. The estimated equation is:

$$log(expenditure)_{it} = \beta_1 log(revenue)_{it} + \beta_2 trans_{it} + \beta_3 election_{it} + \beta_4 trans_{it} * election + \gamma \mathbb{X}_{it} + \mu_t + \nu_i + \varepsilon_{it}, \tag{1}$$

where X_{it} is the vector of controls, mu_t are the time effects and ν_i are the municipality fixed effects. The dependent variables are natural logarithms of *per capita* total municipal expenditure as well as categories of expenditures: healthcare, education, public administration, infrastructure, social protection and environmental protection. We have chosen these categories, as we believe that these types of expenditure are mostly visible to the voters on the local level.

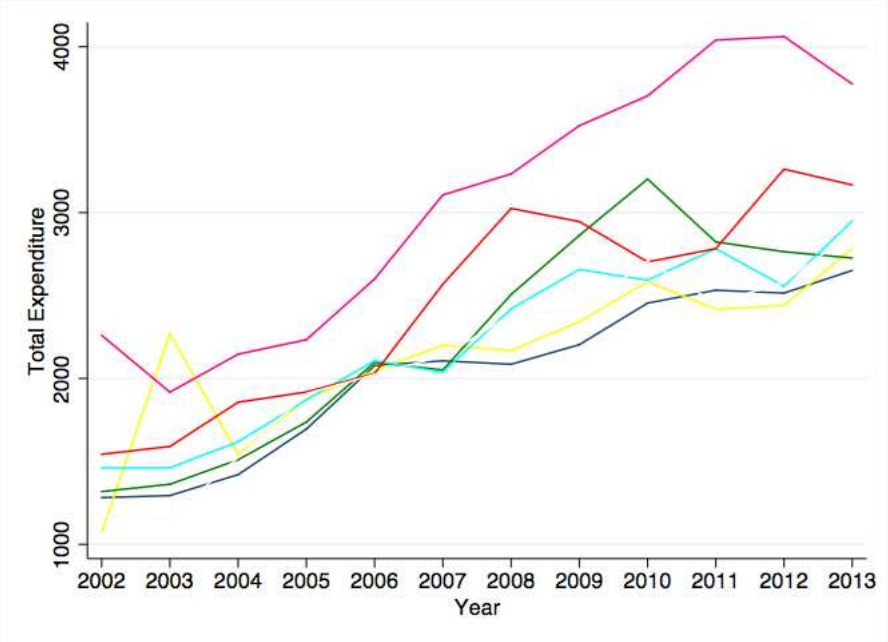
In the baseline model we analyze the total expenditure controlling for the total revenue, therefore the interpreation of this specification is basically the increase in the deficit financing. For the models in which we look at the categories of expenditure, we can interpret the results as a change in the composition of expenditure in the (pre)election years.

We do not differentiate between capital and current expenditure, yet although we expect that the composition of capital vs. current expenditures will differ for different categories of expenditure, the goal of this work is not to identify these differences, but to look at the incentives of politicians to manipulate the views of the voters, who most likely do not recognize

whether expenses are budgeted as of current or capital type.

As already mentioned in Section 2, correlation of the errors between the periods might be a concern. In order to deal with this, as well as other methodological issues, which will be described further on, we apply the System GMM method and estimate a dynamic panel. The major problem in a study that analyses the expenditure levels is strong autocorrelation of the dependent variable as well as of the revenues. Data additionally shows strong upward trend throughout the sample, which needs to be accounted for (Figure 3). Due to these issues, we believe that a dynamic panel approach is the correct methodology for this research. Moreover, our panel is a typical case of small T and large N, for which the GMM method performs better than other estimators. The number of lags included in each case has been chosen according to the information criteria. For comparison purposes we also report the results of FE estimations.

Figure 2: Total expenditure of a sample of randomly chosen municipalities



Source: own calculations based on Local Data Bank of Polish Statistical Office

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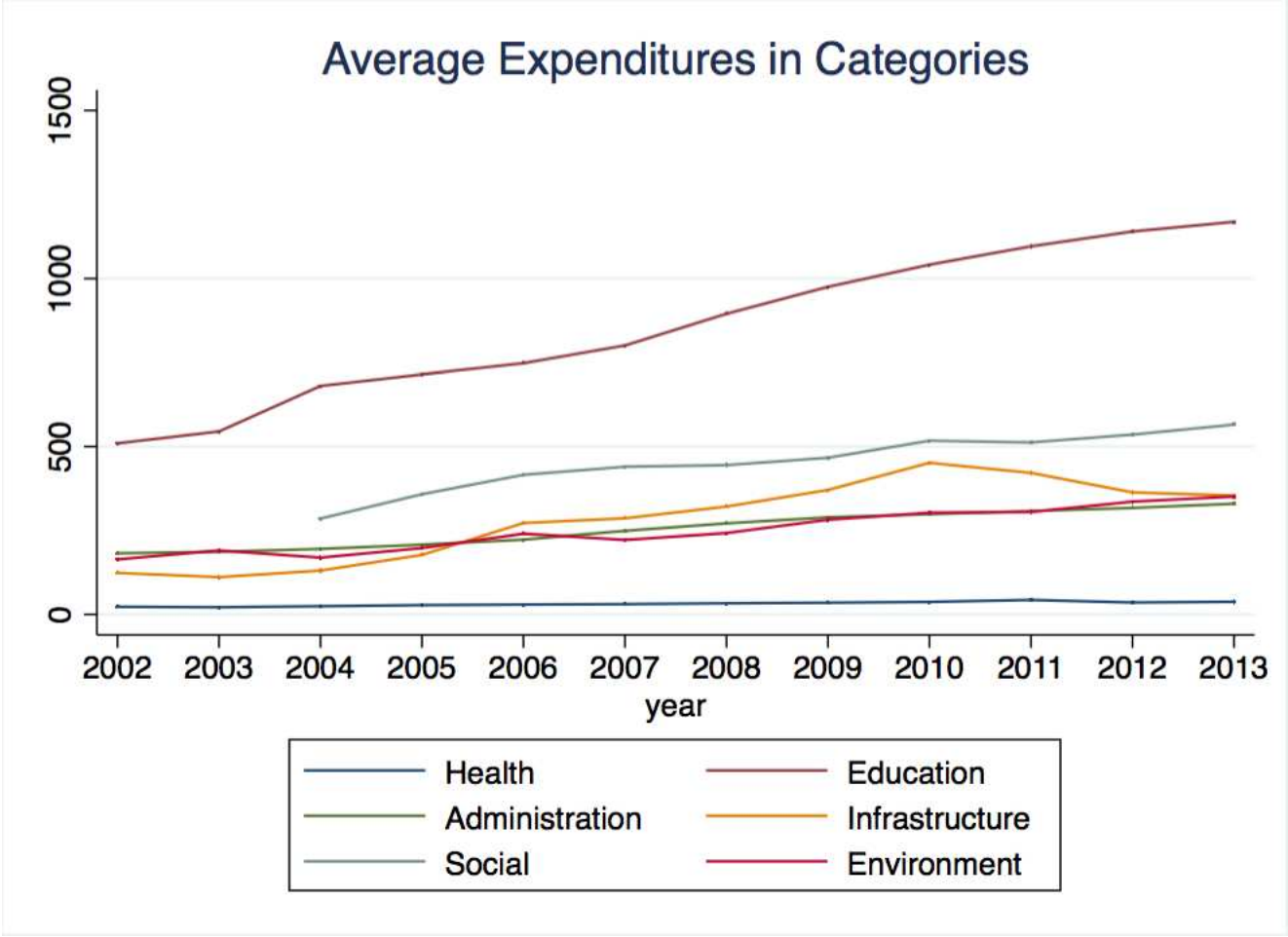
Figure 3: Average Expenditure in Categories



As noted in the Introduction the main goal of this work is to look at the interrelation between the political budget cycle and fiscal autonomy of municipalities. According to the common pool hypothesis we expect the budget cycle to be stronger in municipalities that are financed mostly from the central government subventions. The main variable of fiscal autonomy is *the ratio of revenues other than own revenues to overall revenues*, denoted as *Transfers*. This variable includes therefore sources of financing other than local taxation and property management. This measure captures direct transfers from regional and national government, subventions as well as direct subsidies from national and EU funds. EU funds are included in this category, since it is an inflow of resources from outside a particular minucipality, although they depend on municipality's application and its own co-financing.

We include party effects by adding mayor's political affiliation as an independent variable. There are four major parties in Poland as well as local committees. SLD (Democratic Left Alliance) is a central–left party, PSL (Polish Peasants Party) is a typical center party, PO (Civil Platform) is a conservative center–right whereas PiS (Law and Justice) has a left–oriented economic program. Moreover, local committees represent a big share of locally elected governments. In the regression a local committee is always a base value and party effects are analyzed accordingly. It is important to mention that often local candidates officially enter the election as independent politicians but are supported by one of the main parties. We have included this fact while coding the dataset. Additionally we control for the vertical alignment with the party (or a coalition) having the majority in the national parliament (SLD until 2005, PIS between 2005 and 2007 and PO ever since).

We include a dummy for higher education of the mayor to account for the results of Hayo and Neumeier (2012) and additionally test whether education of the mayor has an effect on the composition of the expenditure, whether for his own preferences or to reflect preferences of the median voter who might be likely to elect an educated candidate if it corresponds to the preferences of the community.

