

Do institutions affect social capital? Evidence from local electoral rules*

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Abstract

It is widely documented that higher endowments of social capital are associated with more successful economic outcomes. Much less is known, however, on how to spur social capital accumulation. This paper tries to fill this gap by investigating the effect of local political institutions on the political participation of the residents (voter turnout). It focuses on Italy, where municipal electoral rules are differentiated by the size of the city: single ballot applies to municipalities with less than 15,000 inhabitants, while a dual ballot is in place above that threshold. By exploiting this discontinuity, the paper finds that local political institutions matter. The causal effect of the dual ballot is that of increasing the political participation of the residents. The paper also documents that greater voter turnout goes hand in hand with wider political representation, more skilled executives, and better policies.

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1. Introduction

An extensive body of research documents that higher endowments of social capital are associated with more successful economic outcomes (see, for instance, Knack and Keefer, 1997 and Hall and Jones, 1999). Much less is known, however, about the mechanisms through which social capital can be accumulated. A potential key channel goes from the local system of government to the social behaviour of the residents. According to Packel (2008), some local political institutions might spur political participation by promoting better policies and greater accountability of the government; others, however, might prevent citizens from exercising influence on policy makers, thus discouraging residents' involvement in political issues. Notably, 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 regime in place in Italy's areas in the middle ages that shaped the degree of local civiness that persisted through the centuries.

To shed some light on the role of local political institutions in the accumulation of social capital, this paper focuses on Italy's municipalities, which since the reform approved in 1993 have been characterized by two different electoral schemes¹ according to the size of the city. *Single ballot* applies to municipalities with less than 15,000 inhabitants, while a *dual ballot* is in place above that threshold. Under a single ballot, the candidate that wins the relative majority in the single election is appointed as mayor. Under a dual ballot, voters cast two sequential votes. First, they vote on whoever stands for election. The two candidates who obtain more voters are then allowed to compete again in a second round. Whoever wins in the second ballot gains the position of mayor.

While the respective roles of single and dual ballot for the accumulation of social capital have never been explored, some recent literature has highlighted that the two systems might have different implications for both the functioning of the municipal system of government and the policies implemented at the local level. Compared to the single ballot, the dual ballot should promote wider representation in the political competition; shift voters' focus from parties/lists' views and ideologies to the personal qualities of the candidates; and facilitate policy moderation by pushing the local government to implement fiscal policies with a medium-term horizon. Lowering

¹ As highlighted by Persson and Tabellini (2000), the working of political institutions is shaped by the constraints faced by the executive and the legislature. In this respect, the electoral system is key: by inducing different bundles of constraints and incentives, electoral rules might affect the choice of policies. For instance, Milesi-Ferretti et al. (2002) show that proportional systems are characterized by a higher spending than majoritarian ones, while, closer to the topic of this paper, Baqir (2002) suggests that a strong mayor might have a disciplinary effect on local government spending.

the degree of partisanship among the population and enhancing belief in the efficacy of voting could increase trust in government and the level of interest in politics that are reflected in voter turnout.

By implementing a regression discontinuity design around the threshold envisaged for the Italian municipalities, we are able to infer a causal link from electoral rules to political participation. Our results highlight that local electoral rules matter. In particular, they show that the causal effect of the dual ballot is that of increasing the political participation of residents. As previous literature suggests, greater political participation goes hand in hand with wider representation, more skilled executives, and better policies.

The paper is structured as follows. Section 2 describes the electoral systems in Italy's municipalities and discusses their implications. Section 3 deals with the previous literature. Section 4 explains the methodology used to identify the causal effect of electoral rules. Section 5 illustrates the outcome variable. Section 6 presents the empirical evidence; first, it substantiates the empirical design, then it provides the results. Section 7 concludes.

