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Electoral System on Local and Central
Government Behaviour**

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Runoff vs. Plurality. The Effects of the Electoral System on Local and Central Government Behaviour

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Abstract

Plurality and runoff systems offer very different incentives to parties and coalition of voters, and demand different political strategies from potential candidates and chief executives. Italian mayors and city councils are elected with a different electoral system according to the locality's population, while municipalities are otherwise treated identically in terms of funding and powers. We exploit this institutional feature to test how the presence of different electoral systems affects the central government decisions on grants, and the local government decisions on local taxes. We find evidence that the upper-tier governments favour runoff-elected mayors, and that runoff-elected mayors levy lower taxes. This is broadly consistent with the literature on runoff and plurality rule electoral systems.

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1 Introduction

It is well known that electoral systems have a strong impact on the behaviour of voters, politicians and parties. For instance, proportional representation and parliamentary systems have been shown to generate higher level of public spending than majoritarian and presidential systems (Persson and Tabellini (2005), Milesi-Ferretti et al. (2002)), or that plurality rule tends to go together with two-party systems (Duverger’s Law). Economic literature also explored extensively the political economy of intergovernmental grants, focusing in particular on how the central government favours localities according to the political alignment or the electoral allegiance of the jurisdiction.

The present paper wants to connect these two strands of literature. Firstly, we explore the central government’s behaviour in deciding intergovernmental grants to municipalities, and how its decision is affected by the mayoral electoral law. Secondly, we investigate whether the way in which a mayor is elected affects his or her behaviour focusing on taxation decisions. This issue is particularly relevant, considering how it is not only an Italian peculiarity that local authorities are subject to heterogeneous sets of regulations within the same country and the same tier. The most evident example is the United Kingdom, in which some cities directly elect their mayors, while most of them only elect councils, and institutions vary across the four nations composing the United Kingdom (England, Scotland, Wales and Northern Ireland).

We perform a comprehensive analysis of the balance sheets of Italian municipalities, exploiting a particular institutional feature. Italian mayors are elected with a different electoral system according to the population of their jurisdiction. Mayors of smaller municipalities (below 15,000 inhabitants) are elected through a first-past-the-post electoral system, while mayors of larger municipalities (above 15,000 inhabitants) are elected through a runoff electoral system. By runoff it is meant a two-stage electoral system in which the winner is chosen through first defining a subset of candidates—usually two—out of which the winner is then selected. In particular, in those Italian municipalities is in use a system similar to the one used in French Presidential elections, through which if no candidate obtains an absolute majority of votes, then voters are called a second time to the polls to choose between the winner and the runner up of the first round.

This sharp institutional change allows us to use a regression-discontinuity design (RDD), which exploits the exogenous variation which occurs in a neighbourhood of the threshold. We can say that for municipalities whose population is close to the 15,000-inhabitant threshold the electoral system is assigned almost randomly. This in turn allows us to establish a causal link between our findings in terms of grants, taxation and the electoral system itself.

Our analysis confirms a strong and significant effect of the electoral system in terms of intergovernmental grants, and tax revenues. The central government favours municipalities which are politically aligned assigning them larger grants, but only as long as their electoral system is runoff. Simultaneously, those municipalities are able to lower their taxes.

Runoff electoral systems have received relatively little attention in the literature, with most of the works focusing on the effect of electoral systems on candidacies and policies. For example Osborne and Slivinski (1996) prove that with ideologically

motivated candidates and sincere voting, policy platforms are generally more dispersed under plurality, and the number of active candidates is larger under runoff. Bordignon et al. (2011) as well reached a similar conclusion with regard to the equilibrium policies and number of candidates, and also remark how runoff systems elicit more “centrist” policy platforms, limiting the influence of extremist voters. Finally, Myerson (1999) reviews (almost) all electoral systems and the strategic incentives they offer to potential candidates and parties, but does not look into the effects of runoff.

Empirical works have instead found contradictory results with respect to the number of candidates: according to Callander (1999) plurality elections tend to see more candidates running, while according to some other papers (Wright and Riker (1989), Cox and Neto (1997), Chamon et al. (2008) and again Bordignon et al. (2011)) more candidates are observed in runoff elections. Fujiwara (2011) instead finds empirical evidence that voters are more likely to concentrate their choices on the two top candidates in plurality as opposed to runoff elections, where strategic voting is therefore more limited.

Using a very similar—albeit “shorter”—dataset to ours, Barone and de Blasio (2011) finds that municipalities with runoff electoral system see higher percentages of turnout in local and general elections, and show a larger dispersion of expenditures across items (as defined by accounting regulations), which the authors link to a better capacity to represent voters’ preferences.

From the public finance perspective, Chamon et al. (2008) explore the effects of the electoral system on mayors’ decision on investment expenditures. They find that among Brazilian mayors, those elected through a runoff electoral system have higher investment and education spending. Their explanation relies on the fact that the runoff electoral system, also because of the larger number of candidates, is considered to be more open to political competition and therefore better able to foster the selection of the best candidate.

These very results are not confirmed by our own analysis, which used a larger dataset and panel data techniques. Another paper that analyses this issue through an Italian dataset is Rizzo and Zanardi (2010), which found in a contribution that pre-dates ours, that runoff-elected mayors are more likely to reduce taxes (especially if they are seeking re-election), and spend more in road maintenance.

The link between central and local government’s behaviour under different electoral system is analyzed by Egger and Koethenbueger (2010), who establish that municipalities characterized by proportional representation are less responsive in terms of tax and spending behaviour to central government’s decisions on grants.

Other papers explore instead the link between the size of government (e.g. the number of legislators/councillors) and spending, as expressed in the seminal paper Weingast et al. (1981). Among others, Egger et al. (2010) finds evidence from Bavarian municipalities that indeed larger councils induce higher per-capita spending, leveraging on our same regression-discontinuity technique in order to establish a robust causal link between the institutional setup and the government behaviour.

Our paper also relates to the fiscal federalism and political economy literature on intergovernmental grants. On the theory of local public finance Oates (1972), Tiebout (1956), Musgrave (1959), Grossman (1994), Lockwood (2002) are the main works that explore the rationale of devolving to local authorities monies, tasks, and

the powers to impose taxes. Dixit and Londregan (1998a, 1998b), Lindbeck and Weibull (1987, 1993) looked into whether the central government favors localities which are either solidly aligned, or electorally more balanced, and found evidence in favor of the latter. Cox and McCubbins (1986) found instead that solidly partisan localities aligned with the central government are bound to receive more funds.

There is also a very large empirical literature on the effects of political alignment between central and local politicians on intergovernmental grants: a non-exhaustive list includes Levitt and Snyder (1995), Worthington and Dollery (1998), Johansson (1999), Case (2001), Porto and Sanguinetti (2001), Rodden and Wilkinson (2004) (who also analyze the different behavior with respect to grants of coalition as opposed to single-party governments), Solé-Ollé and Sorribas-Navarro (2006), Arulamalam et al. (2008). These papers generally highlighted a positive and significant alignment effect.

On a similar topic, Bracco et al. (2012) found that aligned and marginally elected mayors tend to receive more federal grants, and consequently lower the level of taxation in their jurisdiction, increasing in this way their chances of victory. Their analysis is restricted to Italian municipalities whose mayors are elected with runoff electoral system. The present work extends their analysis also to smaller municipalities with plurality-elected mayors.

More generally, our work relates as well with the wider political economy literature on the effect of institutions—and electoral systems in particular—on the behavior of politicians. Among these we cite Lancaster (1986), Persson and Tabellini (1999), Lizzeri and Persico (2001), and Milesi-Ferretti et al. (2002) on the difference between proportional representation systems and majoritarian systems, Myerson (1992) on the influence of minorities under different electoral systems (which doesn't take into account the runoff system, though), and Myerson (1991) on the effects on corruption. Finally, Gagliarducci et al. (2008) explore the different incentives that different electoral systems pose on legislators' behavior.

This paper is organized as follows: Section 2 describes the Italian institutional setup, Section 3 describes the data, Section 4 the empirical strategy, and Section 5 goes through the empirical results and concludes.

2 Institutional Background

The Italian political system is mostly famous for its instability and the large number of parties. Nevertheless, since the mid-Nineties in most of elections at every level of government, two blocks of parties (i.e. pre-electoral coalitions) have been challenging each other. Both at the central and at the local level the coalitions are formed before the elections, so that voters can identify the two main contender for the governing position, be it the prime-ministerial or mayoral seat. This allows us to cluster almost all of the many parties into two categories (centre-left and centre-right) and define political alignment according to a binary (left-right/aligned-unaligned) variable.

From the public finance perspective, the Italian municipal financing is the result of successive sedimentation of reforms, some of which were swiftly scrapped as the central government changed hands. As a result, the overall picture is generally patchy and cannot be easily described in a systematic way (see Brugnoli (2011) for a precise account of its historical dynamics). Each year through the Budget

Bill the central government decides the grants to be transferred to municipalities with no reference to any formula or binding guideline. On the one hand, this suggests the possibility of large discretionary funds being allocated to municipalities. On the other hand this system is very rigidly linked to the so-called “historical expenditures” of municipalities, and to very many laws that regulate single aspects of public good provision and welfare policies. Moreover, most local government outlays are determined by past behaviors, with strong path-dependence in the levels of expenditure, and in the grants awarded yearly.

About 40% of municipalities’ revenues come from upper-tier block grants, the vast majority of which is from the central government. Roughly the same amount of revenues is raised through taxes. A large share of tax revenues comes from a property tax (ICI) based on the land-registry value of properties, and on which municipalities can decide the tax rate. Municipalities also receive shares of personal income tax, and can apply a limited surtax on the personal income tax rate. They also charge fees and duties for a number of services, like the issuance of vital record certificates, public billboards, planning permissions, rubbish collection.

Municipalities are run by directly elected mayors together with their city council. The balance of power is strongly tipped in favour of mayors, whose resignation triggers the disbandment of the council and the call for new mayoral and council elections. The electoral system is such that in the vast majority of cases mayors have a solid majority in the council, and therefore have limited necessity to bargain policies with it.

As already mentioned in the introduction, mayors and city councils are elected through different electoral system according to the population of the municipalities. Municipalities over 15,000 inhabitants (from now on, larger municipalities) elected their mayors through a runoff electoral system, while municipalities with less than 15,000 inhabitants use a first-past-the post system. The city council is elected through a proportional representation system with open lists. Each list is visibly and transparently linked to one of the mayoral candidates. In smaller municipalities each mayoral candidate is linked with a single city-council list, while in larger ones each mayoral candidate can be linked with a coalition of city-council lists. The electoral mechanism is such that the list(s) linked with the winning mayors are (generally) to be awarded a majority of seats in the council. This implies that the incentives in terms of coalition formation are quite different: in smaller municipalities, parties are pushed to “merge” into one city-council list if they want to jointly field a single mayoral candidate, while in larger ones parties wishing to jointly field a single mayoral candidate can do that also running separately for the city council elections (albeit all visibly “linked” with their mayoral candidate). On the other hand, as pointed out by Bordignon et al. (2011), in runoff elections coalitions need not to be as wide as in a first-past-the-post, and extremist parties are less pivotal. As a consequence, in larger municipalities there is a wider array of parties represented in the council, and also a larger number of mayoral candidates running.