Finally, we include an incumbency variable, which takes a value 1 if a current mayor has been elected in the previous electoral period. In fact, in 2010 in more than 90% of the municipalities mayors fought for the next term in office and more than 60% accomplished this objective. This variable may affect expenditure in two ways. On the one hand, incumbent governor might need to spend less resources to guarantee his reelection. Additionally, continuity of governance might be associated with efficiency gains in expenditure. On the other hand, a mayor who knows the local institutional and political environment can have easier access to tools of budgetary manipulation and is additionally more likely to have support of the local council in his actions. Depending on the strength of these effects, the sign of the dummy variable will be different.

Apart from the political factors, public expenditure may also be determined by a vast number of demographic, socioeconomic and geographic variables, therefore we include a set of control variables of demographic and economic conditions. The standard set of explanatory

variables utilized in most of the empirical studies includes the size and age structure of the population as well as a measure of average income of the society. The impact of population variables on the level of public spending cannot be easily predicted, though. For instance, the size of the population may exhibit either a positive or negative effect, depending on whether the demand for public goods, and hence also the expenses, grow faster or slower than the population (Werck et al., 2008). In a number of works the negative relation between this variable and the level of public spending in categories such as transport and communications, health care, defense and communal services can be found (see e.g. Costa-Font and Moscone, 2009).

Population density, in turn, is supposed to reflect the degree of urbanization. This variable plays an important role especially in shaping the level of infrastructure expenditure. It might be the case that in more sparsely populated areas the demand for infrastructure is higher, which translates into a negative effect of population density on public spending. On the other hand, however, there exist also goods for which the demand is higher in the cities with higher level of population density. Sanz et al. (2002) reveal a negative impact of population density on transport and communications, defense and public services as well as positive effect in case of social security spending.

As for the age structure of the society, the variables most often utilized in the analysis are the percentage shares of the young and the elderly in the population. The purpose of including them in the analysis is to test if these two groups of electors benefit over proportionately from the provision of particular public goods, such as health care or education, in comparison to the rest of citizens (Hayo and Neumeier, 2012). Veiga and Veiga (2007) for the case of Portuguese municipalities reveal that higher share of the population under the age of 15 translates into lower levels of total expenditures but at the same time tends to increase the spending on infrastructure. Not surprisingly, the positive influence of the share of young population on the level of public education expenses is often found (Sanz et al., 2002).

Another variable often employed in the studies covering the issue of public expenditure determinants is the average or median level of income, which intends to capture the per capita wealth of the community and may reflect the demand for public goods and services. Most of

the researches confirm its positive influence on the level of spending both at the aggregated level and for various categories of spending. In our study we use the *share of revenue from income taxation* received by the municipality to proxy for the wealth of the members. The municipalities do not raise the income tax, but receive back from the central budget the share of the tax collected in this region.

Finally, many authors introduce the rate of unemployment in their models to control for the economic situation of the entities as well as the ratio of public debt to total revenues as an indicator of the local government's budgetary situation. Additionally our study controls for effects of metropolitan areas (municipalities with population higher than 500000 inhabitants), the effect of the industrial region of Upper Silesia as well as potential effects of the financial crisis of years 2009 and following. Summary statistics of the dependent and independent variables are presented in Table 6 in the Appendix.

4. Results

Table 1 reports the results of the System GMM and FE estimation with and without the interaction between the (pre)election years and fiscal autonomy as well as possiblity for a nonlinear relationship between the level of transfers and expenditure levels. In the System GMM estimation we have included up to two lags of the dependent variable to account for the possibility that expenditures on long–run projects spillover to the next years.

Results presented in Table 1 show that there are some differences in the estimated parameters between GMM (Columns (1)–(4)) and FE estimations (Columns (5)–(8)). Specifically, it can be noted that the FE results do not account for the fact that lagged dependent variable is highly significant and there is a general upwards trend in expenditures in our sample, and therefore these omitted variables lead to spurious coefficients in cases of lagged revenue and crisis years dummy. These two coefficients reflect the autocorrelated structure of the errors and cannot be interpreted straightforwardly. On the other hand, results presented in Columns (1)–(3) do not show such inconsistencies, we will continue with interpretation of these results.

Grants from the central government are associated with decreased levels of municipal expenditure. This result stays in opposition to the literature suggesting that fiscal autonomy

Table 1: Total expenditure

	(1) GMM	(2) GMM	(3) GMM	(4) GMM	(5) FE	(6) FE	(7) FE	(8) FE
L.Expenditure	0.35***	0.34***	0.35***	0.35***				
	(5.68)	(5.65)	(5.77)	(5.84)				
L2.Expenditure	0.02	0.01	0.02	0.01				
	(0.63)	(0.51)	(0.65)	(0.50)				
Revenue	0.79***	0.79***	0.78***	0.82***	0.80***	0.80***	0.80***	0.81***
	(17.15)	(17.21)	(17.12)	(16.96)	(22.81)	(22.88)	(22.81)	(23.55)
Lagged Revenue	-0.14**	-0.14**	-0.15***	-0.15***	0.13***	0.13***	0.13***	0.13***
	(-2.49)	(-2.42)	(-2.60)	(-2.59)	(4.38)	(4.30)	(4.30)	(4.42)
Transfers	-0.39***	-0.41***	-0.36***	0.74**	-0.11*	-0.14**	-0.10*	0.29
	(-5.21)	(-5.57)	(-4.71)	(2.16)	(-1.96)	(-2.33)	(-1.66)	(1.41)
PIT Revenue	0.28*	0.28*	0.27	0.24	-0.15	-0.15	-0.16	-0.15
	(1.67)	(1.73)	(1.63)	(1.43)	(-1.23)	(-1.23)	(-1.27)	(-1.19)
Public Debt	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***
	(11.07)	(11.01)	(10.97)	(10.79)	(8.93)	(8.86)	(8.91)	(8.70)
EU Funds	0.00	0.00	0.00	0.00	-0.00	-0.00	-0.00	-0.00
	(0.36)	(0.17)	(0.45)	(0.61)	(-0.79)	(-0.94)	(-0.70)	(-0.72)
1 Year Before	0.05***	-0.02	0.05***	0.05***	0.06***	-0.01	0.06***	0.05***
	(9.18)	(-0.70)	(9.33)	(8.56)	(13.50)	(-0.62)	(13.59)	(13.44)
Election Year	0.04***	0.04***	0.09***	0.04***	0.06***	0.06***	0.09***	0.06***
	(5.20)	(5.23)	(3.27)	(5.03)	(11.57)	(11.63)	(3.86)	(11.55)
1 Year After	-0.04***	-0.04***	-0.04***	-0.04***	-0.01**	-0.01**	-0.01**	-0.01**
	(-6.96)	(-7.00)	(-7.04)	(-6.96)	(-2.15)	(-2.08)	(-2.20)	(-2.15)
Crisis	0.05***	0.05***	0.06***	0.05***	0.07***	0.07***	0.07***	0.07***
	(5.36)	(5.44)	(5.57)	(5.54)	(7.90)	(7.89)	(7.88)	(7.90)
Pop Density	0.00	0.00*	0.00	0.00	0.00	0.00	0.00	0.00
	(1.52)	(1.65)	(1.57)	(1.57)	(1.40)	(1.47)	(1.41)	(1.42)
Pop Under 18	0.32	0.27	0.28	0.38	-0.05	0.04	-0.06	0.02
	(0.34)	(0.30)	(0.31)	(0.41)	(-0.14)	(0.10)	(-0.16)	(0.04)
Pop Over 65	-1.44*	-1.50*	-1.45*	-1.46*	-0.65	-0.63	-0.66*	-0.54
	(-1.72)	(-1.81)	(-1.72)	(-1.71)	(-1.63)	(-1.57)	(-1.66)	(-1.33)
Unemployment	-0.32	-0.29	-0.31	-0.32	0.16	0.17	0.16	0.16
	(-1.35)	(-1.19)	(-1.28)	(-1.34)	(1.12)	(1.20)	(1.14)	(1.15)
Turnout	-0.05	-0.01	-0.02	-0.06	0.04	0.05	0.05	0.05
	(-0.46)	(-0.13)	(-0.19)	(-0.63)	(0.71)	(0.82)	(0.79)	(0.80)
Education	-0.01	-0.01	-0.01	-0.01	0.00	0.00	0.00	0.00
	(-0.38)	(-0.27)	(-0.28)	(-0.45)	(0.11)	(0.18)	(0.12)	(0.10)
Incumbent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.54)	(0.56)	(0.56)	(0.50)	(0.27)	(0.27)	(0.29)	(0.30)
PO	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	(0.41)	(0.38)	(0.38)	(0.37)	(1.34)	(1.32)	(1.34)	(1.34)
PiS	0.02	0.02	0.02	0.02	0.01	0.00	0.01	0.01
	(1.45)	(1.42)	(1.47)	(1.34)	(0.56)	(0.52)	(0.56)	(0.60)
SLD	-0.02	-0.02	-0.02	-0.02	0.00	0.00	0.00	0.00
	(-1.11)	(-1.01)	(-1.03)	(-1.16)	(0.14)	(0.19)	(0.17)	(0.16)
PSL	0.03	0.03	0.03	0.02	0.01	0.01	0.01	0.01
	(0.56)	(0.59)	(0.60)	(0.42)	(0.34)	(0.35)	(0.34)	(0.35)
Vert.Alignment	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	(1.64)	(1.39)	(1.56)	(1.61)	(1.49)	(1.36)	(1.48)	(1.52)
Transfers * 1 Year Before		0.11***				0.12***		
		(2.66)				(3.13)		
Transfers * Election			-0.09*				-0.04	
			(-1.90)				(-1.13)	
Transfers2				-1.06***				-0.38*
				(-3.31)				(-1.97)
Constant	0.00	0.01	0.02	-0.48	0.73**	0.69**	0.75**	0.51
	(0.01)	(0.01)	(0.03)	(-0.68)	(2.23)	(2.04)	(2.28)	(1.42)
Observations	3047	3047	3047	3047	3052	3052	3052	3052
R2					0.957	0.958	0.957	0.957
No. of Instruments	32	32	32	32				
Sargan p-val	0.16	0.11	0.07	0.10				
Hansen J p-val	0.36	0.27	0.29	0.27				

Robust clustered standard errors; P-Values in parentheses; Significance: * 0.1 ** 0.05 *** 0.01

of local entities may lead to a decrease in the size of the public sector. At least for the case of Poland, the opposite seems to be true. This result relies on the specific form of competition present between the municipalities. Given that the municipalities finance their activites relying on property management rather than local taxation, they do not involve in tax competition, but rather competition in services: providing higher standards of services above the legal minimums means improving the attractiveness of the municipality and can

lead to increase in the value of property, which in turns decreases the dependence of the municipality on central government transfers. This interpration suggests, that the transfers-dependence variable might be endogenous to the "attractiveness of the municipality".

