

LOCAL ELECTORAL RULES AND POLITICAL PARTICIPATION

GUGLIELMO BARONE AND GUIDO DE BLASIO

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Abstract

The paper investigates the effect of local electoral rules on the political participation of the residents, as reflected in voter turnout. It focuses on Italy, where municipal voting schemes are differentiated by the size of the city: a single ballot system applies to municipalities with less than 15,000 inhabitants, while a dual ballot system is in place above that threshold. By exploiting this discontinuity, the paper finds that the dual ballot increases political participation. The magnitude of the effect is estimated at between 1 and 3 percentage points.

JEL classification: D72, Z10.

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1. Introduction

An extensive body of research documents that higher political and civic engagement is associated with more successful economic outcomes (see Guiso et al., 2010, Hall and Jones, 1999, and Knack and Keefer, 1997).¹ Much less is known, however, about the mechanisms through which political participation can be spurred. A potential key channel goes from the electoral institutions to the civic engagement of the residents. Some types of voting rules might spur political participation by promoting greater accountability of the government; others, however, might prevent citizens from exercising influence on policy makers, thus discouraging residents' involvement in political issues (Packel, 2008).²

This paper aims to shed light on the role of electoral institutions in political and civic engagement. We focus on a particular feature of an electoral system: the dual ballot scheme. Under a dual ballot (or runoff), voters cast two sequential votes. First, they vote on who stands for election. The two candidates who obtain more voters are then allowed to compete again in a second round, which defines the winner. By contrast, under a single ballot rule the winning candidate is selected in the first round.³ We test whether the dual ballot rule spurs political participation. We do so in a quasi-experimental framework offered by the institutional setup that characterizes Italy's municipalities: since 1993 there are two different electoral schemes according to the size of the city. A single ballot applies to municipalities with less than 15,000 inhabitants, while a dual ballot is in place above that threshold. This allows us to exploit a sharp change in the exposure to the dual ballot rule to identify a causal effect through a Regression Discontinuity Design (RDD).

Our measure for political participation is voter turnout, that is the percentage of eligible voters who actually cast their vote. As the strength of engagement with the voting process is considered to be vital to sustaining a healthy democracy, voter turnout is a widely used measure of civic commitment (Downs, 1957; Fowler, 2006). As an individual vote cast in an election conceivably has a negligible effect on its outcome, in presence of cost of going to the polls, a rational individual who is not interested in the common good should abstain from voting.⁴ Note, however, that voter turnout can be a misleading proxy of the individual interest in the common good, to the extent that it leads to personal patronage benefits ("exchange voting"). Moreover,

¹ Involvement in the institutions of civic or political society is one possible form of social capital. Others include networks of relationships (Coleman, 1990, Fukuyama, 1995, and Putnam, 2000. However, it is unclear whether these are a good or a bad thing from the point of view of society (see Bourdieu, 1972).

² Very close to the spirit of this paper, Putnam (1993) argues that local systems of government have a paramount role in explaining the differences in civic engagement across Italian territories. In particular, it was the local political regimes in place in Italy in the middle ages that shaped the degree of local civiness that persisted through the centuries (see also de Blasio and Nuzzo, 2010).

³ See Cox for a survey on different examples of runoff elections.

⁴ After increasing for many decades, there has been a trend of decreasing voter turnout in most established democracies over the last 40 years. Italy is no exception: abstentionism at the Parliamentary elections, which was slightly above 5 percent at the beginning of the 1970s, steadily increased up to almost 20 percent in the 2008 election. Nevertheless, voter turnout in Italy is still one of the highest by international comparison.

the proximity between voters and elected officials in the local elections could magnify this negative trait. To make sure that our measure is not capturing immediate personal benefits of voting, we focus on participation in a nationwide electoral context (the Parliamentary elections), which can reasonably be assumed a patronage-free measure of civic commitment.

Our results show that the causal effect of the dual ballot is that of increasing the political participation of residents. The magnitude of the effect is estimated at between 1 and 3 percentage points, providing important suggestions for the design of institutions.