2. Municipal electoral systems in Italy

Up to 1993, Italy's municipalities had a system of proportional representation² - the "parliamentary model," - which at that time also featured electoral rules at the national level. 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. This system was characterized by close party control over local governmental activities, which also prevented the mayor from consolidating any degree of autonomous leadership. The selection of the mayor and the functioning of his cabinet were severely constrained by coalition agreement at the local level and pressures on local politicians from parties at the national level.

Spurred by a strong campaign to change the local electoral rules, on 25 March 1993 the Italian Parliament approved Law 81, also known as the *Law for the direct election of the mayors*.

² However, very small municipalities (with less than 5,000 residents) had a majoritarian system.

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: voters can split their vote by opting for one mayoral candidate and a list associated with a different candidate (disjoint vote).³ 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 in the first and second place of the vote ranking 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 they have received over 50% but less than 60% of the votes, the lists supporting the winning candidate receive 60% of the seats in the Council; otherwise, seats are assigned by the criterion of proportionality.⁴

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 started to be implemented gradually, according to the schedule for the new elections envisaged at the local level.

³ 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.

⁴ 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 materialize.

3. Previous literature

The point that institutions might have an important role for the social behaviour of the citizens is well established in social sciences. For instance, North (1991, p. 97) defines institutions as “the humanly devised constraints that structure political, economic and social interaction”. Packel (2008) argues that some local political institutions might spur political participation by promoting better policies and greater accountability of the government; others, however, might prevent citizens from exercising influence on policy makers, thus discouraging residents’ involvement in political issues.

While the respective roles of single and dual ballot for the accumulation of social capital have never been explored, some recent literature has highlighted that the two systems might have different implications for both the functioning of the municipal system of government and the policies implemented at the local level.

The literature of political science emphasizes that, because it weakens the incentives for political entities to merge⁵, the dual ballot should be featured by a higher number of parties/lists compared to the single ballot (see Osborne and Silvinsky, 1996, and Wright and Riker, 1989). Moreover, the dual ballot might shift the voters’ focus from parties/lists’ views and ideologies to the personal qualities of the candidates.⁶ To the extent it grants voters a more effective right of choice among different candidates, the dual ballot forces political parties to support good candidates (even picked outside their ranks). Needless to say, this should have a positive effect on the governance of the municipalities.⁷ As for the policies, recent work by Bordignon and Tabellini (2009) makes the point that the dual ballot allows more policy moderation; Chamon et al. (2008) highlights that this scheme induces more investment and less current spending.

⁵ 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.

⁶ In Italy, the envisaged possibility of the disjoint vote might enhance this feature.

⁷ Taking stock of the 2001 municipal elections in the 103 province capitals, Baldini (2002) observes that the dual ballot results in voters having more influence and mayors getting more power, while at the same time becoming more accountable.

4. 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. Single ballot applies to municipalities of below 15,000 inhabitants, while a dual ballot is in place above that cutoff. We exploit this discontinuity to investigate the causal impact of local electoral rules on voter turnout. In principle, differently-sized municipalities may differ with respect to many unobserved characteristics that can be correlated with measures for political participation. For instance, urban proximity might have a positive effect on social capital 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 applying a regression discontinuity design (RDD), we are able to differentiate out 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) are 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 (the Italian municipalities, in our case) 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 6.1 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.

We adopt a parametric approach fitting a highly flexible functional form on the whole sample. 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. We will be running regressions of the following type:

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

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;⁸ $g(\cdot)$ 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 since the forcing variable is measured as $Z_m = POP_m - 15,000$. The estimated average treatment effect at the threshold can be represented as:

$$\hat{\beta} = \lim_{Z \rightarrow 0^+} \hat{Y} - \lim_{Z \rightarrow 0^-} \hat{Y} \quad (2)$$

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

5. The measure of social capital

Our measure of social capital is political participation as reflected in voter turnout. This measure has two important advantages. First, by being an outcome-based measure 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 highly celebrated 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.

⁸ 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.