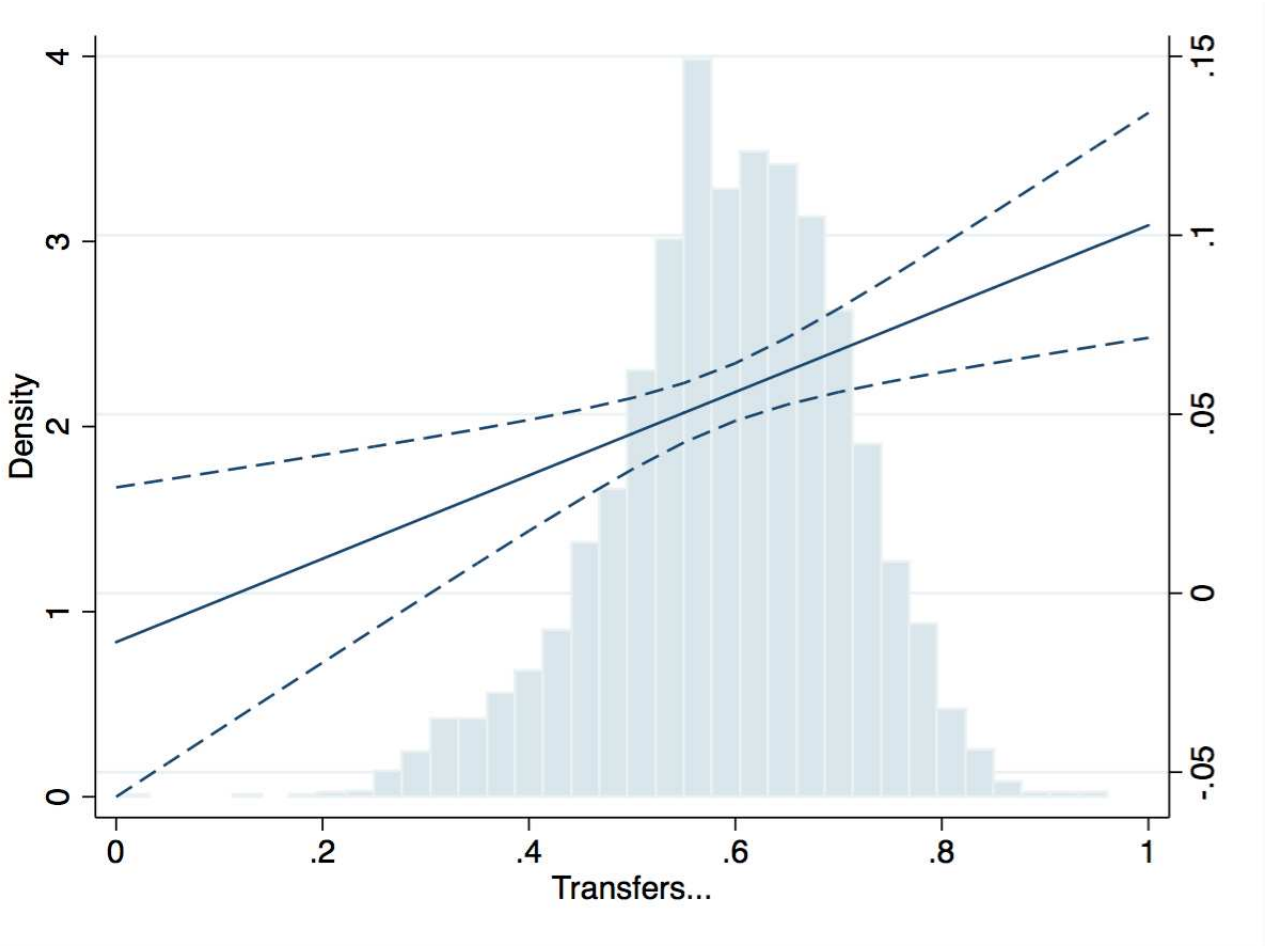
Throughout the sample we can observe evidence of electoral cycles. Total expenditure raises on average by 5% one year before the election and by 3% in the election year[1]. One year after the election the level of total expenditure drops by 4%. The positive effect of transfers on expenditure is visible for the case of the (pre)election years. Figures 4 and 5 show the marginal effects of the increase in transfers in the (pre)election periods and outside of them. There is no evidence that party effects play any role in determining the level of local expenditure. Neither does incumbency advantage, education level of the mayor or turnout at the election. The positive sign of the crisis variable reflects the fact that the expenditure was constantly growing throughout the sample, and this time effect might not have been fully captured by the trend variable and lagged dependent variables. It is important to remember that although Poland suffered from the financial crisis, it did not experience negative growth rates of GDP after 2009.

The main research question is exemplified in Figures 4 and 5. Inspection of Figures 4 and 5 reveals that increase in the transfers has a significant effect on the strength of the budget cycle one year before the election but not in the election year itself. As mentioned, since the regressions control for the level of expenditure, we can understand the results as an increase in the deficit. Due to the relatively soft budget contraints, the deficit can be increased, and higher dependence of external financing leads to a comparatively stronger increase in the deficit financing one year before the election.

Results presented in Table 2 reveal that certain categories of expenditure are associated with an increase in spending in the (pre)election periods, whereas we observe drops in others. In particular there is a significant increase in spending on public administration, infrastructure and social policies as well as a slight increase in environmental protection expenditure in the election periods, which seems to be compensated with a decrease in spending on edu-

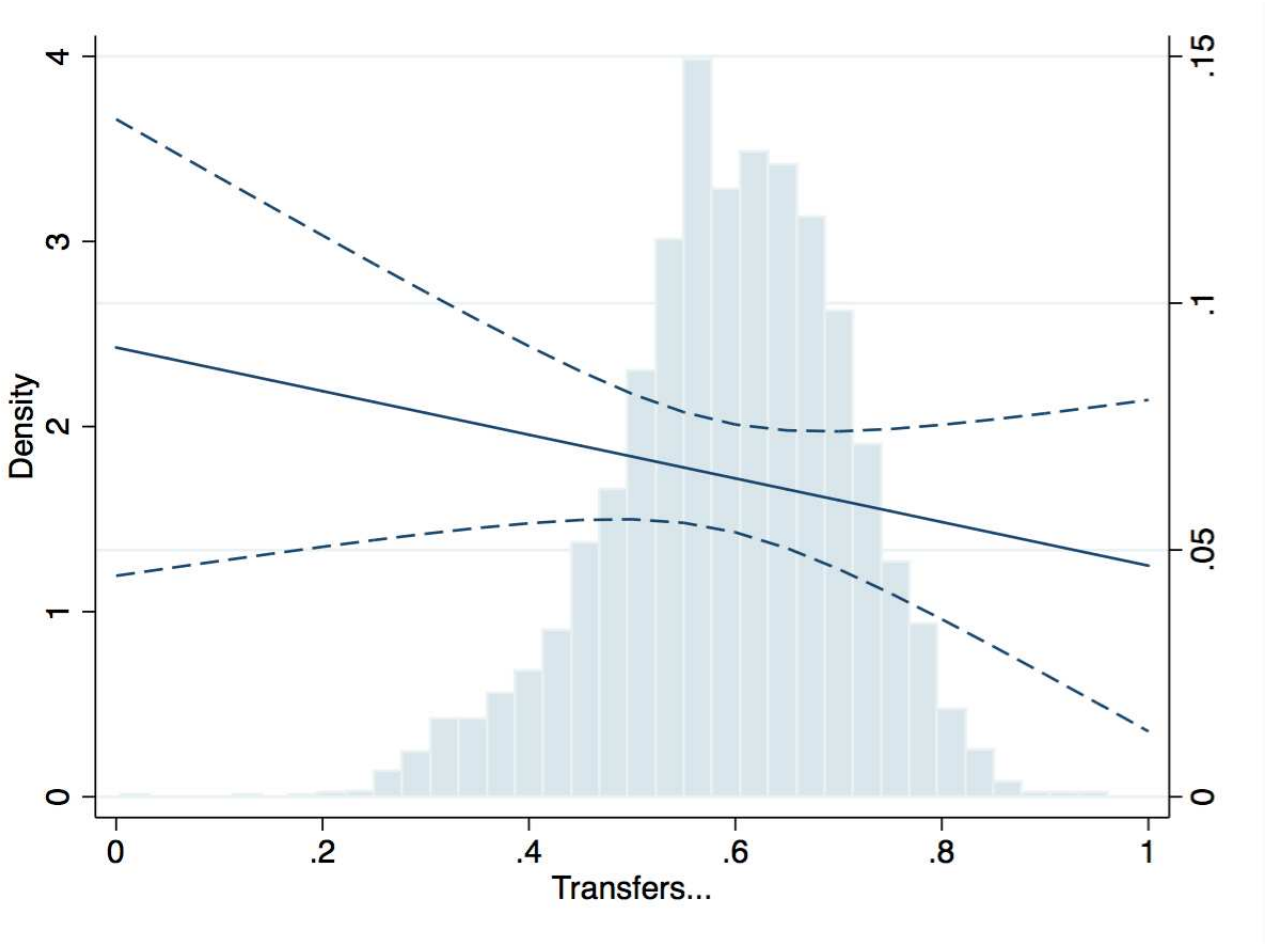
[1]It is worth noticing that the elections are held in November.