Why should the difference between single and dual ballot matter for political participation and voter turnout? The existing literature has never explored this link. Nevertheless, political scientists have long speculated that the electoral system could be important in determining the percentage of people going to the polls. They are, however, divided over what system delivers a higher participation rate (see Katz, 1997). For instance, proportional systems might foster participation, as any voter can be sure they will be represented in the assembly.⁵ They could also deter participation, insofar they are more likely to produce multiparty (coalition) governments, which reflects not only the will of the voters but also the result of political deal-making (see Blais and Carty, 1990). On similar grounds, Franklin (2004) argues that salience – the perceived effect that an individual vote will have on how the municipality is run – could be relevant for turnout. In this regard, a competition between two candidates (as in a runoff) increases salience, especially when a small swing in votes can be decisive for the choice of mayor. In the political science literature, single and dual ballots have been compared with respect to their implications for the number of participants in the political competition. Osborne and Silvinsky (1996), and Wright and Riker (1989), emphasize that because it weakens the incentives for political entities to merge, the dual ballot should be featured by a higher number of parties compared to the single ballot.⁶ Again, the consequences of a higher number of parties on the political participation of residents remain ambiguous. For instance, a higher number of parties might broaden political representation. However, it could also encourage the formation of governments away from the will of the electorate (and decrease salience). In the economic literature single and dual ballots have been analyzed for their fiscal policy effects (see Chamon et al., 2008, and Bordignon et al., 2010). For our purposes, it is interesting to note that the theoretical model of Bordignon et al. (2008) predicts that the runoff system leads to a higher utility for voters because their preferences are better translated in policy outcomes.

⁵ Contrariwise, majoritarian schemes might impact negatively on turnout when the majority of the seats are deemed to be “safe”. In this case, supporters of minority parties will rarely see their candidates elected while supporters of the majority parties will also be disinclined to vote because their party has already amassed sufficient votes to win the election by a comfortable margin.

⁶ This can be illustrated with the help of a simple example, taken from Chamon et al. (2008). Consider a single ballot and suppose that 60% of the electorate is left-leaning. If there is only one left-leaning and one right-leaning party contesting the election, the former should easily win. If there are, however, two competing left-leaning parties, the right-leaning one may be able to achieve a relative majority. In this case, under the single ballot the two left-leaning parties should get together and support a single candidate. Under a dual ballot, conversely, the presence of two left-leaning candidates should not affect the final outcome and therefore a higher supply of candidates is warranted.

Finally, our paper is related, to a lesser extent, to some recent contributions that explore the determinants of social capital. For instance, Carden et al. (2009) study the effect of the exposure to Wal-Mart on various proxies of social behavior, while Olken (2009) shows that television and radio in Indonesia lead to less participation in social organizations and lower self-reported trust.

The paper is structured as follows. Section 2 describes the electoral systems in Italy's municipalities. Section 3 explains the methodology used to identify the causal effect of electoral rules. Section 4 illustrates the outcome variable. Section 5 presents the empirical evidence; first it substantiates the empirical design, then it provides the results. Section 6 concludes.

2. Municipal electoral systems in Italy

Up to 1993, Italy's municipalities had a system of proportional representation which at that time also featured electoral rules at the national level.⁷ People voted for local parties/lists and councillors. Both the mayor and the members of the mayor's cabinet (*assessori*) were selected by the council from their own ranks. As highlighted by many (see, for instance, Agosta, 1999 and Vandelli, 1997) the system of proportional representation was a major impediment for the good governance of Italy's municipalities. To overcome these difficulties, on 25 March 1993 the Italian Parliament approved Law 81, also known as the *Law for the direct election of the mayors*.

Irrespective of the size of the municipality, the new framework envisaged that (i) residents vote directly for who they want to be mayor; (ii) the mayor can appoint and dismiss the *assessori*, who can also be recruited from outside the council. Crucially, the reform envisaged different electoral rules according to the *size* of the municipality:

- *Below the threshold of 15,000 inhabitants*, a single ballot applies. The candidate who wins the relative majority in the single election is appointed mayor. Under this scheme, each candidate for the seat of mayor can be backed by one list only and there is a substantial victory bonus: the list supporting the winner gets two-thirds of the seats in the council, while the rest of the seats are assigned to the remaining lists according to a criterion of proportionality.