Along with its important advantages, there are also drawbacks. First, to qualify as a good indicator of social capital, 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 to our case: we compare municipalities within the same country where, above all, there is no legal obligation.

Second, 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 be relevant for 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 the electoral competitions in which the potential for patronage-driven voting is clearly maximized, given the proximity between voters and elected officials. To make sure that our measure of social capital is capturing nothing else than the individual interest in the common good, we decided to focus on the political participation at the Parliamentary elections of 2001,⁹ 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, different from the one in which it originated. 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). At the Parliamentary elections of 1994 turnout was 4 percentage points higher.

6. Results

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

6.1 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 context this requirement is trivially verified: the threshold was decided in 1993; at that time it was also decided that the reference population

⁹ Therefore, our outcome variable is measured 6 years after the municipal electoral reform began to be implemented.

was that resulting from the 1991 Census. Moreover, the Census is independently run by the National Statistical Office. Finally, even if one is willing to accept that manipulation were 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 binsizes (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.

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 envisaged to be implemented as a function of the size of the city.¹⁰ 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 sizes of the political bodies; however, the population of the city is also relevant for inclusion in the domestic Stability Pact, which should have a disciplinary effect on local public finance, and the set-up of within-city assemblies, which might adversely impact the budget. 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) 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 social capital and socio-economic development are significantly lower); the GDP per capita in 1994; and the 1991 share of employees in the no-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

¹⁰ They were mostly introduced in the second half of the 1990s.

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 civicism 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 overall 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 highly supported by data for both samples.

6.2 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 graphs 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 the voter turnout at the 2001 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). Overall the results are highly supportive. 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.¹¹

¹¹ From 1994 to 2001 the average turnout at the Parliamentary elections decreased by 4 percentage points. Our results indicate the dual ballot is associated with a reversal of that decrease from 1/4 to 1/2.

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 can reduce the sample variability in the estimator. As 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). The point estimate increases to 3.5 percent, while remaining highly significant. Column 3 considers a placebo experiment. We estimate the effect of local electoral rules – which reader will recall were gradually introduced starting from 1994 – on the 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.

6.3 *Alternative outcomes*

Results documented so far show that the causal effect of the dual ballot is that of increasing the political participation of the residents. Previous literature suggests a numbers of channels through which the effect could materialize. This section tests empirically the relevance of these channels, by using the RDD design. One message from the political science literature is that single and dual ballots should have different implications as to the number of parties/lists in the political competition: the dual ballot should lead to wider representation. Table 7, Column 1 presents the RDD impact of the change in electoral rules at the threshold on the number of parties/lists represented in the local council.¹² The political science prediction finds empirical support. The dual ballot might also have the effect of stimulating voters to give more weight to the personal qualities of the candidates. In turn, this could spur political parties to support high-quality candidates. While the personal attributes of the mayor and the members of his or her office are mostly unobserved, we do observe schooling. We find (Column 2) that dual ballot executives are characterized by a

¹² For the sake of brevity, Table 7 presents only the results from a polynomial specification of order 4 (analogues to that of Table 5, Column 5). Results are however quite similar by estimating lower order polynomials (analogues to that of Table 5, Column 1 to Column 4). Moreover, they are confirmed by the robustness checks (analogues to that of Table 6).

higher human capital. As for the policies implemented at the local level, we do find that dual ballot municipalities display more careful management of public money: Column 3 shows that the fraction of local public expenditure on wages and salaries is significantly lower at the threshold.

Finally, better functioning local institutions might spur growth by efficiently providing public goods, such as infrastructures, or facilitating firms' activities by implementing pro-development regulations. Indeed, Column 4 shows that the growth rates for industrial plants in dual ballot municipalities are significantly higher. By the same token, a good local government might enhance the provision of high-quality services to households. Better economic prospects for the area will go hand in hand with increases in the value of non-tradable goods. This possibility also finds empirical support, as Column 5 documents a positive and significant impact on house prices.