Figure 4: Marginal effects – one year before the election.



cation. The level of spending on infrastructure raises by an astonishing 23% one year before the election and 28% in the election year. Infrastructure and adminsitrative spending rise already one year before the election, most probably since these categories involve investments that might need several months to be concluded, so the incumbent are likely to starting increases in the expenditure early on. One year after the election we observe a significant drop in expenditure on education and the environment. Increase in the public administration expenditure could be a result of the mayor trying to influence the local bureaucrats by e.g. affecting their wages. Infrastructure and social expenditure are associated with the highest increases in the (pre)election period, which is consistent with the findings for other countries. Expenditure on environmental protection is also a category of expenditure which is highly

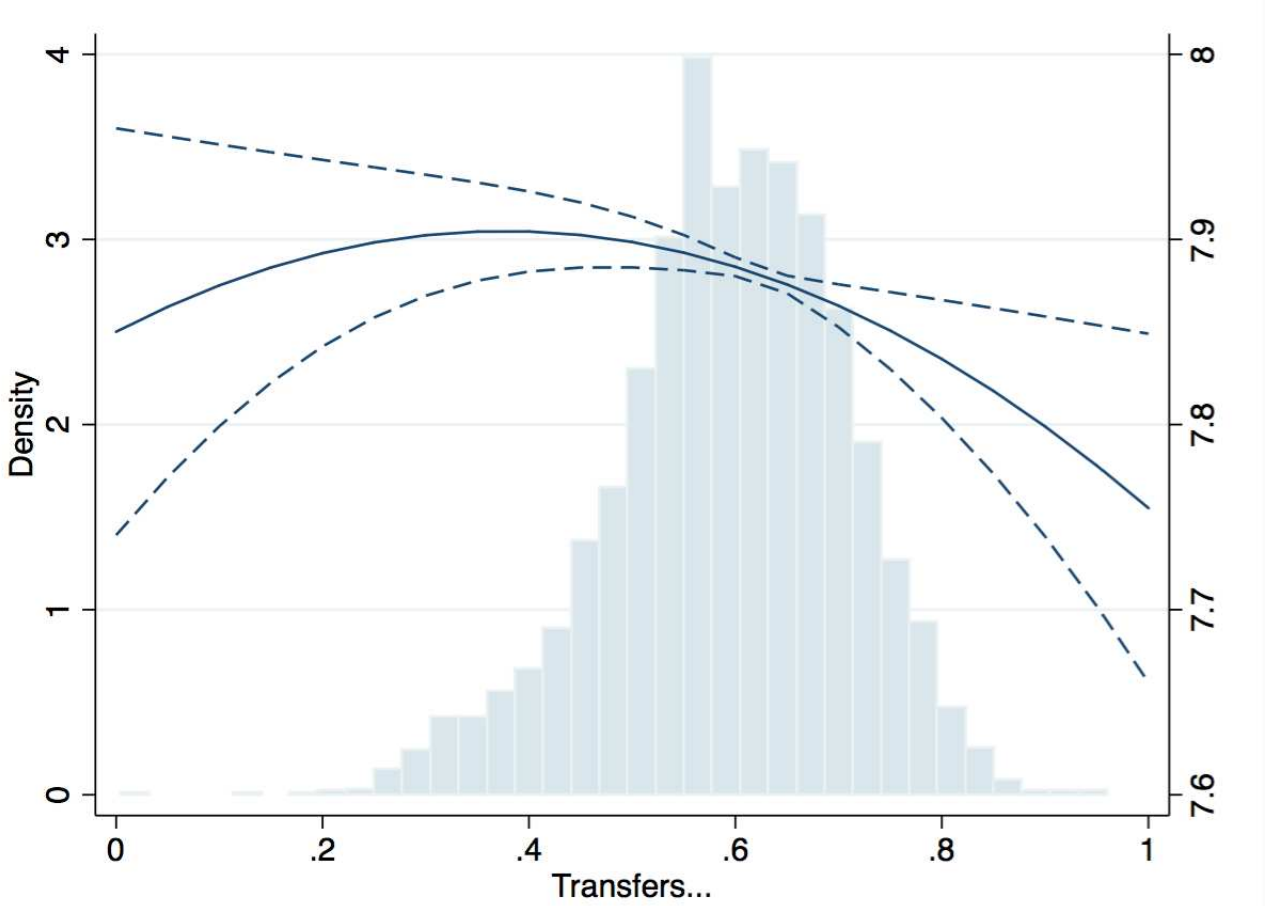
Figure 5: Marginal effects – election year.



visible to the voters, and therefore increase in environmental expenditure is understandable.

Other political variables do not seem to affect the levels of local expenditure. Party effects as well as the vertical alignment is not associated with higher expenditure. In particular, unlike Veiga and Veiga (2007) we do not find evidence that mayor's ideology is important for expenditure levels, neither as total expenditure nor in specific categories. Education level of the mayor as well as continuity of governance are also not explaining differences in the expenditure levels. Turnout at the election does not correlate with total expenditure levels, is however positively correlated with expenditure on education. This finding can be linked to a empirical observation that well–educated citizens vote more frequently (see e.g. Gallego, 2010), thus can be an outcome of reverse causation. Infrastructure projects are associated

Figure 6: Transfers from the central government and expenditure.



with lower turnout, which might ba a sign that that more remote locations exhibit lower turnout levels and at the same time higher need for infrastructure expenditure, thus the effect is unllikely to be causal.

Adding the interaction terms to the regressions (Tables 3, 4 and 5) provides some additional insight. One year before the election increasing transfers from the central government is associated with a higher expenditure on social support and environment. In the election year itself, we do not observe a significant conditional effect of the transfers.

In particular analysis of the relation between transfers and different expenditure categories in Figure 9 shows the impact of institutional setup and wealth of municipalities. In two cases, of education and infrastructure we can observe clearly the nonlinearity, which we have

Table 2: Expenditure categories

	(1) Health	(2) Education	(3) Administration	(4) Infrastructure	(5) Social	(6) Environment
Revenue	0.20	-0.01	0.09	1.86***	0.27*	1.04***
	(0.86)	(-0.19)	(0.86)	(8.14)	(1.66)	(4.85)
Lagged Revenue	-0.10	0.00	0.06**	-0.34**	-0.04*	-0.19
	(-0.98)	(0.09)	(2.42)	(-2.20)	(-1.87)	(-1.33)
Transfers	-0.65	-0.12*	0.13	-1.08*	-0.68*	-0.19
	(-0.86)	(-1.95)	(1.11)	(-1.89)	(-1.95)	(-0.43)
PIT Revenue	-0.89	-0.64***	0.25	1.20	0.16	0.12
	(-1.60)	(-4.57)	(1.02)	(1.45)	(0.57)	(0.15)
Public Debt	-0.00	0.00***	0.00*	0.00***	-0.00	0.00***
	(-0.32)	(5.58)	(1.73)	(5.56)	(-0.48)	(4.39)
1 Year Before	0.02	-0.02***	0.02***	0.23***	0.00	0.05*
	(0.83)	(-2.87)	(3.30)	(7.54)	(0.05)	(1.82)
Election Year	-0.01	-0.02***	0.01	0.28***	0.04***	0.06*
	(-0.41)	(-3.13)	(1.37)	(6.63)	(4.13)	(1.69)
1 Year After	-0.03	-0.03***	-0.02***	-0.03	0.01	-0.10***
	(-1.60)	(-7.87)	(-3.10)	(-0.95)	(1.40)	(-4.23)
Crisis	0.02	0.09***	0.06***	0.10	0.05***	0.05
	(0.40)	(8.00)	(3.75)	(1.51)	(4.52)	(0.93)
Pop Density	0.00	0.00	-0.00*	-0.00*	-0.00	0.00
	(0.21)	(0.43)	(-1.85)	(-1.68)	(-0.93)	(0.80)
Pop Under 18	1.05	0.04	0.27	9.16*	1.38**	0.30
	(0.52)	(0.05)	(0.41)	(1.85)	(2.56)	(0.08)
Pop Over 65	0.36	-1.52**	0.57	-13.27***	1.63**	7.80
	(0.19)	(-2.47)	(0.83)	(-2.75)	(2.21)	(1.64)
Unemployment	-1.21*	0.16	-0.49	-1.49	0.56***	-0.98
	(-1.83)	(0.78)	(-1.34)	(-1.09)	(3.42)	(-0.93)
Turnout	-0.23	0.29***	0.00	-1.73***	0.32**	-0.47
	(-0.69)	(3.11)	(0.01)	(-2.64)	(2.10)	(-0.85)
Education	-0.17**	-0.01	-0.02	0.05	-0.00	-0.01
	(-2.53)	(-0.70)	(-1.07)	(0.42)	(-0.12)	(-0.07)
Incumbent	0.02	0.00	0.00	0.04	-0.01	-0.03
	(0.57)	(0.62)	(0.46)	(1.07)	(-0.99)	(-0.83)
PO	0.03	0.01	-0.00	-0.00	-0.01	0.07
	(0.67)	(0.47)	(-0.08)	(-0.00)	(-0.58)	(0.91)
PiS	0.01	0.01	0.01	0.16**	-0.07	0.05
	(0.29)	(0.92)	(0.66)	(2.09)	(-1.42)	(0.63)
SLD	0.02	0.01	0.03*	-0.10	-0.01	-0.09
	(0.59)	(0.92)	(1.66)	(-1.05)	(-0.53)	(-0.91)
PSL	0.27*	-0.01	0.04	0.12	-0.04	0.39*
	(1.71)	(-0.30)	(1.60)	(0.37)	(-1.37)	(1.70)
Vert.Alignment	0.02	0.01**	-0.00	0.00	0.01	-0.01
	(0.84)	(2.18)	(-0.04)	(0.04)	(1.44)	(-0.29)
L.Health	0.44***					
	(6.44)					
L2.Health	0.05					
	(1.64)					
L.Education		0.31***				
		(6.58)				
L2.Education		-0.07**				
		(-2.12)				
L.Administration			0.48***			
			(6.81)			
L2.Administration			0.01			
			(0.25)			
L.Infrastructure				0.32***		
				(8.55)		
L2.Infrastructure				0.05*		
				(1.79)		
L.Social					0.09	
					(1.57)	
L2.Social					-0.05	
					(-1.62)	
L.Environment						0.42***
						(9.70)
L2.Environment						-0.05*
						(-1.71)
Constant	1.25	5.18***	1.52	-6.00**	3.66***	-5.18*
	(1.08)	(10.17)	(1.16)	(-2.43)	(3.49)	(-1.76)
N	3052	3052	3052	3049	2440	3052
No. of Instruments	32	27	27	27	32	27
Sargan p-val	0.27	0.16	0.07	0.06	0.07	0.09
Hansen J p-val	0.12	0.92	0.27	0.42	0.33	0.23