- *Above the threshold of 15,000 inhabitants*, a dual ballot applies. Under this scheme, each candidate can be backed by a number of lists instead of just one. There is no direct link between lists and mayoral candidates:

⁷ However, very small municipalities (with less than 5,000 residents) had a majoritarian system.

voters can split their vote by opting for one mayoral candidate and a list associated with a different candidate (disjoint vote).⁸ If a candidate obtains an absolute majority (that is, over 50% of the votes cast) he or she become the mayor; if no candidate wins an absolute majority, then those ranked first and second in the vote go to a second round, in which they can seek the support of lists whose candidates have been eliminated. After the mayor has been appointed, the council is elected. If the lists supporting the winning candidate have received over 50% but less than 60% of the votes, then they receive 60% of the seats in the Council; otherwise, seats are assigned by the criterion of proportionality.⁹

The establishment of two different municipal electoral systems is explained by budgetary reasons. Compared to the single ballot, the dual ballot entails substantial extra outlays, as the fixed costs for the polls and the counting process basically double. Therefore, in an effort to minimize the impact on public finance for small towns, it was decided to apply a single ballot scheme to municipalities with less than 15,000 inhabitants.

In 1994 the new rules began to be implemented gradually, according to the schedule for the new elections envisaged at the local level.

3. Methodology

Our goal is to evaluate whether variations in local electoral rules make a difference to the participation of citizens at elections. As explained above, Italian municipal electoral rules are differentiated by the size of the city. A single ballot applies to municipalities of below 15,000 inhabitants, while a dual ballot system is in place above that cutoff. We exploit this discontinuity to investigate the causal impact of local electoral rules on voter turnout. In principle, different sized municipalities can vary in terms of many unobserved characteristics that can be correlated with measures of political participation. For instance, urban proximity might have a positive effect on civic engagement by facilitating interactions in political community matters (see Glaeser, 2004 and Borck, 2006) irrespective of the local electoral rules. Conversely, larger areas can be characterized by a greater degree of opportunistic behaviour (Putnam, 2000): if urban areas facilitate social flight, then it may be easy for urbanites to behave opportunistically and escape punishment. Similarly, large communities might display weaker social control over the civic duties of the residents, as explained by Funk (forthcoming) in the analysis of voting behaviour in the Swiss Cantons. Again, this (negative) impact of the size of the municipality on social behaviour might have nothing to do with the electoral schemes. By

⁸ Voters can also abstain in the election for the council, voting only for the mayoral candidate. However, voting only one list automatically implies a preference for the mayoral candidate supported by that list.

⁹ For a mayoral candidate who is elected in the second round, the 60% bonus is only granted if no other coalition got at least 50% of the votes in the first round. Since there is the option of a disjoint vote, in principle this possibility could arise.

applying a regression discontinuity design (RDD), we are able to differentiate between all the characteristics that may confound the identification of the causal effect of local electoral rules.

The main idea behind this research design (Angrist and Lavy, 1999; Black, 1999; and Van der Klaauw, 2002) is that municipalities just below the cutoff size (with a single ballot) make good comparisons with those just above the cutoff (where the dual ballot applies). This strategy is deemed preferable to other non-experimental methods because (see Lee, 2008) if the units of the analysis (in our case the Italian municipalities) are unable to manipulate precisely the forcing variable (their size), the variation in treatment (changes in local electoral rules) around the threshold is randomized as though in a randomized experiment (as if the municipalities had been randomly drawn just below or just above the threshold).

One implication of the local randomized result is that RDD can be tested like randomized experiments. If the variation in the treatment near the threshold is approximately randomized, it follows that all “baseline covariates” – all those variables determined prior to the realization of the forcing variable – should have the same distribution just above and just below the cutoff. Section 5.1 presents a test for the absence of discontinuity in baseline characteristics around the threshold that substantiates the empirical strategy. It also shows that beyond the move from single to dual ballot, no other policy variation occurs at the cutoff. Therefore, our results can be attributed to the sole effect of the changes in the local electoral rules documented in Section 2.

The causal effect of the local electoral rules is assessed by allowing the outcome variables to be functions of the size of the city and testing the existence of discontinuities in the intercept at the threshold. Operationally, we adopt a parametric approach fitting a highly flexible functional form. We will be running regressions of the following type:

$$Y_m = \beta T_m + g(Z_m) + \varepsilon_m \quad (1)$$

where Y_m is our measure of political participation in municipality m ; $Z_m = POP_m - 15,000$ represents the forcing variable; T_m is a treatment dummy that takes on the value of 1 if $Z_m \geq 0$ and 0 otherwise;¹⁰ $g(\cdot)$ is a higher order polynomial function in the forcing variable; and ε_m is the random error. β is the average treatment effect of electoral rules on voter turnout and can be interpreted as the jump between the two regression lines at the threshold. The estimated average treatment effect at the threshold can be represented as:

$$\hat{\beta} = \lim_{Z \rightarrow 0^+} \hat{Y} - \lim_{Z \rightarrow 0^-} \hat{Y}$$

that is, the difference at the limit of the estimated outcome, as the forcing variable approaches the cutoff from the right and the left, respectively. As is well known, RDD estimates can be highly sensitive to the