7. Conclusions

How to spur social capital accumulation 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 local political institutions 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 jump in voter turnout has a non-negligible magnitude. The positive implications of the dual ballot for involving residents in issues of general relevance are associated with a number of achievements under this system. We document that the dual ballot causes a wider political representation, promotes higher-quality executives, and leads to the implementation of policies that are more focused on the development of the area. Therefore, the increase in voter turnout probably reflects gains in the governance of Italy's municipalities.

References

- Agosta, A., (1999), 'Sistema elettorale e governo locale: Gli effetti politici e istituzionali della riforma del 1993', in S. Operto (ed.) *Votare in città. Riflessioni sulle elezioni amministrative* (Milan: Angeli, 1999), 31–58.
- Angrist, J.D., Lavy, V., (1999), Using Maimonides' rule to estimate the effect of class size on scholastic achievement, *Quarterly Journal of Economics*, 114, 533-575.
- Baldini, G., (2002), The direct election of mayors: an assessment of the institutional reform following the Italian municipal elections of 2001, *Journal of Modern Italian Studies*, 7, 364-379.
- Baqir, R., (2002), Districting and Government Overspending, *Journal of Political Economy*, 110, 1318-1354.
- Black, S., (1999), Do better schools matter? Parental valuation of elementary education, *Quarterly Journal of Economics*, 114, 577-599.
- Borck, R., 2006. Social Agglomeration Externalities. Mimeo, DIW Berlin.
- Bordignon, M., Tabellini, G., (2009), Moderating Political Extremism: Single Round vs Runoff Elections under Plurality Rule, *IGIER Working Papers*, 348, Bocconi University.
- Chamon, M., P., de Mello, J., M., Firpo, S., (2008), Electoral rules, political competition and fiscal spending: regression discontinuity evidence from Brazilian municipalities, *Working Paper*, No 559, Departamento de economia, PUC-Rio.
- Chang, E. (2005), Electoral Incentives for Political Corruption under Open-List Proportional Representation, *Journal of Politics* 67 (3), 716 - 730.
- Funk, P. (forthcoming), Social Incentives and Voter Turnout: Evidence from the Swiss Mail Ballot System, *Journal of the European Economic Association*.
- Glaeser, E., 2004. Cities and Social Interactions. Paper presented at the Leverhulme International Symposium, LSE London.
- Guiso, L., Sapienza, P., Zingales, L., (2010), Civic Capital as the Missing Link, *NBER Working Papers*, 15845, National Bureau of Economic Research.
- Hall, R., E., Jones, C., J. (1999), Why do some countries produce so much more output per worker than others?, *Quarterly Journal of Economics*, 114, 83-116.
- Imbens, G. and Lemieux, T. (2008), Regression Discontinuity Designs: A Guide to Practice, *Journal of Econometrics*, 142(2), 615-635.
- Knack, S., Keefer, P., (1997), *Does social capital have an economic payoff? A cross-country investigation*, *Quarterly Journal of Economics*, 112, 1251-1288.
- Lalive, R., (2008), How Do Extended Benefits Affect Unemployment Duration? A Regression Discontinuity Approach, *Journal of Econometrics*, 142, 785-806.
- Lee, D., S., (2008), Randomized experiments from non-random selection in U.S. House elections, *Journal of Econometrics*, 142, 675–697.