Robust clustered standard errors; P-Values in parentheses; Significance: * 0.1 ** 0.05 *** 0.01

already identified for total expenditures. In education the educational subsidy is not sufficient to cover all the necessary expenditures, thus municipalities must spend their own resources cutting other expenditures. The nonlinearity confirms that richer municipalities, i.e. those

Table 3: Expenditure categories - 1 year before the election

	(1) Health	(2) Education	(3) Administration	(4) Infrastructure	(5) Social	(6) Environment
Revenue	0.21	-0.01	0.09	1.84***	0.27*	1.07***
	(0.90)	(-0.14)	(0.86)	(8.04)	(1.66)	(4.93)
Lagged Revenue	-0.10	0.00	0.06**	-0.34**	-0.04*	-0.19
	(-0.98)	(0.09)	(2.42)	(-2.25)	(-1.91)	(-1.32)
Transfers	-0.69	-0.13**	0.13	-1.01*	-0.70**	-0.29
	(-0.90)	(-2.04)	(1.09)	(-1.78)	(-2.00)	(-0.65)
PIT Revenue	-0.88	-0.64***	0.25	1.18	0.12	0.15
	(-1.59)	(-4.55)	(1.02)	(1.42)	(0.42)	(0.19)
Public Debt	-0.00	0.00***	0.00*	0.00***	-0.00	0.00***
	(-0.34)	(5.57)	(1.73)	(5.67)	(-0.54)	(4.41)
1 Year Before	-0.09	-0.04	0.02	0.49**	-0.08***	-0.26*
	(-0.93)	(-1.50)	(0.76)	(2.56)	(-2.63)	(-1.66)
Election Year	-0.01	-0.02***	0.01	0.28***	0.04***	0.06
	(-0.44)	(-3.11)	(1.37)	(6.68)	(4.15)	(1.61)
1 Year After	-0.03	-0.03***	-0.02***	-0.03	0.01	-0.10***
	(-1.60)	(-7.87)	(-3.10)	(-0.98)	(1.36)	(-4.25)
Crisis	0.01	0.09***	0.06***	0.10	0.05***	0.05
	(0.38)	(7.98)	(3.75)	(1.50)	(4.61)	(0.88)
Pop Density	0.00	0.00	-0.00*	-0.00	-0.00	0.00
	(0.18)	(0.43)	(-1.85)	(-1.64)	(-0.89)	(0.83)
Pop Under 18	1.01	0.04	0.27	9.22*	1.28**	0.06
	(0.50)	(0.05)	(0.40)	(1.87)	(2.41)	(0.02)
Pop Over 65	0.30	-1.52**	0.57	-13.15***	1.59**	7.46
	(0.15)	(-2.47)	(0.84)	(-2.71)	(2.15)	(1.60)
Unemployment	-1.16*	0.17	-0.49	-1.60	0.59***	-0.82
	(-1.74)	(0.83)	(-1.33)	(-1.16)	(3.59)	(-0.77)
Turnout	-0.18	0.30***	0.00	-1.82***	0.28*	-0.33
	(-0.57)	(3.15)	(0.01)	(-2.75)	(1.89)	(-0.58)
Education	-0.16**	-0.01	-0.02	0.04	-0.00	0.01
	(-2.46)	(-0.65)	(-1.05)	(0.33)	(-0.06)	(0.06)
Incumbent	0.02	0.00	0.00	0.04	-0.01	-0.03
	(0.57)	(0.61)	(0.46)	(1.08)	(-1.05)	(-0.83)
PO	0.03	0.00	-0.00	0.00	-0.01	0.07
	(0.67)	(0.46)	(-0.08)	(0.01)	(-0.75)	(0.89)
PiS	0.01	0.01	0.01	0.16**	-0.07	0.05
	(0.27)	(0.91)	(0.66)	(2.09)	(-1.47)	(0.60)
SLD	0.03	0.01	0.03	-0.11	-0.01	-0.08
	(0.67)	(0.96)	(1.64)	(-1.11)	(-0.45)	(-0.81)
PSL	0.27*	-0.01	0.04	0.12	-0.03	0.38*
	(1.71)	(-0.29)	(1.60)	(0.37)	(-0.88)	(1.70)
Vert. Alignment	0.02	0.01**	-0.00	0.00	0.01	-0.01
	(0.85)	(2.21)	(-0.06)	(0.06)	(1.33)	(-0.34)
Transfers * 1 Year Before	0.17	0.04	0.00	-0.43	0.13***	0.52**
	(1.13)	(0.89)	(0.01)	(-1.43)	(2.68)	(2.03)
L.Health	0.44***					
	(6.46)					
L2.Health	0.05*					
	(1.65)					
L.Education		0.31***				
		(6.59)				
L2.Education		-0.07**				
		(-2.10)				
L.Administration			0.48***			
			(6.85)			
L2.Administration			0.01			
			(0.26)			
L.Infrastructure				0.33***		
				(8.50)		
L2.Infrastructure				0.06*		
				(1.86)		
L.Social					0.09	
					(1.59)	
L2.Social					-0.04	
					(-1.53)	
L.Environment						0.42***
						(9.69)
L2.Environment						-0.05*
						(-1.84)
Constant	1.18	5.15***	1.52	-5.83**	3.71***	-5.32*
	(1.00)	(10.23)	(1.16)	(-2.35)	(3.60)	(-1.84)
Observations	3047	3047	3047	3044	2437	3047
No. of Instruments	34	29	29	29	34	29
Sargan p-val	0.08	0.14	0.09	0.31	0.22	0.02
Hansen J p-val	0.50	0.83	0.64	0.35	0.83	0.07

Robust clustered standard errors; P-Values in parentheses; Significance: * 0.1 ** 0.05 *** 0.01

with lower share of transfers in total revenues, are able to supplement transfers with their own resources, while municipalities with lower revenues and higher share of transfers in their