¹⁰ Two regions with a special status adopted different thresholds: 5,000 inhabitants for Friuli-Venezia Giulia and 10,000 inhabitants for Sicily: in these cases Z is accordingly defined.

specification of the functional form of $g(\cdot)$. In the empirical section, an extensive robustness analysis will deal with this issue.

4. The measure of political participation

Our measure of political participation is voter turnout. As a proxy for the strength of civic engagement, this measure has two important advantages. First, it is an outcome-based measure. Thus, it is not affected by social desirability issues that bias the measures collected through surveys. Second, as explained by Guiso et al (2010), this measure correlates well with the other well-known proxy of how much people internalize the common good, namely blood donations. However, unlike blood donation, voter turnout is available at a very detailed level of geographic stratification (municipalities), thus allowing the analysis of phenomena that are of a local nature.

Alongside important advantages, there are also drawbacks. First, to qualify as a good indicator of citizens' involvement in issues of general relevance, voter turnout should be unaffected by legal enforcement. As in some countries, but not in others, it is a legal duty to participate in elections, cross-country comparisons are probably highly biased by the different degrees of legal enforcement. This issue does not apply in our case: we compare municipalities within the same country where, above all, there is no legal obligation to participate.

Second and more importantly, voting can lead to personal patronage benefits. It might be an opportunity to obtain immediate personal benefits; that is, an "exchange" and not a measure of civic involvement. We are particularly concerned that this issue can affect our results. The tradition of "exchange" voting in Italy has been quite strong in the not so distant past (see Chang, 2005). Moreover, local elections are competitions in which the potential for patronage-driven voting is clearly maximized, given the proximity between voters and elected officials. In these cases voter turnout at a municipality election is an "erroneous" measure of local political engagement, the error being a proxy for local corruption. However, to the extent that the measurement error is not correlated to the treatment T_m it would only result in a larger error variance. Unfortunately, there are good arguments against this being the case, since electoral rules are likely to correlate to corruption (Persson et al.; 2003). To circumvent this drawback and to make sure that our measure of participation is capturing nothing else than the individual interest in the common good, we focus on political participation at the Parliamentary elections of 2001, rather than that at the municipality elections. That is, the impact on voter turnout of the variations in local electoral rules is measured in a nationwide electoral context, other than the one in which it originated. At the Parliamentary elections the scope for corruption-driven voting is reduced from the abolition of preference voting since 1993. Therefore we empirically estimate whether electoral rules have a persistent effect on voters' behaviour which survives in a

different voting context. As shown in Table 1, the average (across the 8,068 Italian municipalities) voter turnout at the Parliamentary elections of 2001 was 80 per cent (with a standard deviation of 11 percent).

5. Results

In this section, we present empirical evidence that substantiates the validity of our identification strategy and provide the estimation results for the effect of local electoral rules on voter turnout.

5.1 Substantiating the empirical design

First, the RDD framework relies on the fact that municipalities cannot manipulate their size in order to get a preferred electoral rule applied to them. In our case this requirement is trivially verified: the threshold was decided in 1993; at that time it was also decided that the reference population was the one resulting from the 1991 Census. Moreover, the Census is independently run by the National Statistical Office. Finally, even if one accepts that manipulation was feasible, it is not clear why this should have occurred as there was no identifiable advantage from the municipality's perspective. In any case, we investigate the smoothness of our forcing variable (population size) around the 15,000 threshold. Figure 1 plots the frequency of municipalities whose distance from the cutoff is less than 10,000 inhabitants, using different bin sizes (250 and 500 inhabitants). The distribution is positively skewed and a visual inspection reveals a small positive increase in the probability mass after the threshold. At any rate, the hypothesis of non-random sorting around the cutoff is rejected on the basis of the McCray (2008) test.¹¹

Second, discontinuities in the outcomes at the threshold can be unambiguously attributed to the role of local electoral rules only if no other policy variations occur at the cutoff. This is a reason for concern, as many other regulatory changes for the Italian municipal institutions are implemented as a function of the size of the city.¹² Table 2 shows the changes occurring at various thresholds. They mainly refer to the remunerations of the representatives (mayor, members of the cabinet, members of the council) and the size of the political bodies. Crucially, at the threshold of 15,000 inhabitants no other change occurs beyond that of local electoral rules.