Full details on the institutional and financial regulation of Italian municipalities are included in the Appendix.

3 The Data

We analyze data from the balance sheets (*Conti Consuntivi*) and “Entitlement Grants” (*Spettanze*) of Italian municipalities in ordinary-statute regions,¹ for the period 1998–2008. Intergovernmental grants are observed twice, once in the municipalities’ balance sheets, and a second time in the central-government accounts that go under the name of Entitlements (*Spettanze*). The figures from these two sources do not perfectly match, and the latter is likely to track more faithfully central government decisions on grants to municipalities. The discrepancies may derive from the fact that the central government transfers funds to municipalities for a large array of reasons (e.g. to compensate municipalities for the extra-cost of a new civil service pay deal, to deal with natural disasters), which go beyond the amount included in the Entitlements accounts, and that affect the balance-sheet figures. Secondly, the differences in central government decision, accounting rules applied at the local level, and accrual of funds to municipalities may be responsible of further discrepancies.

The yearly budgets include a large array of data on revenues (grants from any upper tier of government, property tax, income surtax, tariffs and fees) and expenditure (social, culture, sports...). All the data related to local public finance are collected and published by the Interior Ministry. For our analysis—on the revenue side—we will focus on a limited number of entries: total central-government grants (from both the balance sheets and the Entitlement accounts), and total fiscal revenues.

We then use a series of political and demographic controls. These include data on the Lower House general elections in 1996, 2001 (proportional representation ballot paper), and 2006, at the municipality level, and aggregated the party votes into two blocks corresponding to the center-left and center-right parties.² From the Interior Ministry database of local-authority elected officers we obtained data on each mayor, including party affiliation and year of election, and also political affiliation of upper tiers of government. This allows us to build a political alignment dummy, which takes value 1 when the mayor and the prime minister are from the same political coalition at the time when financial decision are taken (i.e. the end of the calendar and fiscal year). We also include a dummy for left-wing mayors, and for the local electoral cycle.

In the three general elections which are relevant for our analysis (1996, 2001 and 2006), each time the incumbent coalition lost. Moreover local elections in Italy happen every year, as in case a mayor resigns or dies elections are called straight away. This implies that we have a good amount of variation both in terms of time series and cross-section in the alignment dummy and in the political allegiance of

¹Five out of the twenty Italian regions enjoy particular forms of autonomy for historical or geographical reasons. These are Valle d’Aosta, Trentino-Alto Adige, Friuli-Venezia Giulia, Sardinia and Sicily. As different public finance rules apply to them, we decided to exclude them from the analysis.

²The lists which are considered right-wing are: Alleanza Nazionale, Popolo della libertà, Lega Nord, CCD-CDU, Fiamma Tricolore, Forza Italia, Nuovo PSI, Partito Repubblicano Italiano, UDC, Nuova Democrazia Cristiana, Alternativa Sociale. Left-wing lists are: Comunisti Italiani, Il Girasole, La Margherita, Democratici, Partito Democratico, Lista Di Pietro, Rifondazione Comunista, Verdi, Repubblicani Europei, Democratici di Sinistra, UDEUR, SVP. For the 1996 and 2001 general elections the municipality-level results from the proportional-representation Lower House ballot paper are used.

municipalities.

From the National Statistical Office (ISTAT) we obtained demographic data at the municipality level: in particular the resident population, the share of children (under 6), and elderly (over 65 years old) both from the censuses held in 1991 and 2001, and from the “inter-census reconstruction,” tracking these figures yearly. To record the income level in each municipalities, we sourced Treasury data on the personal income tax base at the municipality level. Each monetary figure has been deflated taking 2008 as a year of reference, and converted in Euros when necessary.

A thorough description of the data and its sources is relegated to the Data Appendix. Summary statistics are reported in Table 4.

4 Empirical Strategy

We use a Regression Discontinuity Design (RDD) around the 15,000-inhabitant threshold. The likelihood that a municipality has a population just above or just below the threshold is understood to be random, and helps us to overcome the presence of confounding and unobservable factors that affect both the central government decision on grants and the local governments’ decision on taxes. The electoral system varies sharply across the given population threshold, and allows us to treat this situation as a quasi-experimental setting.

Following this approach, we compare municipalities which are just above the population threshold (and therefore use a runoff electoral system), with municipalities who are just below that threshold (and therefore use a first-past-the-post electoral system).

Among the various possibilities of implementation of the RDD design (see Lee and Lemieux (2010) for a survey), we decided to take a parametric approach and include among the regressors a n-th degree polynomial of the forcing variable, interacted with the treatment. For completeness and robustness, the results obtained through a non-parametric approach with varying optimal bandwidth and rectangular kernel are also included.

With a dataset stretching for a 11-year period, a panel data approach seems the most appropriate. The basic econometric specification is therefore the following:

$$y_{it} = \alpha + \beta \text{runoff}_{it} + \sum_{j=1}^n \left[\gamma_j \text{census}_{it}^j + \lambda_j \text{runoff}_{it}^j \cdot \text{census}_{it} \right] + \delta' X_{it} + \mu_t + \phi_i + \epsilon_{it} \quad (1)$$

where the dummy variable runoff_{it} takes the value 1 when the incumbent mayor has been elected through a runoff election, i.e. when the latest available census figure at the time of his or her election was over 15,000 inhabitants, the *census* variable contains the census population figure (in thousands) at the time of the most recent municipal elections for that specific municipality. As is standard in the literature, this variable has also been re-scaled so that it takes the value 0 in correspondence with the 15,000-inhabitant cut-off. The terms in the square brackets are a n-th degree polynomial of the forcing variable (*census*) also interacted with the treatment variable (*runoff*).

We then have the above mentioned demographic, political and economic controls (X_{it}), year fixed effects, and the usual error term ϵ_{it} . The regressions will be

performed first intending the term ϕ_i as municipality fixed effects, as suggested by the Hausman test. For robustness and completeness the results obtained using a random-effect model are also reported.

As we are interested in seeing the effects of the electoral system, our focus will be on the sign, magnitude and significance of the coefficient β .

The political controls include an alignment dummy, which takes the value 1 when mayor and Prime Minister belong to the same political coalition (which will also be interacted with the electoral system dummy), a “swing” constituency dummy, which takes the value 1 when the electoral allegiance of the municipality is not strongly leaning to either side, and variables that take into account the local and central political cycle (see the Data Appendix for the details). The (per-capita) personal income tax base is included as well. The demographic controls instead include the composition of the population (children under 6 years old and elderly people over 65) from the yearly inter-census reconstructions.

Previous literature (Chamon et al. (2008), Bordignon et al. (2011)) points out that runoff is a more competitive electoral system than simple plurality, which should insure a better selection of the political class. Moreover Barone and de Blasio (2011) found that runoff municipalities show stronger political participation. Qualitative analysis of the political allegiance of mayors across the 15,000-inhabitant threshold—in the data Appendix—also points out that in larger municipalities politics are more likely to be dominated by national parties, as opposed to local voters’ associations.

All these factors make us believe that there are good reasons for the central government to favour runoff-elected mayors when deciding the grant distribution. More generally, these difference are likely to elicit differences in terms of taxation behaviour.

5 Results and Concluding Remarks

For the sake of synthesis and clarity we include only the results for the coefficient of interest, i.e. the electoral-system dummy *runoff*, which takes value 1 when the incumbent mayor has been elected through a runoff electoral system. We include the results for various specifications of the polynomial (from the first to the seventh degree), with or without the additional controls. Robust standard errors clustered at the municipal level are used in all the results shown. The robustness checks are relegated to the Appendix.

As we can see in Table 5, there is a strong effect of the electoral system on fiscal revenues: mayors elected through runoff charge up to 35 Euros per capita less than their colleagues elected through plurality rule. On the other hand, the the electoral system does not show any statistically significant and robust effect on central-government grants, whether we consider the balance sheet or the Entitlement figures.

In Table 6 we analyze the same figures, but interacting the electoral system dummy with the political alignment between mayor and Prime Minister. From this table, which again reports only the coefficients of interest, we have evidence that the central government takes into account the electoral system of municipalities when deciding grants.

In particular, we can see that the central government favours municipalities which are simultaneously politically aligned and characterized by a runoff electoral system granting them around 8 extra Euros per capita (first column, middle panel of Table 6). No effect is instead found for municipalities which are politically aligned, but have mayors elected with plurality rule (last column, middle panel). This underlines the fact that the central government seem to consider only larger municipalities as politically relevant and worth a “differential treatment”. This result is particularly evident when considering the Entitlement figures, which track more closely the central government decisions. The results are very robust across specifications; nevertheless, we provide the details of the Akaike’s information criteria (see Table 7 and 8), useful to understand which is the most efficient model, and to choose the most reliable point estimate.

From the last panel of Tables 5-6 we can also see that runoff-elected mayors are able to ask their citizens substantially less taxes: up to 36 Euros per capita, independently of the specification, and of the interaction with the alignment dummy. This may partially be due to the substitution between grants and taxes as found by Bracco et al. (2012), and partially by the fact that runoff insures a better selection of politicians, as stated in Chamon et al. (2008).

In synthesis, we find robust evidence that the difference in institutional setup, namely caused by a different electoral system, elicits a number of differences in municipalities. First of all, the central government ignores municipalities below the threshold, and instead rewards the ones above the threshold (and run by runoff-elected mayors) rewarding them on average 8 extra Euros per capita, conditional on the municipality being politically aligned with the central government. At the same time, there is evidence that runoff-elected mayors decrease taxes. These findings shed additional light on the well-known effect of institution into public finance dynamics. Legislators should therefore consider carefully when designing differential institutional solutions for similar jurisdictions, as these are likely to generate possibly unintended discrepancies in terms of public good provision and more generally in terms of voters’ welfare.

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Table 1: Partisan and Non-Partisan Mayors by Electoral System in Municipalities with 10-20 thousand inhabitants

	First-past-the post	Runoff
Party-linked mayors	63%	89%
Independent mayors	37%	11%

Source: Italian Interior Ministry. Municipalities within the population interval [10,000-20,000]. Incumbent mayors in years 1998-2008.