Table 4: Expenditure categories - Election Year

	(1) Health	(2) Education	(3) Administration	(4) Infrastructure	(5) Social	(6) Environment
Revenue	0.21	-0.01	0.09	1.86***	0.26*	1.01***
	(0.89)	(-0.21)	(0.84)	(8.12)	(1.67)	(4.78)
Lagged Revenue	-0.09	0.00	0.06**	-0.34**	-0.05*	-0.22
	(-0.91)	(0.06)	(2.33)	(-2.23)	(-1.92)	(-1.56)
Transfers	-0.71	-0.12*	0.14	-1.07*	-0.66**	-0.03
	(-0.92)	(-1.78)	(1.21)	(-1.79)	(-1.98)	(-0.07)
PIT Revenue	-0.87	-0.64***	0.25	1.19	0.13	0.04
	(-1.58)	(-4.56)	(1.00)	(1.44)	(0.49)	(0.05)
Public Debt	-0.00	0.00***	0.00*	0.00***	-0.00	0.00***
	(-0.33)	(5.56)	(1.74)	(5.55)	(-0.34)	(4.54)
1 Year Before	0.01	-0.02***	0.02***	0.23***	-0.00	0.05**
	(0.76)	(-2.88)	(3.34)	(7.63)	(-0.11)	(1.96)
Election Year	-0.12	-0.01	0.03	0.31	0.09**	0.36**
	(-1.26)	(-0.33)	(1.57)	(1.54)	(2.25)	(2.19)
1 Year After	-0.03	-0.04***	-0.02***	-0.03	0.00	-0.11***
	(-1.52)	(-7.69)	(-3.17)	(-0.95)	(1.26)	(-4.33)
Crisis	0.01	0.09***	0.06***	0.10	0.05***	0.07
	(0.24)	(8.02)	(3.82)	(1.57)	(4.90)	(1.19)
Pop Density	0.00	0.00	-0.00*	-0.00*	-0.00	0.00
	(0.13)	(0.44)	(-1.80)	(-1.68)	(-1.02)	(0.82)
Pop Under 18	1.12	0.03	0.26	9.13*	1.09**	0.01
	(0.56)	(0.04)	(0.40)	(1.83)	(2.01)	(0.00)
Pop Over 65	0.38	-1.52**	0.57	-13.29***	1.45*	7.69
	(0.20)	(-2.48)	(0.83)	(-2.74)	(1.89)	(1.62)
Unemployment	-1.24*	0.17	-0.49	-1.48	0.53***	-0.90
	(-1.83)	(0.82)	(-1.33)	(-1.08)	(3.36)	(-0.85)
Turnout	-0.27	0.29***	0.02	-1.71***	0.29**	-0.29
	(-0.87)	(3.07)	(0.17)	(-2.59)	(1.99)	(-0.51)
Education	-0.17***	-0.01	-0.01	0.05	-0.00	0.01
	(-2.62)	(-0.65)	(-0.99)	(0.42)	(-0.08)	(0.06)
Incumbent	0.02	0.00	0.00	0.04	-0.01	-0.03
	(0.56)	(0.64)	(0.49)	(1.08)	(-0.99)	(-0.76)
PO	0.03	0.01	-0.00	-0.00	-0.01	0.07
	(0.69)	(0.46)	(-0.09)	(-0.00)	(-0.71)	(0.92)
PiS	0.01	0.01	0.01	0.16**	-0.07	0.05
	(0.28)	(0.92)	(0.67)	(2.10)	(-1.43)	(0.66)
SLD	0.02	0.01	0.03*	-0.10	-0.01	-0.08
	(0.51)	(0.96)	(1.71)	(-1.04)	(-0.45)	(-0.80)
PSL	0.27*	-0.01	0.04	0.12	-0.04	0.39*
	(1.70)	(-0.29)	(1.59)	(0.37)	(-1.12)	(1.74)
Vert. Alignment	0.02	0.02**	-0.00	-0.01	0.01	-0.01
	(1.03)	(2.29)	(-0.08)	(-0.11)	(1.50)	(-0.16)
Transfers * Election Year	0.18	-0.02	-0.04	-0.06	-0.10	-0.50*
	(1.32)	(-0.40)	(-1.24)	(-0.17)	(-1.54)	(-1.89)
L.Health	0.44***					
	(6.42)					
L2.Health	0.05*					
	(1.65)					
L.Education		0.31***				
		(6.52)				
L2.Education		-0.07**				
		(-2.11)				
L.Administration			0.48***			
			(6.81)			
L2.Administration			0.01			
			(0.26)			
L.Infrastructure				0.32***		
				(8.45)		
L2.Infrastructure				0.05*		
				(1.79)		
L.Social					0.07	
					(1.32)	
L2.Social					-0.06**	
					(-1.98)	
L.Environment						0.42***
						(9.92)
L2.Environment						-0.05*
						(-1.81)
Constant	1.17	5.17***	1.54	-5.97**	3.98***	-4.90*
	(1.01)	(10.22)	(1.17)	(-2.41)	(4.02)	(-1.70)
Observations	3047	3047	3047	3044	2437	3047
No. of Instruments	34	29	29	29	34	29
Sargan p-val	0.08	0.14	0.09	0.31	0.22	0.02
Hansen J p-val	0.50	0.83	0.64	0.35	0.83	0.07

Robust clustered standard errors; P-Values in parentheses; Significance: * 0.1 ** 0.05 *** 0.01

revenues are not able to do it and must reduce their expenditures on education. Similarly with infrastructure: poorer municipalities, i.e. those with lower fiscal autonomy, were spending

Table 5: Expenditure categories - A non–linear specification

	(1) Health	(2) Education	(3) Administration	(4) Infrastructure	(5) Social	(6) Environment
Revenue	0.21	0.01	0.07	1.97***	0.27*	1.10***
	(0.89)	(0.29)	(0.66)	(8.39)	(1.68)	(5.04)
Lagged Revenue	-0.10	0.00	0.06**	-0.34**	-0.04*	-0.20
	(-0.98)	(0.02)	(2.50)	(-2.25)	(-1.89)	(-1.35)
Transfers	-0.27	0.58**	-0.50*	2.61	-0.42	2.09
	(-0.27)	(2.27)	(-1.66)	(1.45)	(-0.62)	(1.17)
PIT Revenue	-0.90	-0.67***	0.28	1.07	0.15	0.04
	(-1.61)	(-4.69)	(1.19)	(1.30)	(0.50)	(0.05)
Public Debt	-0.00	0.00***	0.00*	0.00***	-0.00	0.00***
	(-0.31)	(5.70)	(1.74)	(5.48)	(-0.44)	(4.51)
1 Year Before	0.02	-0.02***	0.02***	0.22***	-0.00	0.04*
	(0.79)	(-3.10)	(3.34)	(7.47)	(-0.05)	(1.66)
Election Year	-0.01	-0.02***	0.01	0.27***	0.04***	0.06*
	(-0.41)	(-3.24)	(1.42)	(6.63)	(4.04)	(1.65)
1 Year After	-0.03	-0.04***	-0.02***	-0.03	0.01	-0.10***
	(-1.60)	(-7.95)	(-3.03)	(-0.96)	(1.35)	(-4.25)
Crisis	0.02	0.09***	0.05***	0.11*	0.05***	0.06
	(0.42)	(8.12)	(3.71)	(1.68)	(4.56)	(1.01)
Pop Density	0.00	0.00	-0.00*	-0.00	-0.00	0.00
	(0.23)	(0.66)	(-1.93)	(-1.60)	(-0.90)	(0.83)
Pop Under 18	1.13	0.16	0.21	9.43*	1.42***	0.50
	(0.56)	(0.19)	(0.31)	(1.90)	(2.74)	(0.13)
Pop Over 65	0.43	-1.49**	0.56	-13.42***	1.64**	7.86*
	(0.22)	(-2.42)	(0.81)	(-2.79)	(2.22)	(1.65)
Unemployment	-1.21*	0.16	-0.49	-1.48	0.55***	-0.98
	(-1.83)	(0.71)	(-1.35)	(-1.09)	(3.38)	(-0.93)
Turnout	-0.23	0.28***	0.01	-1.77***	0.31**	-0.51
	(-0.70)	(3.00)	(0.06)	(-2.72)	(2.09)	(-0.90)
Education	-0.17**	-0.01	-0.01	0.05	-0.00	-0.01
	(-2.53)	(-0.75)	(-1.01)	(0.38)	(-0.13)	(-0.11)
Incumbent	0.02	0.00	0.00	0.04	-0.01	-0.03
	(0.57)	(0.61)	(0.48)	(1.05)	(-0.99)	(-0.84)
PO	0.03	0.01	-0.00	0.00	-0.01	0.07
	(0.67)	(0.47)	(-0.08)	(0.02)	(-0.59)	(0.90)
PiS	0.01	0.01	0.01	0.16**	-0.07	0.05
	(0.28)	(0.90)	(0.69)	(2.06)	(-1.40)	(0.60)
SLD	0.02	0.01	0.03*	-0.10	-0.01	-0.09
	(0.59)	(0.93)	(1.69)	(-1.06)	(-0.51)	(-0.94)
PSL	0.27*	-0.01	0.04*	0.10	-0.05	0.37
	(1.71)	(-0.44)	(1.75)	(0.30)	(-1.51)	(1.62)
Vert. Alignment	0.02	0.01**	-0.00	-0.01	0.01	-0.01
	(0.98)	(2.24)	(-0.04)	(-0.13)	(1.30)	(-0.13)
Transfers2	-0.36	-0.66***	0.59	-3.45**	-0.24	-2.13
	(-0.47)	(-2.85)	(1.62)	(-2.25)	(-0.47)	(-1.43)
L.Health	0.44***					
	(6.45)					
L2.Health	0.05*					
	(1.65)					
L.Education		0.31***				
		(6.64)				
L2.Education		-0.07**				
		(-2.04)				
L.Administration			0.49***			
			(7.27)			
L2.Administration			0.01			
			(0.31)			
L.Infrastructure				0.32***		
				(8.59)		
L2.Infrastructure				0.05*		
				(1.71)		
L.Social					0.08	
					(1.47)	
L2.Social					-0.05	
					(-1.63)	
L.Environment						0.42***
						(9.67)
L2.Environment						-0.05*
						(-1.71)
Constant	1.03	4.81***	1.77	-7.68***	3.58***	-6.27**
	(0.83)	(9.53)	(1.27)	(-2.86)	(3.33)	(-2.06)
Observations	3047	3047	3047	3044	2437	3047
No. of Instruments	34	29	29	29	34	29
Sargan p-val	0.08	0.14	0.09	0.31	0.22	0.02
Hansen J p-val	0.50	0.83	0.64	0.35	0.83	0.07

Robust clustered standard errors; P-Values in parentheses; Significance: * 0.1 ** 0.05 *** 0.01

less on infrastructure, not being able to mobilize enough resources for new investments.