Third, we examine whether observed baseline covariates are locally balanced on either side of the cutoff to substantiate the idea that the assignment of the treatment near the cutoff is approximately randomized. The regression discontinuity framework provides a natural framework to check whether some confounding factor is driving some spurious correlation. It suffices to run RDD regressions (of the type in equation (1) above)

¹¹ Results are available from the authors.

¹² They were mostly introduced in the second half of the 1990s.

using as dependent variables those factors that the researcher suspects could be driving the results. If no effect is detected then that variable can be considered as controlled for in the RDD exercise. We focus on three characteristics that should capture most of the municipality heterogeneity: a dummy variable equal to one if the municipality is located in the South of Italy (where socio-economic development is significantly lower); GDP per capita in 1994; and the 1991 share of employees in the non-profit sector, which proxies for pre-treatment civicness (descriptive statistics are depicted in Table 1). The results are shown in Table 3. For each dependent variable, both the full sample of about 8,000 municipalities and a restricted sample around the cutoff are considered. As in Lalive (2008), the bandwidth ($\pm 12,800$ inhabitants) for the restricted sample is heuristically chosen to obtain a sample size of about one half of the full sample. The probability of being located in the South is not different for treated and untreated municipalities (Columns 1 and 2). Analogously, no jump occurs at the threshold as to the degree of economic development (Columns 3 and 4). Finally, we find evidence that the degree of local civicness is not randomized around the cutoff (Column 5) which, however, does not survive when the restricted sample is considered (Column 6). As explained by Lee and Lemieux (2009), some of the differences in covariates across the threshold might be statistically significant by random chance. To check for this possibility, we combine the multiple tests into a single test statistic that measure whether data are broadly consistent with the random treatment hypothesis around the cutoff. Table 4 presents the results we obtain by estimating Seemingly Unrelated Regressions (SUR) where each equation represents a different baseline covariate. A χ^2 test for discontinuity gaps in all the equations being zero is strongly supported by data for both samples.

5.2 Estimating the effects of local electoral rules on voter turnout

We start by presenting some graphical evidence for the discontinuity of voter turnout at the 15,000 cutoff. Figure 2 we show the mean of the outcome variable for municipalities whose distance from the cutoff is less than 10,000 inhabitants, using different binsizes (250 and 500 inhabitants). The figure superimposes the fit of a linear regression allowing for a discontinuity at the cutoff. The figure strongly suggests that dual ballot elections induce a larger voter turnout.

Next, we turn to more formal measures of the effect of the electoral rules. Table 5 presents the RDD impact of the change in electoral rules at the threshold on voter turnout at a Parliamentary election. The reported coefficient represents the average treatment effect of the dual ballot rule compared with the single ballot one (standard errors are robust to unknown heteroskedasticity). Column 1 reports the raw mean differences (estimated by fitting a polynomial of order 0) at the cutoff for the voter turnout in the full sample of 8,017 municipalities. There is a statistically significant positive jump amounting to 2.2 percent. Then, we present the results from polynomial specifications of increasing order (from Column 2 to Column 5). In all the specifications we find a positive and significant effect, ranging from 1.2 percent (Column 5) to 2.2 percent (Column 2). The economic magnitude of the effect of the dual ballot is non-negligible, ranging from 1/10 to 1/5 of the standard deviation of the dependent variable.