Table 2: Municipalities by electoral system and year

year	Single Ballot	Dual Ballot	Total
1998	6,158	562	6,720
1999	6,154	562	6,715
2000	6,153	562	6,715
2001	6,154	562	6,715
2002	6,149	565	6,714
2003	6,149	562	6,715
2004	6,141	574	6,715
2005	6,143	572	6,715
2006	6,138	577	6,715
2007	6,131	584	6,715
2008	6,136	584	6,720
Total	67,606	6,268	73,874

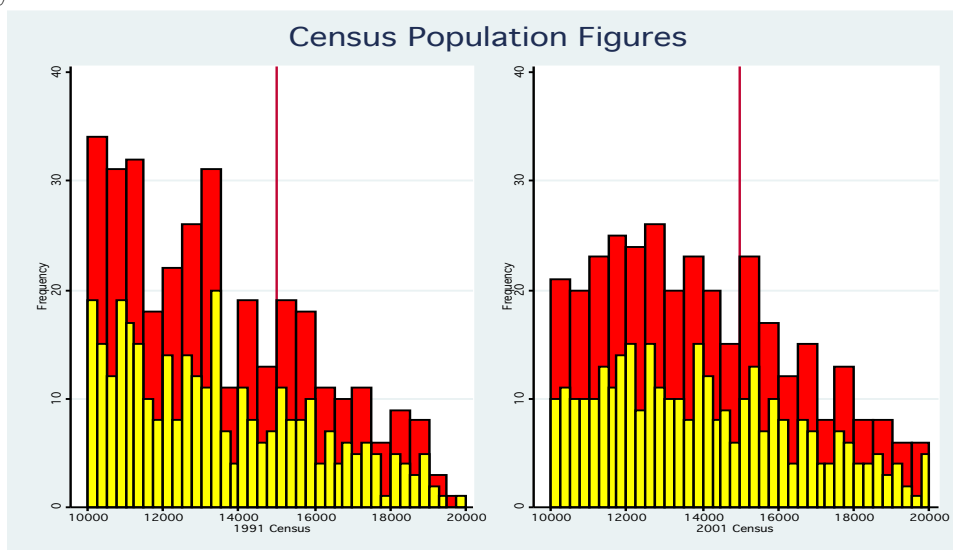
Source: Italian Interior Ministry. Municipalities in ordinary-statute regions

Table 3: Municipalities changing electoral system, by election year after the 2001 Census

year	to plurality	to runoff
2003	1	5
2004	0	10
2005	1	0
2006	2	4
2007	1	11
Total	5	30

Source: Italian Interior Ministry. Only Ordinary-Statute regions.

Figure 1: Municipalities by population and by Census (1991 on the left, 2001 on the right)), year 2003. For bin sizes 250 and 500.



Institutional Background

Mayoral Electoral Systems and Polity

Italy is divided in 20 regions, more than a hundred counties (*province*), and over 8,000 municipalities (*comuni*), many of which are very small,³. Municipalities provide basic public goods like primary schools, nurseries, public transport, and basic social services. Mayors are very visible and important figures from the electorate’s perspective: municipalities are perceived as the closest and most practically useful political institution, and this is mirrored by the very high turnout at municipal elections; second only to the general elections’ turnout.⁴

³Only around a hundred of them have more than 50,000 inhabitants, while almost 6,000 municipalities have less than 5,000 inhabitants.

⁴For example, in 2009 the European Parliament elections took place; in some municipalities also mayors and city council were elected at the same time. Voters’ turnout has been 66.47% where only European elections were held, and 76.69% in municipalities where also municipal elections were held. In

Table 4: Summary Statistics.

Variable		Source	mean	sd	min	max
StateGrants	balance-sheet grants	MI	119.8955	99.16257	0	1164.54
Entitlements	Entitlement grants	MI	80.07825	83.19578	-9.63E-07	1190.354
FiscalRev	tax revenues	MI	444.0469	186.0161	0.154622	3376.671
CurrXP	Current expenditure	MI	737.0518	246.2049	0.563505	3446.381
GenExp	General exp.	MI	241.3111	67.84368	0	857.9855
JustExp	Justice exp.	MI	1.968083	5.936636	0	147.7768
LocalPolice	Local-police exp.	MI	37.43488	18.57008	0	380.7143
EducExp	Education exp.	MI	79.40656	34.58797	0	441.1037
CultureExp	Culture exp.	MI	23.13919	18.27171	0	175.2742
Housing	Housing exp.	MI	150.6074	93.01034	0	1999.851
SportExp	Sports exp.	MI	13.70063	12.31781	0	395.4654
TourismExp	Tourism exp.	MI	4.938291	15.04184	0	575.3424
TrafficExp	Traffic exp.	MI	53.05811	29.62263	0	516.7605
SocialExp	Social exp.	MI	23.96335	48.3717	0	1016.297
Econo	Business services exp.	MI	28.05103	77.36395	0	1299.69
runoff	=1 if mayor has been elected with runoff el.sys.	MI	0.103585	0.304737	0	1
census	Census population at the time of latest election, normalized (- 15,000)	ISTAT	20303.69	78891.11	5005	2775250
align	=1 if mayor and Prime Minister belong to the same coalition	MI	0.257295	0.437166	0	1
swing	=1 if % votes to left parties in the latest general election is between 45% and 55%	MI	0.227282	0.419098	0	1
ciclo_mayor	Number of years to next mayoral election	MI	2.08045	1.466595	1	5
left_mayor	=1 if mayor is left-wing	MI	0.43664	0.495995	0	1
density	Population/hectar	ISTAT	672.6556	1040.744	18.47382	13289.38
child	% of population <14 yrs old	ISTAT	0.143393	0.024554	0.081628	0.260855
elderly	% of population >65 yrs old	ISTAT	0.187192	0.041615	0.057666	0.332769
incomepp	Income-tax base per capita	MF	17440.14	3549.543	7264.057	51073.13
All monetary figures are in 2008 constant Euros, per capita. MI= Interior Ministry. MF=Finance Ministry. ISTAT= National Statistical Office.						

Table 5: Effect of Electoral System on Revenues.

Polynomial	Controls	Balance-Sheet Grants		Entitlements Grants		Fiscal Revenues	
		β	s.d.	β	s.d.	β	s.d.
1st	N	4.012	(4.737)	4.819	(4.004)	-15.046	(11.967)
2nd	N	3.067	(5.272)	6.268	(4.333)	-34.321***	(11.913)
3rd	N	3.104	(5.276)	6.508	(4.335)	-32.607***	(11.950)
4th	N	3.512	(5.275)	6.781	(4.336)	-31.143***	(12.002)
5th	N	3.844	(5.275)	7.288*	(4.338)	-29.831**	(12.057)
6th	N	4.101	(5.278)	7.382*	(4.343)	-29.017**	(12.083)
7th	N	3.991	(5.292)	6.984	(4.357)	-27.228**	(12.128)
1st	Y	6.200	(4.933)	6.372	(4.388)	-15.616	(12.188)
2nd	Y	7.593	(5.456)	7.877*	(4.735)	-36.329***	(11.998)
3rd	Y	7.647	(5.459)	8.109*	(4.740)	-34.480***	(12.047)
4th	Y	8.178	(5.458)	8.394*	(4.743)	-32.749***	(12.124)
5th	Y	8.508	(5.458)	8.878*	(4.748)	-31.130**	(12.218)
6th	Y	8.909	(5.459)	9.138*	(4.753)	-30.029**	(12.256)
7th	Y	8.974	(5.475)	8.899*	(4.769)	-27.315**	(12.341)
Observations		16826		14573		18408	
Municipalities		1911		1806		1952	
R-squared		0.249		0.095		0.005	
Year fixed effects		Y		Y		Y	

** $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Robust standard errors in parenthesis. Parametric Fixed-effect model with errors clustered at the municipality level. Reported are solely the figures for the runoff-dummy coefficient for different specifications. Average number of observations, municipalities and overall r -squared across specifications reported at the bottom of each column.

Table 6: Effect of Electoral System and Political Alignment on Revenues.

Balance-Sheet Grants							
Polynomial	Controls	Runoff*Align		Runoff*(1-Align)		(1-Runoff)*Align	
		β	s.d.	β	s.d.	β	s.d.
1st	N	8.702*	(5.104)	1.727	(4.987)	-1.664	(1.190)
2nd	N	7.349	(5.611)	0.369	(5.505)	-1.662	(1.190)
3rd	N	7.770	(5.607)	0.749	(5.512)	-1.648	(1.190)
4th	N	7.997	(5.611)	0.980	(5.514)	-1.637	(1.190)
5th	N	8.412	(5.610)	1.454	(5.518)	-1.611	(1.190)
6th	N	8.634	(5.617)	1.676	(5.522)	-1.603	(1.190)
7th	N	8.520	(5.641)	1.569	(5.536)	-1.606	(1.190)
1st	Y	8.386	(5.140)	1.715	(5.003)	-1.725	(1.317)
2nd	Y	8.858	(5.651)	2.190	(5.529)	-1.726	(1.317)
3rd	Y	9.347*	(5.649)	2.644	(5.539)	-1.721	(1.316)
4th	Y	9.652*	(5.654)	2.965	(5.543)	-1.724	(1.316)
5th	Y	10.114*	(5.656)	3.521	(5.550)	-1.728	(1.316)
6th	Y	10.468*	(5.663)	3.889	(5.555)	-1.730	(1.316)
7th	Y	10.620*	(5.689)	4.036	(5.570)	-1.731	(1.316)
Observations				17316			
Municipalities				1918			
R-squared				0.236			
Year fixed effects				Y			
Entitlement Grants							
1st	N	8.410**	(3.733)	1.760	(3.775)	-1.783	(1.234)
2nd	N	6.694*	(4.018)	0.044	(4.060)	-1.781	(1.234)
3rd	N	7.006*	(4.013)	0.333	(4.077)	-1.772	(1.234)
4th	N	7.293*	(4.020)	0.619	(4.076)	-1.758	(1.234)
5th	N	7.884*	(4.029)	1.261	(4.087)	-1.722	(1.234)
6th	N	7.808*	(4.035)	1.189	(4.091)	-1.725	(1.234)
7th	N	7.886*	(4.053)	1.260	(4.099)	-1.723	(1.234)
1st	Y	9.596***	(3.701)	3.024	(3.709)	-1.216	(1.421)
2nd	Y	7.773*	(3.990)	1.204	(4.010)	-1.215	(1.421)
3rd	Y	8.079**	(3.985)	1.494	(4.027)	-1.212	(1.421)
4th	Y	8.401**	(3.993)	1.826	(4.027)	-1.213	(1.421)
5th	Y	9.025**	(4.005)	2.536	(4.038)	-1.210	(1.421)
6th	Y	9.028**	(4.013)	2.539	(4.045)	-1.210	(1.421)
7th	Y	9.263**	(4.037)	2.759	(4.056)	-1.210	(1.421)
Observations				17002			
Municipalities				1828			
R-squared				0.133			
Year fixed effects				Y			
Fiscal Revenues							
1st	N	-14.715	(12.529)	-15.000	(12.451)	3.315*	(1.861)
2nd	N	-34.104***	(12.452)	-34.490***	(12.359)	3.397*	(1.856)
3rd	N	-32.313***	(12.505)	-32.873***	(12.387)	3.456*	(1.856)
4th	N	-30.794**	(12.577)	-31.330**	(12.430)	3.534*	(1.857)
5th	N	-29.470**	(12.646)	-29.818**	(12.485)	3.615*	(1.858)
6th	N	-28.491**	(12.680)	-28.838**	(12.515)	3.652**	(1.858)
7th	N	-26.252**	(12.737)	-26.731**	(12.571)	3.714**	(1.859)
1st	Y	-13.859	(12.364)	-13.866	(12.296)	4.092**	(2.001)
2nd	Y	-34.477***	(12.209)	-34.568***	(12.132)	4.153**	(1.991)
3rd	Y	-32.544***	(12.271)	-32.771***	(12.166)	4.173**	(1.991)
4th	Y	-30.868**	(12.365)	-31.008**	(12.223)	4.158**	(1.991)
5th	Y	-29.415**	(12.469)	-29.260**	(12.305)	4.144**	(1.990)
6th	Y	-28.338**	(12.509)	-28.141**	(12.340)	4.136**	(1.991)
7th	Y	-25.591**	(12.596)	-25.472**	(12.424)	4.122**	(1.990)
Observations				17580			
Municipalities				1944			
R-squared				0.003			
Year fixed effects				Y			

Robust standard errors in parenthesis. Parametric Fixed-effect model with errors clustered at the municipality level. Reported are solely the figures for the interaction between the runoff and the alignment dummies for different specifications.