The expenditures on administration are increasing with the level of transfers from the

higher levels of government, since municipalities have to implement the tasks delegated to them and for this they need relatively more people and resources. However, this increase is not significant. Also for environment the expenditures are increasing slightly with transfers, what probably can be associated with EU funds for environmental investment, but, since most municipalities are able to apply for these funds the differences are not big. Social expenditures are falling with transfers, with more autonomous municipalities spending some of their own resources in this field, building apartments for the poor or funding meals for school children. Nevertheless, most social expenditures are financed by transfers from the central government. Finally, the effect of transfers on health expenditures is negligible, since health is mostly within responsibility of counties, not municipalities.

We propose additional robustness checks for our results. In the first check which at the same time allows us to further analyze expenditure behavior outside of election periods we created a set of artificial elections in the years 2004, 2008 and 2012, therefore exactly in the middle of the electoral period. In the second check, which is the main falsification test, we have created a random indicator variable which for each municipality produces a randomly located electoral cycle. Results present in Table 7 in the Appendix show that in the years 2004, 2008 and 2012, thus in the middle of the period in office of the mayors, the expenditure drops even further. The evidence can be summarized as follows: we observe a sharp increase in the expenditure one year before and in the election year followed by a sharp drop one and two years after the election.

As an additional robustness check we propose a falsification test. Table 8 in the Appendix presents the results. Coefficients of the variables identified in the literature as having impact on local expenditure keep their signs and significance, whereas the false electoral cycle does not have any impact on the level of expenditure. These results further suggest that the existence of electoral cycles in our data is not a mere coincidence.

5. Conclusions

This work looked at the effects of fiscal autonomy on the political budget cycle. We found that higher levels of central funding of municipalities is associated with a stronger budget