Table 6 presents a number of robustness checks. Column 1 reports the results we obtain by augmenting the specification of Table 5, Column 5 (the most conservative one) with a number of covariates (we include the variables depicted in Tables 3 and 4 above). As discussed by Lee and Lemieux (2009), because of its local randomized experiment nature it is not necessary to include in a RDD setting additional controls to obtain consistent estimates. However, doing so might reduce the sample variability in the estimator. As a matter of fact, our results show that the inclusion of the additional controls slightly increases the point estimate, while the gain in precision is very modest. Column 2 restricts the estimation sample by about one half of the full sample (we trim the observation outside the bandwidth of $\pm 12,800$ inhabitants around the cutoff). While remaining highly significant, the point estimate increases to 3.5 percent. Column 3 considers a placebo experiment. We estimate the effect of local electoral rules – which readers will recall were gradually introduced starting from 1994 – on voter turnout at the Parliamentary election of 1994. As this outcome predates the reform of local electoral rules, we should fail to find any effect. This is exactly what happens. Finally, we estimate the effect of local electoral rules at fake thresholds. These are again placebo experiments, as no treatment takes place at fake thresholds. Following Imbens and Lemieux (2008) in Column 4 we consider the sub-sample with a population of less than 15,000 and test for a jump at the median of the forcing variable (2,049 inhabitants). Column 3 shows the result of the analogous exercise using the sub-sample to the right of the cutoff point (median = 27,036). In both cases, treatment effects are never significantly different from zero.

6. Conclusions

How to spur political and civic engagement is a crucial question. By focusing on the Italian case, where municipal electoral rules are differentiated by the size of the city, this paper investigates the effect of voting schemes at the local level on the political participation of the residents.

The results show that one set of electoral rules – the dual ballot – increases the political participation of citizens. The estimated impact on voter turnout has a non-negligible magnitude. The exact mechanism thorough which this effect has materialized goes beyond the scope of this paper; it is left for further investigation. However, we note that the positive implications of the dual ballot for involving residents in issues of general relevance could well be explained by a wider political representation compounded with an increased salience. It could have also been the case that the discouraging effect, due to the presence of

multiparty coalition governments, has been counterbalanced by the emergence of a new elite of local leaders.¹³

A major caveat is in order. Our identification strategy delivers a highly credible effect of local electoral rules for the sub-population of municipalities close to the threshold. Away from the threshold, the RDD identification can be much less informative. Needless to say, the possibility of extrapolating our results in other contexts (say, for different levels of government or other countries) should be seen as extremely tentative.

¹³ Romanelli (1995, p. 185) explains that “the first elections with the new scheme in some large cities – among the first ones, Milan, Genoa, Venice, Rome, Naples and Palermo – have, in effect, experienced the rise of personalities outside of political circles, in some cases with nationwide prestige.” Taking stock of Italy’s 2001 municipal elections in the 103 provincial capitals, Baldini (2002, p. 375) observes that “the dual ballot resulted in voters having more influence and mayors getting more power, while at the same time becoming more accountable.”

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Table 1. Descriptive statistics

Variable	Source	Obs	Mean	Std. Dev.	Min.	Max.
Voter turnout at the 2001 Parliament elections	Ministry of the Interior	8,068	0.798	0.107	0.049	1
1991 Population (Census)	National Stat. Inst.	8,100	7,009.6	42,450.26	31	2,775,250
Voter turnout at the 1994 Parliament elections	Ministry of Interior	8,068	0.843	0.105	0.203	1
South	National Stat. Inst.	8,115	0.315	0.465	0	1
Log GDP per capita in 1996	National Stat. Inst.	8,115	9.533	0.422	8.107	10.359
Share of employment in the non-profit sector in 1991	National Stat. Inst.	8,002	0.012	0.027	0	0.599

Table 2. Changes in local institutions as functions of the size of the municipality

Size	Changes
1,000	Mayor's and cabinet members' wages
3,000	Mayor's and cabinet members' wages / size of the council
5,000	Mayor's and cabinet members' wages / inclusion in the Domestic Stability Pact
10,000	Mayor's, cabinet members' and council members' wages / size of the council / size of the cabinet
15,000	Local electoral rules
30,000	Mayor's, cabinet members' and council members' wages / within-city neighborhood councils allowed
50,000	Mayor's and cabinet members' wages
100,000	Mayor's and cabinet members' wages / size of the council / size of the cabinet / within-city neighbourhood councils compulsory
250,000	Mayor's and cabinet members' wages / size of the council / size of the cabinet
500,000	Mayor's and cabinet members' wages / size of the council / size of the cabinet

Table 3. Balancing properties for the baseline covariates before the treatment: single equation estimates

Dep. Var.:	(1) South		(3) Log GDP per capita		(5) Share of employment in the non-profit sector in 1991	
	Full	Restricted	Full	Restricted	Full	Restricted
Treatment	0.019 <i>(0.030)</i>	0.037 <i>(0.066)</i>	0.014 <i>(0.024)</i>	0.018 <i>(0.058)</i>	0.228** <i>(0.088)</i>	0.097 <i>(0.228)</i>
Constant	0.344** <i>(0.011)</i>	0.354** <i>(0.035)</i>	9.543** <i>(0.008)</i>	9.544** <i>(0.030)</i>	1.238** <i>(0.031)</i>	1.251** <i>(0.114)</i>
Observations	8,045	4,023	8,045	4,023	7,946	4,023
R-squared	0.01	0.01	0.00	0.00	0.00	0.00

Robust standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%.