Table 7: Akaike's Information Criterion on Table 5's Regressions.

Polynomial	Balance-Sheet Grants	Entitlements Grants	Fiscal Revenues
<i>1st</i>	172972.908	138666.632	174079.649
<i>2nd</i>	172976.139	138647.337	173974.227
<i>3rd</i>	172977.998	138641.483	173928.351
<i>4th</i>	172964.913	138632.854	173889.701
<i>5th</i>	172955.802	138606.878	173870.716
<i>6th</i>	172953.004	138606.329	173861.579
<i>7th</i>	172952.711	138600.873	173811.266
<i>1st</i>	160866.172	124594.605	148913.173
<i>2nd</i>	160866.453	124583.705	148820.744
<i>3rd</i>	160866.177	124574.133	148760.519
<i>4th</i>	160847.397	124566.848	148715.900
<i>5th</i>	160839.440	124544.739	148688.472
<i>6th</i>	160833.745	124540.738	148670.279
<i>7th</i>	160833.664	124539.113	148603.442

Table 8: Akaike's Information Criterion on Table 6's Regressions.

Polynomial	Balance-Sheet Grants	Entitlements Grants	Fiscal Revenues
<i>1st</i>	172064.448	164602.571	191359.093
<i>2nd</i>	172069.360	164598.628	191218.151
<i>3rd</i>	172057.592	164595.107	191148.309
<i>4th</i>	172054.038	164589.237	191092.644
<i>5th</i>	172043.676	164564.416	191051.900
<i>6th</i>	172041.834	164564.188	191039.731
<i>7th</i>	172041.579	164566.054	191008.260
<i>1st</i>	169429.087	162380.464	188412.840
<i>2nd</i>	169432.977	162378.699	188258.391
<i>3rd</i>	169420.150	162368.973	188171.225
<i>4th</i>	169413.398	162365.177	188100.146
<i>5th</i>	169396.511	162335.281	188045.329
<i>6th</i>	169391.754	162335.280	188030.322
<i>7th</i>	169391.334	162336.152	187985.345

Table 9: Effect of Electoral System on Revenues, Random-effect Model.

Polynomial	Controls	Balance-Sheet Grants		Entitlements Grants		Fiscal Revenues	
		β	s.d.	β	s.d.	β	s.d.
1st	N	11.312***	(4.159)	10.028***	(3.537)	10.724	(10.835)
2nd	N	6.255	(4.986)	9.020**	(4.058)	-10.572	(12.036)
3rd	N	5.355	(4.969)	8.164**	(4.047)	-11.572	(12.002)
4th	N	4.399	(4.956)	7.659*	(4.055)	-12.110	(12.010)
5th	N	4.683	(4.987)	7.810*	(4.082)	-11.884	(12.087)
6th	N	4.042	(4.989)	7.942*	(4.106)	-11.656	(12.181)
7th	N	3.676	(5.006)	7.252*	(4.121)	-10.785	(12.362)
1st	Y	8.671**	(3.873)	8.063**	(3.511)	-1.920	(10.614)
2nd	Y	6.532	(4.810)	7.714*	(4.142)	-14.414	(11.909)
3rd	Y	6.565	(4.816)	7.589*	(4.149)	-14.279	(11.953)
4th	Y	6.282	(4.820)	7.443*	(4.153)	-14.592	(11.956)
5th	Y	6.930	(4.834)	7.748*	(4.168)	-15.033	(11.982)
6th	Y	6.475	(4.836)	7.961*	(4.180)	-15.113	(12.037)
7th	Y	6.387	(4.848)	7.784*	(4.195)	-14.166	(12.177)
Observations		17432		14573		15209	
Municipalities		1930		1805		1912	
R-squared		0.4755		0.448786		0.226929	
Year fixed effects		Y		Y		Y	

** $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Robust standard errors in parenthesis. Parametric Random-effect model with errors clustered at the municipality level. Reported are solely the figures for the runoff-dummy coefficient for different specifications.

Table 10: Effect of Electoral System and Political Alignment on Revenues, RE Model.

Balance-Sheet Grants							
Polynomial	Controls	Runoff*Align		Runoff*(1-Align)		(1-Runoff)*Align	
		β	s.d.	β	s.d.	β	s.d.
		Runoff*Align		Runoff*(1-Align)		(1-Runoff)*Align	
1st	N	8.702*	(5.104)	1.727	(4.987)	-1.664	(1.190)
2nd	N	7.349	(5.611)	0.369	(5.505)	-1.662	(1.190)
3rd	N	7.770	(5.607)	0.749	(5.512)	-1.648	(1.190)
4th	N	7.997	(5.611)	0.980	(5.514)	-1.637	(1.190)
5th	N	8.412	(5.610)	1.454	(5.518)	-1.611	(1.190)
6th	N	8.634	(5.617)	1.676	(5.522)	-1.603	(1.190)
7th	N	8.520	(5.641)	1.569	(5.536)	-1.606	(1.190)
1st	Y	8.386	(5.140)	1.715	(5.003)	-1.725	(1.317)
2nd	Y	8.858	(5.651)	2.190	(5.529)	-1.726	(1.317)
3rd	Y	9.347*	(5.649)	2.644	(5.539)	-1.721	(1.316)
4th	Y	9.652*	(5.654)	2.965	(5.543)	-1.724	(1.316)
5th	Y	10.114*	(5.656)	3.521	(5.550)	-1.728	(1.316)
6th	Y	10.468*	(5.663)	3.889	(5.555)	-1.730	(1.316)
7th	Y	10.620*	(5.689)	4.036	(5.570)	-1.731	(1.316)
Observations				17448			
Municipalities				1931			
R-squared				0.147			
Year fixed effects				Y			
Entitlement Grants							
1st	N	8.410**	(3.733)	1.760	(3.775)	-1.783	(1.234)
2nd	N	6.694*	(4.018)	0.044	(4.060)	-1.781	(1.234)
3rd	N	7.006*	(4.013)	0.333	(4.077)	-1.772	(1.234)
4th	N	7.293*	(4.020)	0.619	(4.076)	-1.758	(1.234)
5th	N	7.884*	(4.029)	1.261	(4.087)	-1.722	(1.234)
6th	N	7.808*	(4.035)	1.189	(4.091)	-1.725	(1.234)
7th	N	7.886*	(4.053)	1.260	(4.099)	-1.723	(1.234)
1st	Y	9.596***	(3.701)	3.024	(3.709)	-1.216	(1.421)
2nd	Y	7.773*	(3.990)	1.204	(4.010)	-1.215	(1.421)
3rd	Y	8.079**	(3.985)	1.494	(4.027)	-1.212	(1.421)
4th	Y	8.401**	(3.993)	1.826	(4.027)	-1.213	(1.421)
5th	Y	9.025**	(4.005)	2.536	(4.038)	-1.210	(1.421)
6th	Y	9.028**	(4.013)	2.539	(4.045)	-1.210	(1.421)
7th	Y	9.263**	(4.037)	2.759	(4.056)	-1.210	(1.421)
Observations				16888			
Municipalities				1817			
R-squared				0.074			
Year fixed effects				Y			
Fiscal Revenues							
1st	N	-14.715	(12.529)	-15.000	(12.451)	3.315*	(1.861)
2nd	N	-34.104***	(12.452)	-34.490***	(12.359)	3.397*	(1.856)
3rd	N	-32.313***	(12.505)	-32.873***	(12.387)	3.456*	(1.856)
4th	N	-30.794**	(12.577)	-31.330**	(12.430)	3.534*	(1.857)
5th	N	-29.469**	(12.646)	-29.818**	(12.485)	3.615*	(1.858)
6th	N	-28.491**	(12.680)	-28.838**	(12.515)	3.652**	(1.858)
7th	N	-26.252**	(12.737)	-26.731**	(12.571)	3.714**	(1.859)
1st	Y	-13.859	(12.364)	-13.866	(12.296)	4.092**	(2.001)
2nd	Y	-34.477***	(12.209)	-34.568***	(12.132)	4.153**	(1.991)
3rd	Y	-32.544***	(12.271)	-32.771***	(12.166)	4.173**	(1.991)
4th	Y	-30.868**	(12.365)	-31.008**	(12.223)	4.158**	(1.991)
5th	Y	-29.415**	(12.469)	-29.260**	(12.305)	4.144**	(1.990)
6th	Y	-28.338**	(12.509)	-28.141**	(12.340)	4.136**	(1.991)
7th	Y	-25.591**	(12.596)	-25.472**	(12.424)	4.122**	(1.990)
Observations				17449			
Municipalities				1931			
R-squared				0.005			

Robust standard errors in parenthesis. Parametric random-effect model with errors clustered at the municipality level. Reported are solely the figures for the interaction between the runoff and the alignment dummies for different specifications.

Table 11: Effect of Electoral System on Revenues, Non-parametric Approach.

Bandwidth	Controls	Balance-Sheet Grants		Entitlements Gr.		Fiscal Revenues	
		β	s.d.	β	s.d.	β	s.d.
2,000	N	4.563	(4.791)	5.516	(3.687)	-14.486	(11.964)
5,000	N	4.644	(4.789)	5.436	(3.685)	-15.046	(11.967)
8,000	N	4.644	(4.789)	5.436	(3.685)	-15.046	(11.967)
10,000	N	4.644	(4.789)	5.436	(3.685)	-15.046	(11.967)
2,000	Y	5.158	(4.980)	6.229*	(3.607)	-15.360	(12.233)
5,000	Y	5.208	(4.980)	6.158*	(3.605)	-15.879	(12.234)
8,000	Y	5.208	(4.980)	6.158*	(3.605)	-15.879	(12.234)
10,000	Y	5.208	(4.980)	6.158*	(3.605)	-15.879	(12.234)
Observations			17859		0		17860
Municipalities			1935		0		1935
R-squared			0.254		0.000		0.002
Year fixed effects			Y		Y		Y

=* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Robust standard errors in parenthesis. Non-parametric Fixed-effect model with errors clustered at the municipality level. Reported are solely the figures for the runoff-dummy coefficient for different specifications.