- Lee, D. S., Lemieux, T., (2009), Regression Discontinuity Designs in Economics, *NBER Working Paper*, 14723, National Bureau of Economic Research.
- McCrary J. (2008), Manipulation of the Running Variable in the Regression Discontinuity Design: a Density Test, *Journal of Econometrics*, 142(2), 698-714.
- Milesi-Ferretti, G., M., Perotti, R., Rostagno, M., (2002), Electoral Systems And Public Spending, *Quarterly Journal of Economics*, 117, 609-657.
- North, D. 1991. Institutions, *Journal of Economic Perspectives*, 5, 97–112.
- Osborne, M., J., Slivinski, A., (1996), A Model of Political Competition with Citizen-Candidates, *Quarterly Journal of Economics*, 111, 65-96.
- Packel, D., (2008), Electoral Institutions and Local Government Accountability: A Literature Review, *Social Development Working Paper*, 111, World Bank.
- Putnam, R., D., (1993), *Making Democracy Work*, Princeton University Press.
- Putnam, R., 2000. *Bowling alone: The Collapse and Revival of American Community*. Simon and Schwster, New York.
- Tabellini, G., Persson, T., (2000), *Political Economics - Explaining Economic Policy*, MIT Press.
- Van Der Klaauw, W., (2002) Estimating the effect of financial aid offers on college enrollment: a regression-discontinuity approach, *International Economic Review*, 43, 1249-1287.
- Vandelli, L., (1997), *Sindaci e miti. Sisifo, Tantalò e Damocle nell'amministrazione locale*, Il Mulino.
- Wright, S., Riker, W., (1989), Plurality and Runoff Systems and Numbers of Candidates, *Public Choice* 60, 155-175.

Table 1. Descriptive statistics

Variable	Source	Obs	Mean	Std. Dev.	Min.	Max.
Voter turnout at the 2001 Parliament elections	Ministry of 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 no-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 no-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.

Table 7. The effect of local electoral rules on alternative outcomes

Outcome:	(1) Number of parties/lists in the local council	(2) Schooling of the Mayor and members of cabinet	(3) Wage and salary expenditures	(4) Private sector growth	(4) House prices
Treatment	3.409** (0.123)	0.260** (0.097)	-0.009* (0.004)	0.647** (0.111)	95.547** (31.468)
Constant	2.763** (0.051)	12.529** (0.048)	0.335** (0.001)	0.928** (0.043)	941.675** (11.150)
Observations	8,045	8,045	8,037	8,045	6,306
R-squared	0.70	0.20	0.00	0.06	0.07

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

Figure 1. Population density around the threshold

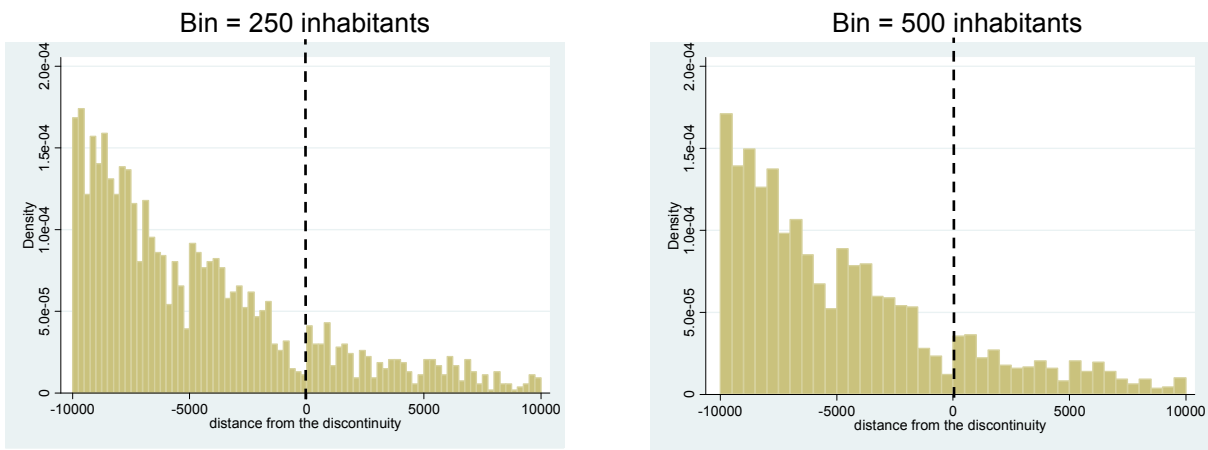


Figure 2. The effect of local electoral rules on voter turnout