Figure 7: Marginal effects – One year before the election

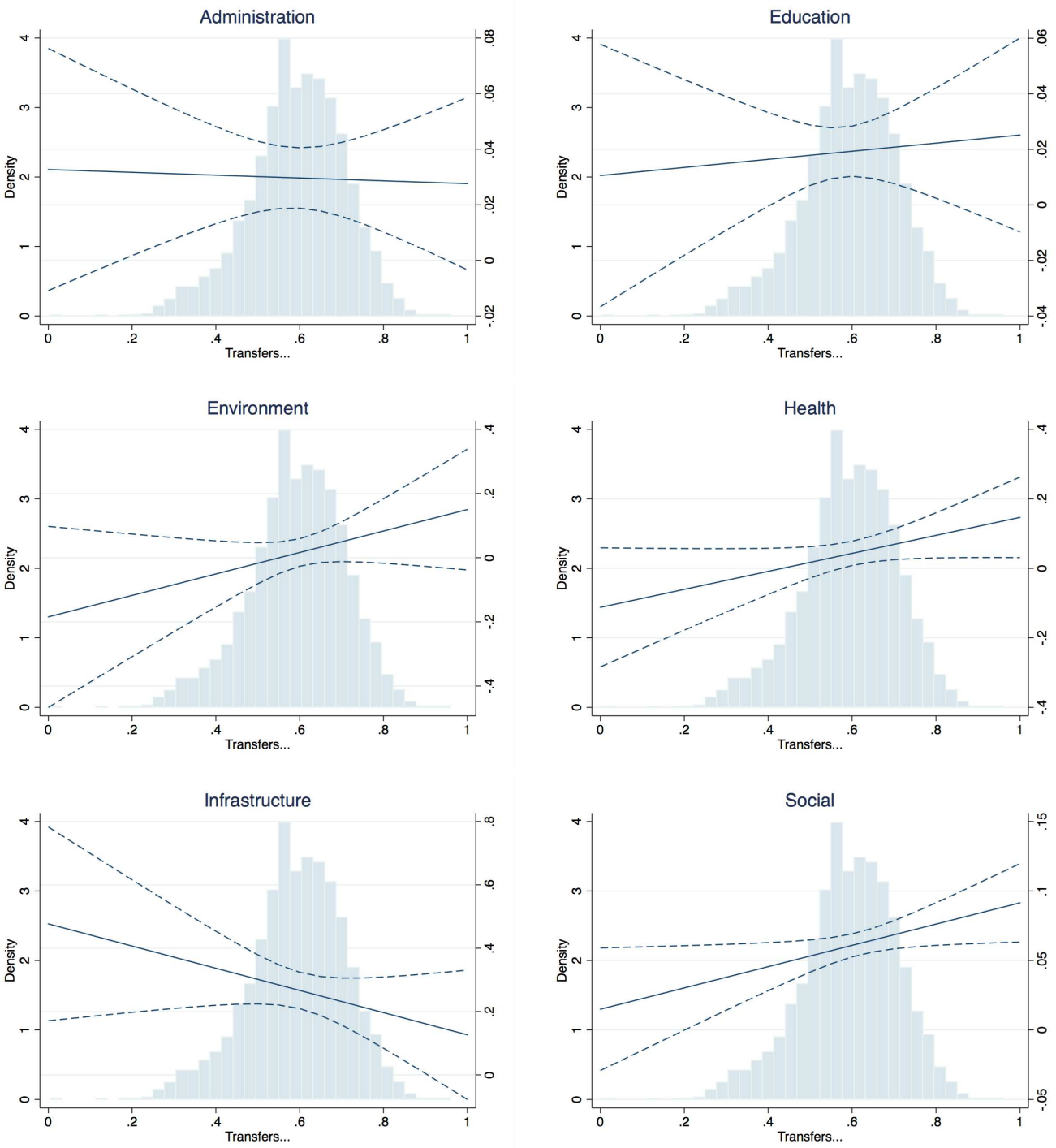


Figure 8: Marginal effects – Election year

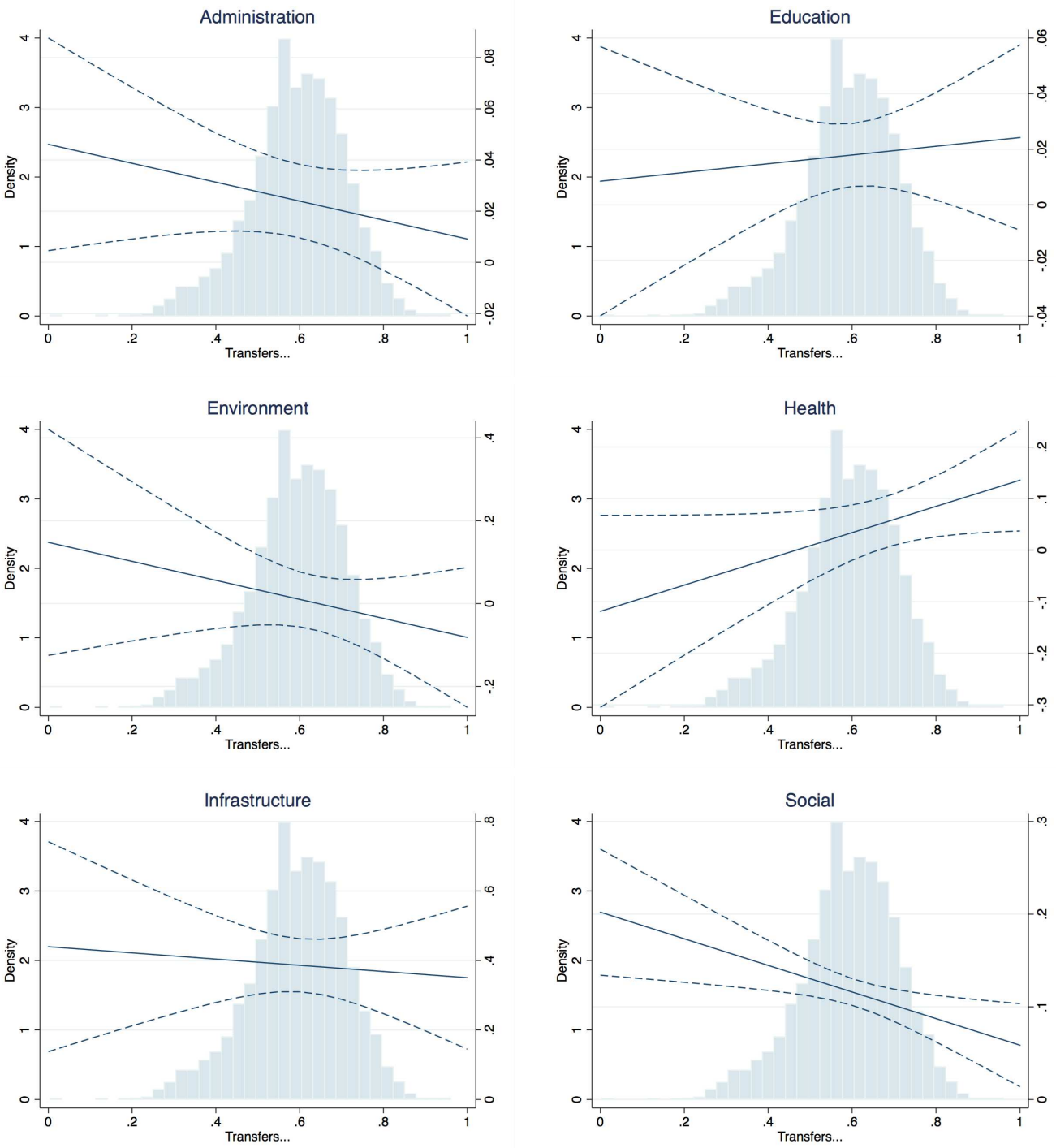
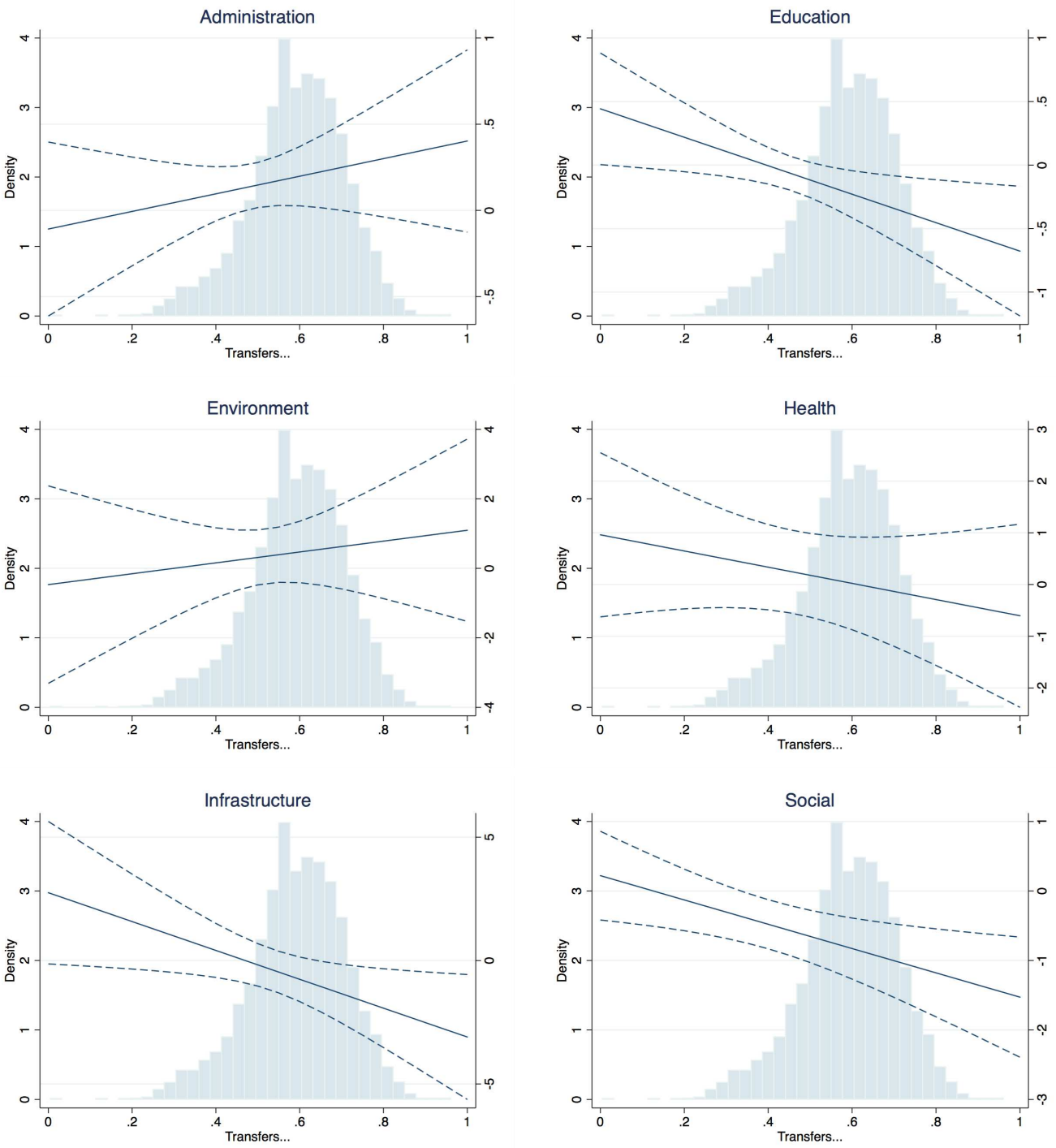


Figure 9: Transfers and Expenditure Categories



cycle. This findings add to the discussion of the effects of fiscal autonomy on government size. Not only fiscal decentralization may reduce the size of the government, but also makes it less likely for politicians to affect the budgets in election periods. This is an important argument, which additionally shows that fiscal autonomy can lead to more efficient use of public resources. Moreover, we find that in the Polish institutional set–up, higher dependence of central funding is not associated with lower expenditure in the municipalities. This finding is linked to the fact, that the main source of funding other than transfers is property management. Instead of involving in tax competition, Polish muncipalities involve in competition in quality, by increasing provision of local services above the minimum provision standards. This is hypothesised to lead to an increase in the attractiveness of the municipalities and in turn positively affect the value of public property and decrease dependence on central funding. Within this study we cannot test the latter hypothesis directly, but this interesting empirical observation will be pursued in future research.

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Appendix

Table 6: Summary statistics

	No. of Obs.	Mean	SD	Min	Max
Total Expenditure	3664	2622.513	1334.261	972.05	42739.14
Health	3664	31.4697	44.07571	1.195099	1530.459
Education	3664	859.233	322.0114	282.1004	3013.129
Administration	3664	254.578	143.7223	91.48753	2620.752
Infrastructure	3664	281.7521	356.2384	0	7763.141
Social	3053	453.9098	158.3657	108.5428	3174.461
Environment	3664	250.0596	426.7444	17.19618	14178.99
PIT Revenue	3664	.2003997	.0692873	.0068974	.5842756
Public Debt	3058	786.8987	617.2475	0	4610.336
Transfers	3664	.5937042	.1135899	.0048334	.9598033
Unemployment	3359	.0997827	.042939	.01	.32
Pop Density	3664	1238.809	774.9065	12	4256
Pop Size	3664	61793.62	134446.1	1318	1724404
Pop Under 18	3664	.1920223	.0258299	.1199905	.2842254
Pop Over 65	3664	.1593297	.0280393	.0642798	.2753344
Turnout	3666	.4406257	.0825475	.2027434	.7239465

Table 7: Behavior of expenditure in years 2004, 2008 and 2012

	(1) Sys GMM	(2) FE
L.Expenditure	0.37***	
	(11.25)	
L2.Expenditure	0.05**	
	(2.81)	
Revenue	0.74***	0.83***
	(33.19)	(24.37)
Lagged Revenue	-0.12***	0.15***
	(-3.67)	(5.48)
Public Debt	0.00***	0.00***
	(18.79)	(9.71)
Transfers	-0.33***	-0.16**
	(-5.91)	(-2.79)
PIT Revenue	0.00	-0.00
	(1.69)	(-1.68)
1 Year Before	-0.07***	-0.07***
	(-13.06)	(-14.84)
Election Year	-0.02***	-0.06***
	(-3.97)	(-11.94)
1 Year After	0.01*	-0.03***
	(2.34)	(-6.15)
Crisis	0.05***	0.07***
	(5.29)	(9.05)
Pop Density	0.00	0.00
	(1.36)	(1.45)
Pop Under 18	-0.18	-0.42
	(-0.31)	(-1.31)
Pop Over 65	-3.22***	-1.23**
	(-5.39)	(-3.22)
Unemployment	-0.54**	0.27*
	(-3.17)	(2.19)
Turnout	0.07	0.05
	(0.76)	(0.86)
Education Level	-0.01	0.00
	(-0.53)	(0.28)
Incumbent	-0.00	-0.00
	(-0.20)	(-0.26)
PO	-0.00	0.01
	(-0.02)	(1.43)
PiS	0.02	0.00
	(1.27)	(0.53)
SLD	-0.02	0.00
	(-1.44)	(0.45)
PSL	0.03	0.01
	(0.93)	(0.42)
Const.	0.37	0.50*
	(1.20)	(2.17)
N	3052	3052

Table 8: Falsification Test – Random Elections

	(1) Sys GMM	(2) FE
L.Expenditure	0.24***	
	(8.10)	
L2.Expenditure	-0.02	
	(-1.33)	
Revenue	0.73***	0.85***
	(33.91)	(24.78)
Lagged Revenue	-0.00	0.15***
	(-0.14)	(5.88)
Public Debt	0.00***	0.00***
	(17.34)	(9.03)
Transfers	-0.36***	-0.24***
	(-6.67)	(-4.07)
PIT Revenue	0.00	-0.00**
	(0.07)	(-3.02)
1 Year Before	0.00	-0.00
	(0.06)	(-0.47)
Election Year	0.01	0.00
	(0.76)	(0.78)
1 Year After	-0.01	-0.00
	(-0.88)	(-0.19)
Crisis	-0.00	0.01
	(-0.03)	(1.51)
Pop Density	0.00	0.00
	(0.39)	(1.03)
Pop Under 18	-0.14	-0.86**
	(-0.26)	(-2.80)
Pop Over 65	-5.98***	-2.05***
	(-11.56)	(-5.28)
Unemployment	-0.31*	0.03
	(-1.97)	(0.27)
Turnout	-0.10	0.10
	(-1.20)	(1.91)
Education Level	-0.01	0.00
	(-0.78)	(0.26)
Incumbent	-0.01	0.01
	(-0.99)	(1.32)
PO	-0.01	0.01
	(-0.76)	(1.88)
PiS	0.01	0.01
	(0.97)	(0.78)
SLD	-0.02	0.00
	(-1.20)	(0.39)
PSL	0.04	0.01
	(1.12)	(0.43)
Const.	1.48***	0.48*
	(5.22)	(2.16)
N	3052	3052