Table 12: Effect of Electoral System and Political Alignment on Revenues, Non-Parametric Approach.

Balance-Sheet Grants							
Bandwidth	Controls	Runoff*Align		Runoff*(1-Align)		(1-Runoff)*Align	
		β	s.d.	β	s.d.	β	s.d.
2,000	N	8.560*	(5.105)	1.714	(4.987)	-1.660	(1.190)
5,000	N	8.702*	(5.104)	1.727	(4.987)	-1.664	(1.190)
8,000	N	8.702*	(5.104)	1.727	(4.987)	-1.664	(1.190)
10,000	N	8.702*	(5.104)	1.727	(4.987)	-1.664	(1.190)
2,000	Y	8.260	(5.142)	1.720	(5.004)	-1.718	(1.316)
5,000	Y	8.386	(5.140)	1.715	(5.003)	-1.725	(1.317)
8,000	Y	8.386	(5.140)	1.715	(5.003)	-1.725	(1.317)
10,000	Y	8.386	(5.140)	1.715	(5.003)	-1.725	(1.317)
Observations				17446			
Municipalities				1931			
R-squared				0.264			
Year fixed effects				Y			
Entitlement Grants							
2,000	N	8.442**	(3.737)	1.871	(3.775)	-1.780	(1.234)
5,000	N	8.410**	(3.733)	1.760	(3.775)	-1.783	(1.234)
8,000	N	8.410**	(3.733)	1.760	(3.775)	-1.783	(1.234)
10,000	N	8.410**	(3.733)	1.760	(3.775)	-1.783	(1.234)
2,000	Y	9.616***	(3.705)	3.132	(3.710)	-1.212	(1.421)
5,000	Y	9.596***	(3.701)	3.024	(3.709)	-1.216	(1.421)
8,000	Y	9.596***	(3.701)	3.024	(3.709)	-1.216	(1.421)
10,000	Y	9.596***	(3.701)	3.024	(3.709)	-1.216	(1.421)
Observations				16886			
Municipalities				1817			
R-squared				0.151			
Year fixed effects				Y			
Fiscal Revenues							
2,000	N	-14.217	(12.526)	-14.454	(12.448)	3.331*	(1.861)
5,000	N	-14.715	(12.529)	-15.000	(12.451)	3.315*	(1.861)
8,000	N	-14.715	(12.529)	-15.000	(12.451)	3.315*	(1.861)
10,000	N	-14.715	(12.529)	-15.000	(12.451)	3.315*	(1.861)
2,000	Y	-13.364	(12.362)	-13.315	(12.294)	4.100**	(2.001)
5,000	Y	-13.859	(12.364)	-13.866	(12.296)	4.092**	(2.001)
8,000	Y	-13.859	(12.364)	-13.866	(12.296)	4.092**	(2.001)
10,000	Y	-13.859	(12.364)	-13.866	(12.296)	4.092**	(2.001)
Observations				17447			
Municipalities				1931			
R-squared				0.002			
Year fixed effects				Y			

Robust standard errors in parenthesis. Non-Parametric Fixed-effect model with errors clustered at the municipality level. Reported are solely the figures for the interaction between the runoff and the alignment dummies for different specifications.

Table 13: Effect of Electoral System on Spending, Non-Parametric Approach.

Bandwidth	Controls	Current Expenditure		Traffic		Business Services	
		β	s.d.	β	s.d.	β	s.d.
2,000	N	-5.24	(-16.058)	-2.556*	(-1.529)	11.039**	(-5.557)
5,000	N	-6.405	(-16.071)	-2.714*	(-1.526)	10.892**	(-5.552)
8,000	N	-6.405	(-16.071)	-2.714*	(-1.526)	10.892**	(-5.552)
10,000	N	-6.405	(-16.071)	-2.714*	(-1.526)	10.892**	(-5.552)
2,000	Y	-6.592	(-16.267)	-2.068	(-1.686)	9.022	(-7.253)
5,000	Y	-7.724	(-16.264)	-2.208	(-1.687)	8.89	(-7.242)
8,000	Y	-7.724	(-16.264)	-2.208	(-1.687)	8.89	(-7.242)
10,000	Y	-7.724	(-16.264)	-2.208	(-1.687)	8.89	(-7.242)
Observations		17,854		16,036		19,166	
Municipalities		1,935		1,935		1,937	
R-squared		0.038		0.023		0.007	
Year fixed effects		Y		Y		Y	

=* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Robust standard errors in parenthesis. Non-parametric Fixed-effect model with errors clustered at the municipality level. Reported are solely the figures for the runoff-dummy coefficient for different specifications.

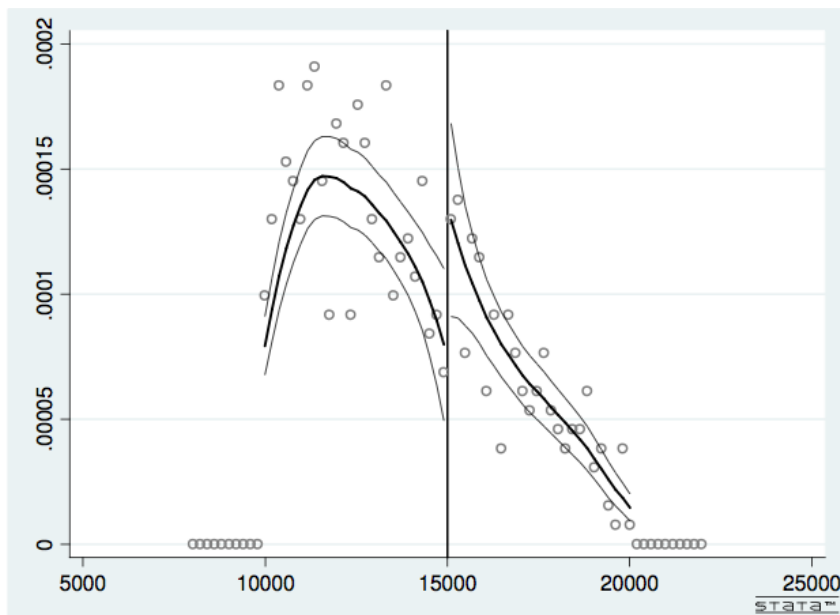
Table 14: Effect of Electoral System on Revenues, Placebo Regressions.

Polynomial	Controls	Balance-Sheet Grants			Entitlement Grants			Fiscal Revenues			
		β	s.d.	β	s.d.	β	s.d.	β	s.d.	β	s.d.
		Placebo A	Placebo B	Placebo A	Placebo B	Placebo A	Placebo B	Placebo A	Placebo B	Placebo A	Placebo B
1st	N	3.815 (2.955)	-0.725 (6.486)	3.477 (2.630)	1.011 (4.924)	-7.698 (6.733)	-41.789** (17.249)				
2nd	N	1.072 (3.427)	-2.770 (7.072)	2.480 (3.030)	0.883 (4.943)	-5.911 (7.534)	-44.803** (18.337)				
3rd	N	-1.831 (4.095)	-2.004 (7.100)	3.305 (3.463)	1.393 (4.953)	0.772 (8.522)	-42.390** (18.453)				
4th	N	-1.668 (4.782)	-1.574 (7.120)	1.900 (3.990)	1.841 (4.953)	3.439 (9.887)	-40.264** (18.616)				
5th	N	4.265 (5.458)	-0.642 (7.163)	3.878 (4.648)	3.070 (4.983)	2.128 (11.445)	-38.276** (18.832)				
6th	N	0.447 (6.363)	0.111 (7.209)	2.657 (5.507)	3.139 (5.031)	3.004 (13.423)	-36.547* (19.184)				
7th	N	3.218 (7.172)	6.748 (8.522)	5.239 (6.466)	7.034 (5.989)	0.327 (15.916)	-43.563* (24.035)				
1st	Y	3.994 (3.062)	-3.324 (6.510)	2.559 (2.912)	1.690 (4.921)	-6.349 (6.619)	-45.845** (18.883)				
2nd	Y	1.212 (3.533)	-4.268 (7.008)	1.672 (3.312)	1.414 (4.876)	-3.750 (7.504)	-48.215** (19.770)				
3rd	Y	-2.425 (4.199)	-3.551 (7.027)	2.358 (3.741)	1.820 (4.891)	0.290 (8.383)	-46.078** (19.749)				
4th	Y	-2.571 (4.986)	-3.138 (7.034)	0.865 (4.280)	2.258 (4.895)	2.090 (9.903)	-43.834** (19.796)				
5th	Y	2.021 (5.749)	-2.248 (7.035)	3.527 (4.943)	3.448 (4.923)	0.414 (11.348)	-41.500** (19.964)				
6th	Y	-2.001 (6.730)	-1.149 (7.049)	2.980 (5.863)	3.763 (4.978)	2.922 (13.098)	-38.611* (20.243)				
7th	Y	2.560 (7.747)	3.557 (8.321)	5.925 (6.742)	4.341 (6.145)	2.132 (15.434)	-45.570* (26.263)				
Observations		12,400	5,138	10,678	4,743	12,334	5,138				
Municipalities		1,400	564	1,324	521	1,393	564				
R-squared		0.284	0.146	0.273	0.060	0.004	0.011				
Year fixed effects		Y	Y	Y	Y	Y	Y				

* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Robust standard errors in parenthesis. Parametric Fixed-effect model with errors clustered at the municipality level. Reported are solely the figures for the placebo-dummy coefficient for different specifications. Placebo A: regression performed on the part of the sample with Census<15,000. Placebo=1 if Census>7,522 (median of the remaining sample). Placebo B: regression performed on the part of the sample with Census>15,000. Placebo=1 if Census>25,544 (median of the remaining sample).

Figure 2: McCrary Test: Weighted kernel estimation of the log density, performed separately on either side of the 15,000 threshold. Optimal bandwidth and binsize as in McCrary (2008).



From the early Nineties a process of devolution of powers and fiscal autonomy has begun, in the hope of improving the provision of local public goods, increasing the accountability and efficiency of the civil service, and giving more substantial powers to the local communities. Up to that moment in time intergovernmental grants were mostly driven by the past expenditure patterns. This generated very obvious political and efficiency incentives to moral hazard, that gave way to the formation of large territorial disparities in the number of civil servants, output and efficiency levels.

In 1992 an organic reform of local authorities was passed. From that moment onwards all the CEOs of local authorities, mayors included, are directly elected by voters together with the respective council. This direct election reinforced their visibility and accountability. The new electoral systems were designed to ensure the mayor a stable majority in the city council, increasing transparency and reducing the impact of non-transparent post-electoral deals between parties.

Mayor and city council form a sort of presidential system; they are elected simultaneously in a way that locks in the elected mayor with the pre-electoral coalition of parties that fielded him or her, and each mayoral candidate is visibly linked with the parties that fielded him or her on the ballot paper. Every municipality is called to elect its mayor and city council every five years, and each year some municipalities are called to renew their elected officers.