Table 4. Balancing properties for the baseline covariates: SUR estimates

Sample:	(1) Full	(2) Restricted
South	0.019 <i>(0.027)</i>	0.037 <i>(0.065)</i>
Log GDP per capita	0.014 <i>(0.025)</i>	0.018 <i>(0.060)</i>
Share of employees in the no-profit sector in 1991	0.228 <i>(0.161)</i>	0.097 <i>(0.238)</i>
Observations	7,946	4,023
χ^2	4.62	1.58
p-value	0.202	0.663

Robust standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%.

Table 5. The effect of local electoral rules on voter turnout: baseline results

Polynomial of:	(1) Degree 0	(2) Degree 1	(3) Degree 2	(4) Degree 3	(5) Degree 4
Treatment	0.022** (0.003)	0.022** (0.003)	0.021** (0.004)	0.016** (0.005)	0.012* (0.005)
Constant	0.796** (0.001)	0.796** (0.001)	0.796** (0.001)	0.798** (0.002)	0.800** (0.002)
Observations	8,017	8,015	8,015	8,015	8,015
R-squared	0.00	0.00	0.00	0.00	0.00

Robust standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%.

Table 6. The effect of local electoral rules on voter turnout: robustness

Action:	(1) Controls included	(2) Restricted sample	(3) Pre-treatment outcome	(4) Lower fake threshold	(5) Upper fake threshold
Treatment	0.013** (0.005)	0.035* (0.014)	0.007 (0.005)	0.004 (0.006)	-0.007 (0.006)
Constant	0.415** (0.036)	0.772** (0.008)	0.847** (0.002)	0.786** (0.004)	0.832** (0.004)
Observations	7,919	4,004	8,011	7,391	624
R-squared	0.34	0.01	0.00	0.02	0.01

Robust standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. In this table the results are from the same specification as in Table 5, Column 5.

Figure 1. Population density around the threshold

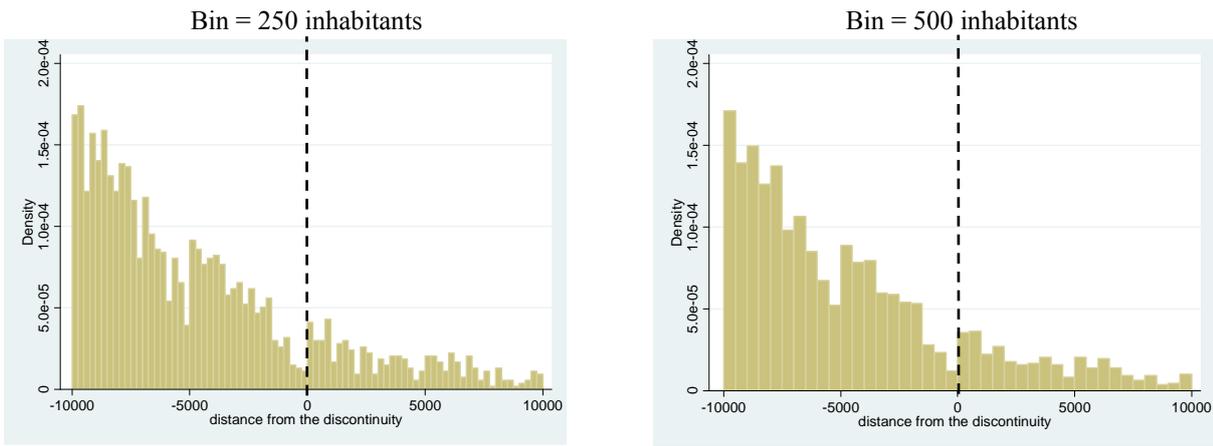


Figure 2. The effect of local electoral rules on voter turnout