The details of the electoral system though differ in municipalities above or be-

the most recent general elections held in April 2008, the turnout—excluding Italians living abroad who voted by post—was 80.51%.

Figure 3: Scatter and local linear regression with 95% c.i. of percentage of children in municipalities performed separately at either side of the 15,000-inhabitant threshold, by year

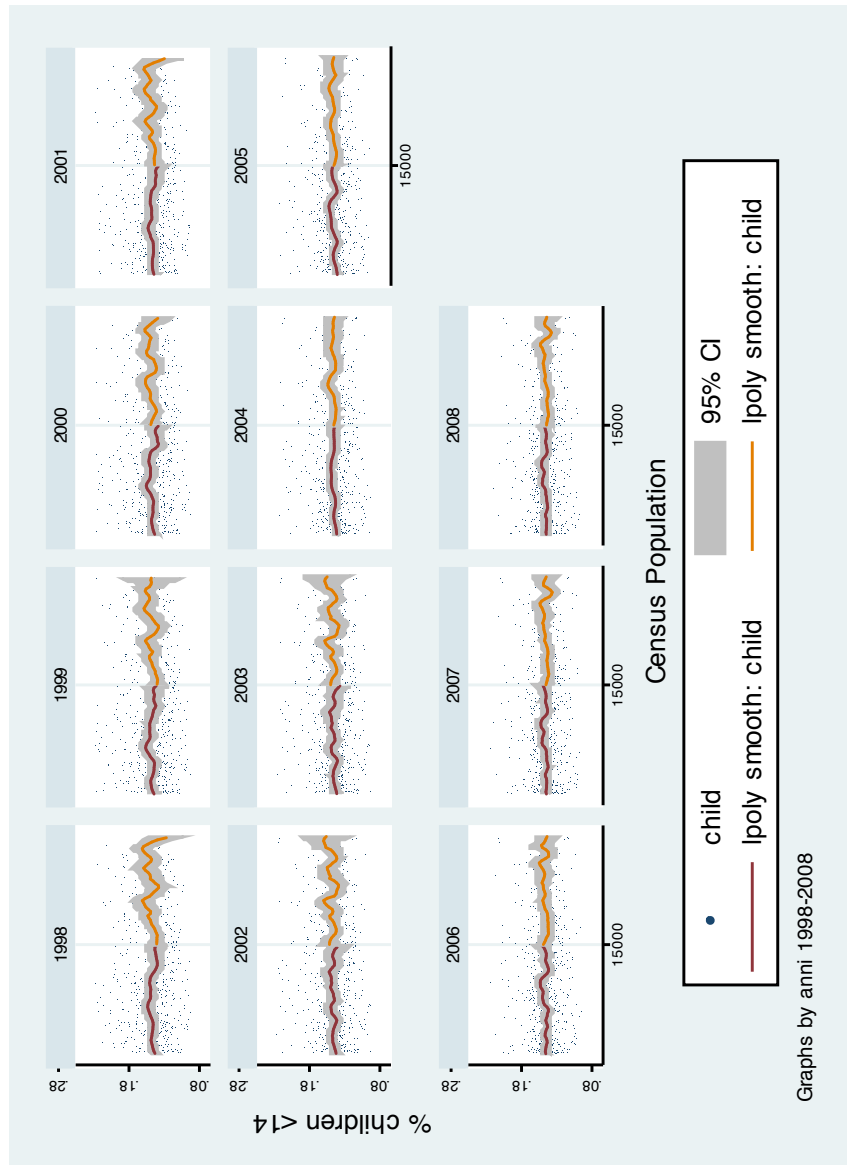


Figure 4: Scatter and local linear regression with 95% c.i. of percentage of elderly in municipalities performed separately at either side of the 15,000-inhabitant threshold, by year

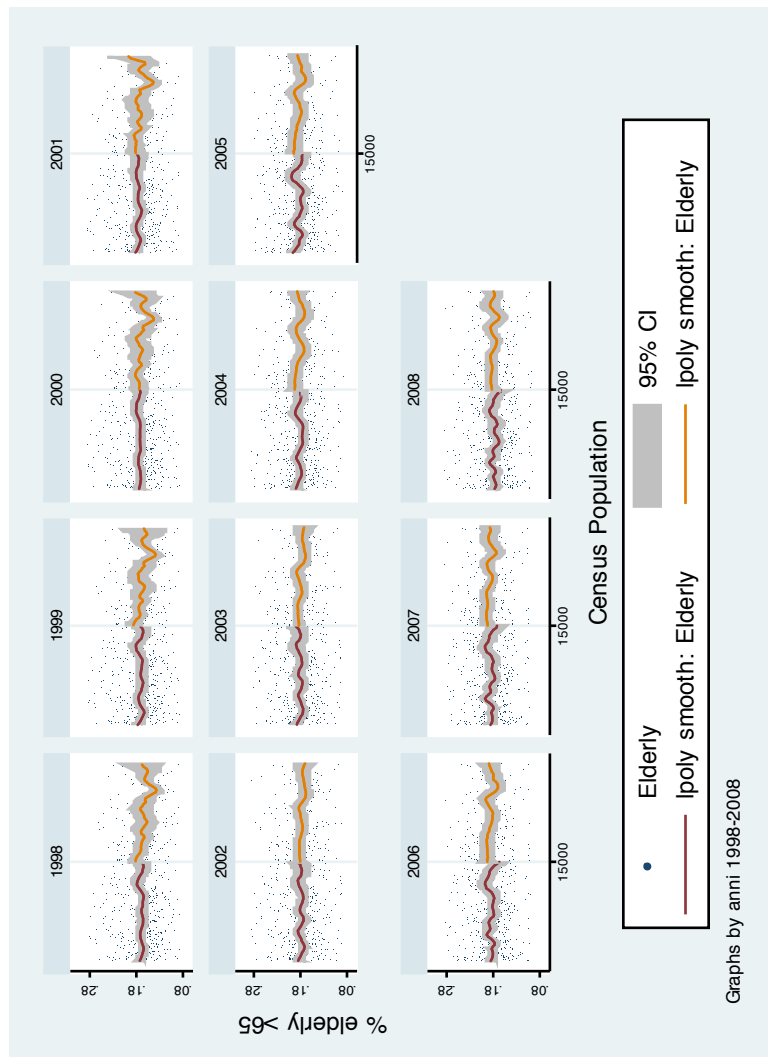


Figure 5: Scatter and local linear regression with 95% c.i. of per capita income in municipalities performed separately at either side of the 15,000-inhabitant threshold, by year

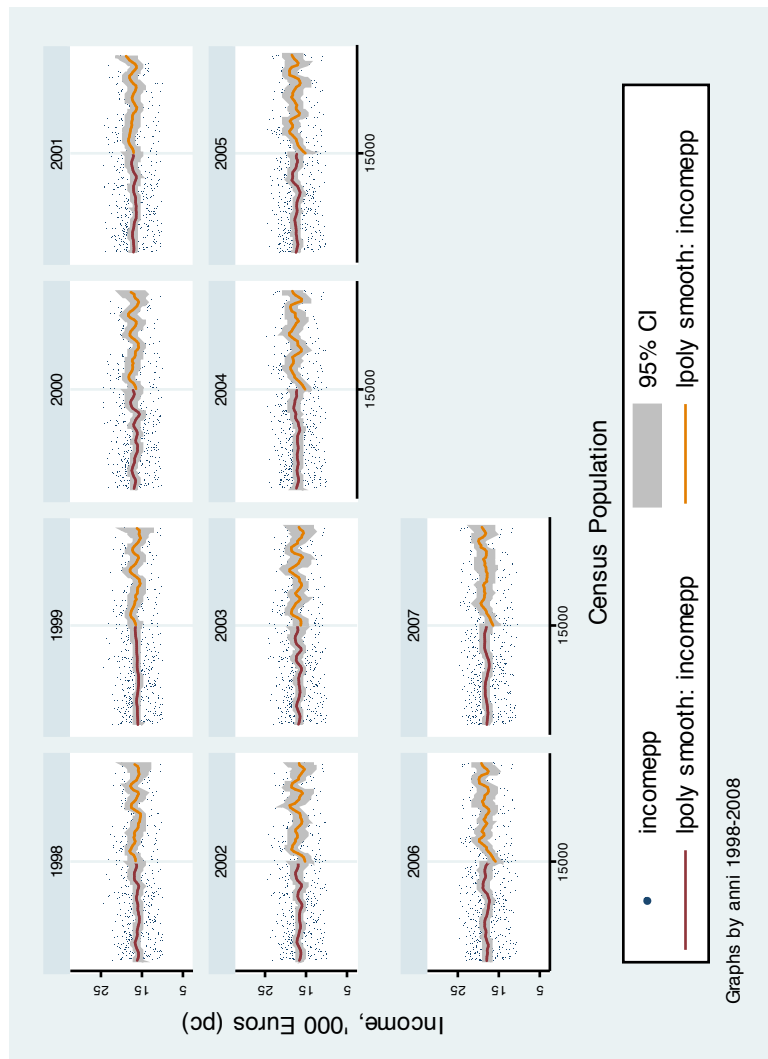


Figure 6: Scatter and local linear regression with 95% c.i. of per share of votes accruing to left-wing parties in each municipalities performed separately at either side of the 15,000-inhabitant threshold, by general-election year

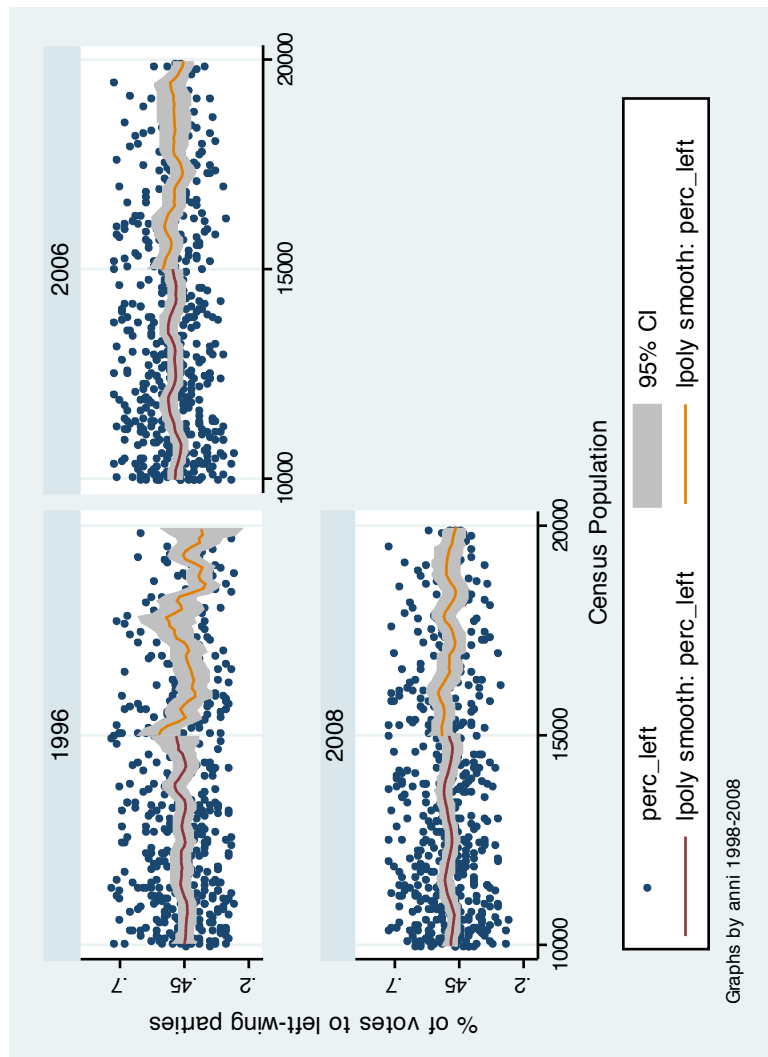


Figure 7: Scatter and local linear regression with 95% c.i. of population density in municipalities performed separately at either side of the 15,000-inhabitant threshold, by year

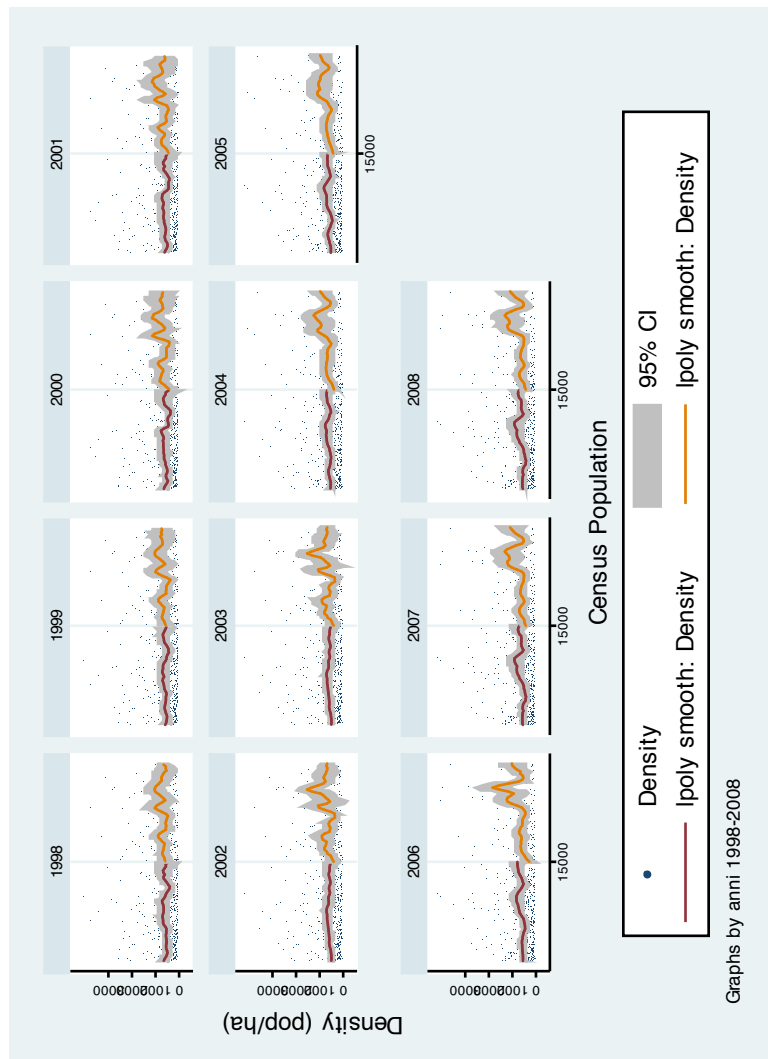


Figure 8: Scatter and local linear regression of Entitlement Grants performed separately at either side of the 15,000-inhabitant threshold, by year

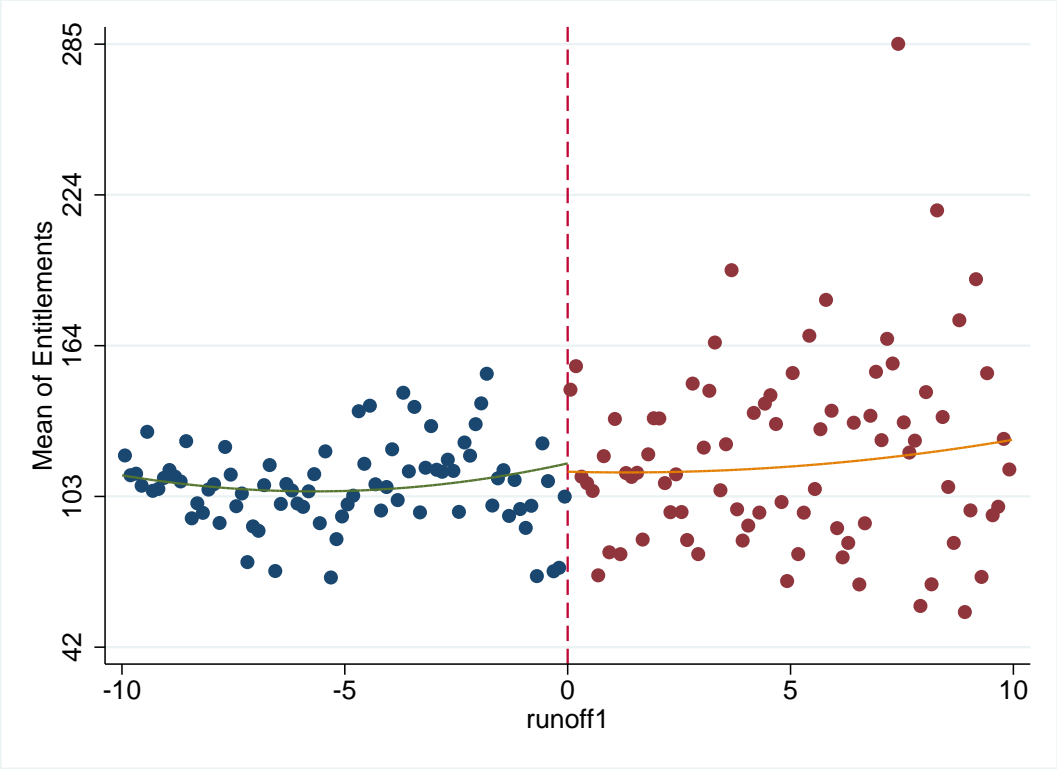


Figure 9: Scatter and local linear regression of Balance-Sheet State Grants performed separately at either side of the 15,000-inhabitant threshold, by year

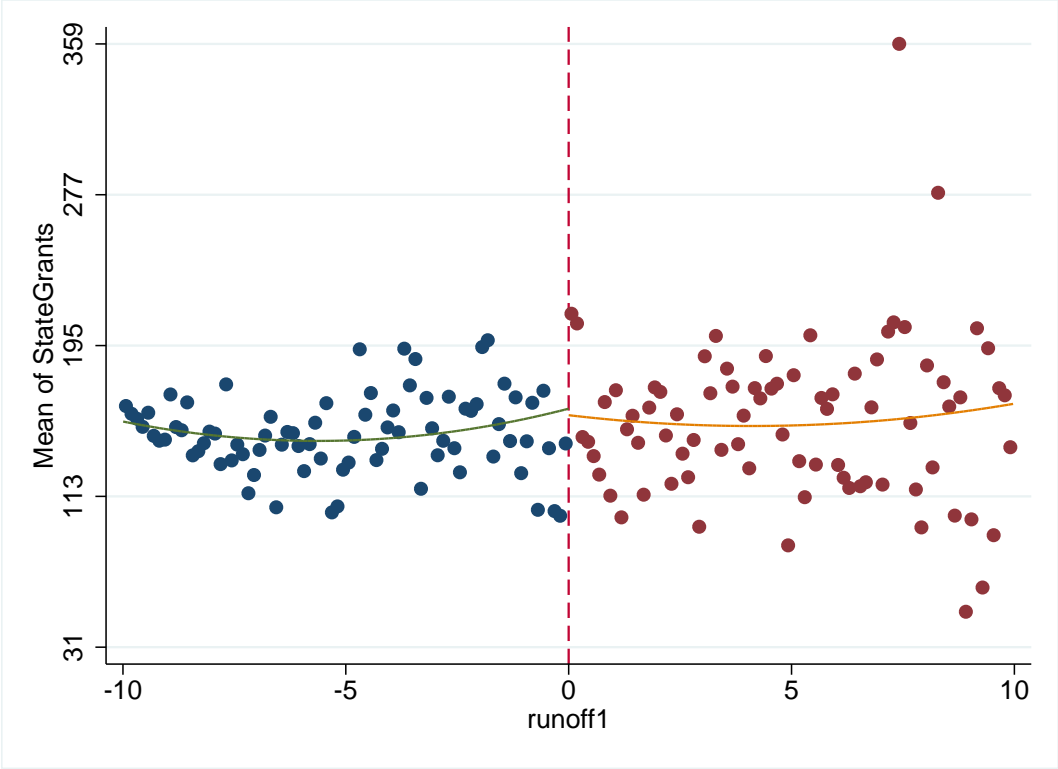
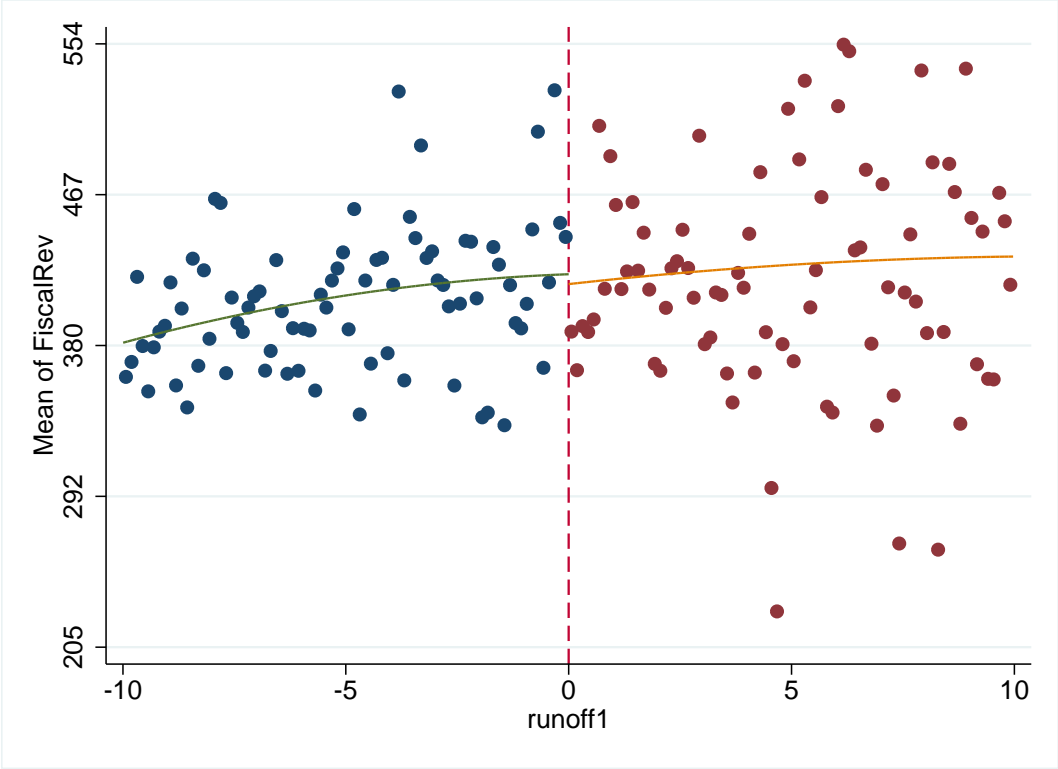


Figure 10: Scatter and local linear regression of Fiscal Revenues performed separately at either side of the 15,000-inhabitant threshold, by year



low the 15,000-inhabitant threshold. In municipalities which have less than 15,000 inhabitants according to the latest available census, the mayor is elected through plurality rule (first-past-the-post), while for larger municipalities a runoff system is in use. This means that if no mayor reaches an absolute majority in the first round (50%+1 votes), two weeks later voters are called a second time to the booths to choose between the two most voted candidates. The most voted among the two second-leg candidates is going to be the elected mayor.

Finally, the electoral law also differs in how city councils are elected. As already mentioned, all city councillors are elected through a single-district proportional representation system. The proportional distribution of seats is “corrected” in order to ensure that the list (or group of lists) linked with the winning mayor is awarded a majority of seats. In smaller municipalities two thirds of council is awarded to councillors linked with the ruling mayor, while in larger ones this figure is reduced to 60%.⁵ In smaller municipalities each mayor can be linked to only one city-councillor list. This means that if a coalition of parties wants to jointly field a single mayor, they also have to merge into a joint single list of city councillors. In larger municipalities instead each mayor could be linked to more than one city-councillor list, so formalizing plural pre-electoral coalitions, and not constraining different parties to field a single city-councillor list.

It must be underlined how the electoral system is the only institutional, legal or regulatory difference between municipalities at either side of the 15,000-inhabitant threshold.

The difference in electoral system has elicited a sharp difference in the political environment. In smaller localities, local party politics is often dominated by voters’ associations (*liste civiche*), which are generally not linked with any national party. The prevalence of local “independent” candidates is possibly obvious in very small municipalities, representing only small hamlets, but is less so in municipalities near the 15,000-inhabitant threshold. In Table 1 an example of this is offered: among municipalities with population between 15 and 20 thousands only 11% of mayors did not belong to any official national party. If we look at the same figure for municipalities with population between 10 and 15 thousands, we see that more than a third of the mayors belong to local voters’ associations.

Moreover, Bordignon et al. (2011)’s empirical analysis shows evidence that where the electoral system in use is runoff, the local polity is characterized by a larger number of parties. From the theoretical perspective, this same paper (coherently among others with Osborne and Slivinski (1996) and Chamon et al. (2008)) indicates that one should expect more centrist mayors to be elected under runoff as opposed to plurality.

As shown in Tables 2–3, we can see that very few municipalities passed the threshold of 15,000 inhabitants and therefore changed electoral system as a consequence of the 2001 census. Moreover, as local elections happen every year, this

⁵The electoral system for larger municipalities actually has some further characteristics that would theoretically allow for the election of a divided government: the “premium” in terms of seats is awarded to the coalition of parties linked to the winning mayor, but only if it reaches at least 40% of votes in the first round. Moreover split voting is allowed, and if a coalition of parties reaches 50% of votes in the first round, it’s awarded automatically 60% of seats, whether their mayoral candidate is elected or not. These contingencies are practically very rare, and are reported just for completeness.

change went into force in a staggered way between 2003 and 2007 according to the year in which each of these municipalities' legislature ended their terms.

Municipal Financing

Also the municipal financing system started to change in the early Nineties, increasing fiscal and spending powers of local government. Financial autonomy increased noticeably. From 1993 a property tax (ICI) collected by municipalities has been instituted, which is still the backbone of municipal revenues. Municipalities from 1999 municipalities have been given a further possibility of imposing taxes: they can operate a small surtax on the Personal Income Tax (up to an additional 0.5% on top of the personal income tax rate).⁶ Moreover from 2002 they have been granted access to a fixed share of the Personal Income Tax revenues generated in their territory. Each time new local taxes, or shares of national taxes, have been transferred to municipalities, the grants have been offset by an equivalent amount, calculated at the basic or default tax rate. Municipalities also levy fees on advertising billboards, on the use of public spaces, on rubbish collection and set administrative duties for a range of bureaucratic services (issuing parking permits, ID cards, vital record certificates).

In the period of interest of this paper, about 40% of current revenues accrue from intergovernmental grants (mostly from central government), 40% from taxes and fees, and another 20% from smaller sources of revenues linked with the provision or management of public services (school meals, sport facilities, parking tickets).

After the European Stability and Growth Pact entered into force in 1997, the central government decided to implement a so-called Domestic Stability Pact between the central government and all local authorities, that strongly limits the possibility of municipalities to financing their spending needs through debt (see, once again, Brugnoli (2011) for a thorough analysis of investment spending dynamics). The Domestic Stability Pact does not apply to very small municipalities (below 5,000 inhabitants), which have evident issues with economies of scale, and have been often preserved from central government cuts in grants. For this reason, we are going to drop these municipalities, which are almost 6,000.

The high degree of financial autonomy of municipalities is tempered by the even wider heterogeneity in tax compliance, fiscal capacity and expenditure across the country. Moreover, each Budget Bill contains a large amount of ad-hoc funding provisions, which may be more likely to follow political, rather than efficiency and equity criteria.

As already mentioned, there is no implicit or explicit formula which overlooks the whole grant system, and each Budget Bill establishes "freely" the amount of each grant, and the way to distribute it across municipalities, taking as a point of reference the previous year's decisions. This is confirmed both by the legal and administrative regulations overlooking this issue, and by conversations had with officers from IFEL (the Local Public Finance research foundation of the National Association of Italian Municipalities *ANCI*), who confirmed this.

⁶It must be observed though, that municipalities are allowed to raise the tax rate by at most 0.2% more than the previous year. Moreover in more than one occasion the central government temporarily suspended the possibility of raising the surtax rate.

The process through which the Budget Bill is passed by the Parliament (both House and Senate) most of times lacks transparency and linearity. In the last quarter of the year the government introduces the draft Budget Bill to the Parliament to be discussed, amended and passed. It will be discussed by multiple select committees and on the floor of each chamber. The final version of the Bill results from the interaction of the parliamentary discussion and of the government bargaining with all the interested actors (parties, unions, local authorities). The Bill passed by the Parliament may (or may not!) be very different from the one initially introduced to the Parliament. Along this process it is very unlikely that specific provisions tailored for specific municipalities are ever picked up by the press.

Data Appendix

The data was acquired from various sources. The Local Public Finance Directorate of the Interior Ministry (<http://finanzalocale.interno.it>) publishes all the data on grants. The Internal and Territorial Affairs Directorate publishes data on city councillors and mayors, including their party affiliation (<http://amministratori.interno.it>). The same directorate (<http://elezioni.interno.it>) publishes national election data.

The Ministry of Finance keeps the record of Income Tax base by municipality, but publishes them only partially. These public data have been obtained through the Technical Secretariat of the Labour Ministry, to which we are very grateful.

The National Statistical Office (ISTAT) publishes data on the demographic composition of each municipality, both for each census, and for the so-called “intercensus reconstructions”, i.e. the yearly data obtained integrating the yearly net migration data of municipality to the census data.

Next, a description of each variable used in the dataset. All monetary values are expressed in 2008 constant Euros.

Robustness Checks

To confirm that our results are robust and the identification strategy correct, we need to make sure that the discontinuity we found in the dependent variable does not rise from undetected discontinuities of our exogenous variables.

Firstly, we check that no sorting is happening. By sorting we mean the possibility that municipalities may want (and possibly succeed) to pick their electoral system, tampering or simply trying to affect purposely the population figures. The possibility that mayors may try to do so, strategically acting on the census figures in order to be on a certain side of the threshold, appears quite unlikely. The censuses are run independently from the political power. Most importantly, though, the effect of sorting one’s municipality at the preferred side of the threshold are to be enjoyed not by the current mayor, but by the one elected at the following electoral round. This would substantially lower the incentives of strategic behaviour.

In order to check whether there are discontinuities in the forcing variable (i.e., the census figures) various techniques are possible. Firstly, we could simply look at a histogram of the municipalities by population before and after the 2001 census (resp. left- and right-hand panels) for different bin sizes (500 and 250 inhabitants,

Figure 1). Visual inspection highlights a slight increase in the density just on the right of the cut-off. We do not believe this is enough evidence to support any sorting. The increase is more pronounced in the 2001 panel, but it was already present in the data from the 1991 census, when there was as yet no change of electoral system across the 15,000-inhabitant cut-off.

Secondly, we also perform a McCrary continuity test (McCrary [2008]), in order to check whether the density of municipalities at the sides of the cut-off is discontinuous. In Figure 2 the results of this test are exposed. The figure recalls the shape of the histograms in Figure 1, and no discontinuity is found. The density is strongly decreasing as the population increases, but this simply reflects the fact that Italians mostly live in smaller municipalities, and that the number of larger municipalities decreases as the population increases.

In Figures 3-7 we confirm that the main controls exhibit no substantial discontinuity at the 15,000 threshold, through separate local polynomial regressions (by year) of the percentage of children, elderly people, income, on general-election behaviour, and population density.

All these checks ensure with some degree of certainty that no discontinuity appears in the covariates of our regressions.

Finally, we report the results as exposed in Tables 5-6 already described in the previous section, using a panel-data model with random effects (see Tables 9-??). A further alternative specification involves using a non-parametric approach to RDD. This implies regressing our dependent variable on a linear polynomial of the forcing variable and limiting the sample to a narrow window around the threshold. We perform this analysis with and without control variables, and for a bandwidth of 2-, 5-, 8- and 10-thousand inhabitants on each side of the 15,000-inhabitants threshold. The result of these regressions are reported in Tables 11-12.

Our results are generally unaffected in their sign and significance by using different specifications, both in the significance and in magnitude.

Finally, we perform a placebo analysis with the original (fixed-effect) specification. In order to do this we repeat the analysis using fictitious treatments, and expect to find no significance. In Tables 14-?? one can observe the results obtained from both of our placebo treatments. By “placebo A” we indicate the results obtained dropping all observation whose relevant population variable is below 15,000, and considering as a fictitious treatment the median of the remaining sample (7,258 inhabitants). By “placebo B” instead we mean considering only the part of the sample with census population above the 15,000-inhabitant threshold, and applying a fictitious treatment at the 25,544-inhabitant level (which is, once again, the median of the remaining sample). Also in this case, most of the placebo tests fail to reach any significance, confirming the robustness of our results.