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Concurrent Elections and Political Accountability: Evidence from Italian Local Elections*

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Abstract

This paper analyses the effects of holding concurrent elections in multi-tiered government structures on turnout decision and voting behaviour, based on municipal and provincial electoral data from Italy during the 2000s. When the less salient provincial elections are held concurrently with the highly salient municipal elections, we observe three main effects: (1) turnout increases significantly by almost ten percentage points; (2) issues that are specific to the more salient (mayoral) contest affect the less salient (provincial) contest, with mayors' fiscal decisions impacting on the vote share of provincial incumbents; (3) issues that are specific to the less salient (provincial) contest stop affecting provincial elections outcomes. These findings shed light on how voters acquire information on incumbent politicians, and suggests that the effectiveness of an election as an accountability tool may be hindered by the concurrence with higher-stakes elections.

JEL classification: D70, H70.

Keywords: concurrent elections, turnout, political accountability, local elections, coat-tails.

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1 Introduction

Observing the rates of voter turnout at different elections and in different countries, one can notice how voters around the globe show markedly changeable levels of interest for different contests. Typically, general and presidential elections are more likely to spur debate and mobilize voters than regional and local elections. Referenda can instead see either very low turnout, as in the Catalan independence ballot of 2014 or the Hungary referendum on EU refugee quotas of 2016, or impressive levels of participation as in the 2015 Scottish Independence referendum or the one on exiting the European Union in the UK in 2016.

Within countries that hold elections on separate dates, turnout rates tend to differ significantly too. For example, 66% of voters turned out for the 2015 UK general elections, almost twice as much as for the 2014 European Parliament and local elections (35%). In other countries, such as the United States, with around 500,000 elected officials in almost 90,000 representative local governments and school districts, local elections are either held separately or concurrently with state and federal elections on “Election day.” In the latter case, holding low salience (local) and high salience (presidential) elections concomitantly tends to raise the rate of turnout for the low-salience elections—an effect that is generally welcomed by academics and policy-makers alike, taking higher turnout as a symptom of a better functioning democracy.

In fact, as long as voters rationally compare the costs and returns to voting when deciding whether to turn out or not, and given that the cost of going to the polls is only paid once in case of concurrent elections, we should expect voter turnout to be higher in “election days.” However, holding different elections simultaneously is unlikely to only have the effect of raising the rate of voter participation for all races. Two distinct phenomena are typically observed that can be attributed to the fact of holding the elections concomitantly. The first is the so-called “roll-off”, i.e. instances in which voters rationally choose to abstain in some contests and cast a valid ballot in others, thus frustrating the objective of raising participation *per se* in simultaneous races. The second one—called “coat-tail voting”—arises when the popularity of a candidate in one contest spills over to the co-partisan candidate in another contest. In circumstances where voters show different levels of involvement in electoral races with varying stakes and salience, one can expect that holding elections simultaneously might have ambiguous consequences on the accountability of governments: with concurrent elections, the voting decision for the less salient contest might be indirectly affected by the factors and issues that are at stake in the more salient concurrent one. This further weakens the impact of own performance on popularity and loosens the accountability mechanism as far as lower salience races are concerned— a consequence of coat-tail effects in concomitant elections that

does not seem to have been fully recognized before.

In order to test these hypotheses about the effects of concomitant elections, we analyze a newly constructed dataset on Italian local elections and public finance data. In particular, we use data on all municipal and provincial contests held in 2004 and 2009 in Italy, when a large number of municipal and provincial government were elected. We exploit the staggered features of municipal elections: the independent nature of each municipality's mayoral term implies that within each province going for *provincial* elections (the upper tier of local government in Italy), some voters were also called to vote on the more salient *mayoral* elections (the lower tier of local government) due to the larger set of competencies attributed to municipal authorities than to provincial ones. In the rest of municipalities constituting the control group, voters were only voting for renewing provincial governments in lower stakes elections. This allows us to have an original quasi-experimental design in which treatment (being subjected to concurrent mayoral and provincial elections) and control group (voting solely for provincial elections) can be considered as good as randomly assorted. We analyse the levels of turnout and the voting behaviour in provincial elections at the municipal level. In particular we are interested in ascertaining whether: (1) the concomitance of mayoral elections raises turnout in provincial elections too, and: (2) voters take into account fiscal performance when voting, and how concurrence of elections affects this capacity. In particular, we test the impact of provincial as well as municipal fiscal issues on provincial election outcomes. Our results can be briefly summarized as follows. First, we find turnout rates to be significantly higher in the treatment group (concomitant provincial-municipal elections) by almost ten percentage points, and valid votes to be higher by about six percentage points. Second, we get evidence of how concurrence substantially affects the relationship between fiscal performance and voting behaviour: provincial fiscal performance affects provincial voting behaviour only in the control group (no concurrent elections), while municipal fiscal performance affects provincial voting behaviour only in the treatment group (concurrent municipal and provincial elections).

The paper is organized as follows: Section 2 goes through the related literature, Section 3 illustrates the institutional setup, and Section 4 discusses the data and the empirical strategy. Section 5 shows the empirical results, Section 6 the robustness checks and Section 7 concludes.

2 Related Literature

This paper relates most closely to the wide-ranging literature on turnout in elections, and its link with information acquisition on the one hand, and the literature on concurrent elections on the other hand. More generally, it also contributes to the study of political accountability

and the effects of information on voting.

The sheer rationality of turning out in large elections—where the probability of being pivotal is often negligible—has been studied extensively (for a review see [Dhillon and Peralta, 2002](#)). Further, many works tried to analyze whether increasing turnout (or making voting compulsory) improves the efficiency of elections, i.e. the likelihood that the winner is the “correct” candidate (in common-value contests) or the candidate preferred by the median or average voter (in private-value contests). [Borgers \(2004\)](#) concludes that in private-value contests voluntary voting should be preferred to compulsory voting, as voters with better information are more likely to turn out. In common-value contests, [Feddersen and Pesendorfer \(1996\)](#) find that even if voting costs are zero, it may be optimal for some uninformed voters to abstain, in order to delegate the decision to more informed voters.

On the link between concurrent elections and the decision of voting or abstaining, [Ghirardato and Katz \(2006\)](#) offers a decision-theoretic model of multiple elections in which voters may decide to abstain selectively, while [Degan and Merlo \(2007\)](#) look into two private-value elections, in which voters are regret-minimizers and gather information on the ideological position of candidates in different tiers. Their model treats the two tiers as practically independent, giving theoretical backing to the observed pattern of selective abstention and split-ticket voting in concurrent election, but do not concentrate on the interaction between the two contests.

Empirical works have confirmed the intuition that holding elections on the same day does influence voter turnout, and concurrence has been offered as a solution to the dramatically low voter turnout rates that are often registered in US local government elections that are held off-cycle ([Lijphart, 1997](#); [Hajnal and Trounstein, 2005](#)). Recent papers have explored the effects of on-cycle versus off-cycle elections on the outcomes of elections and on the policies that are implemented; using school-district level data from the US, [Anzia \(2011, 2012\)](#) found that the low turnout of off-cycle elections favours lobbies and interest groups, which are able to obtain more favourable policies than in high turnout concomitant elections. Exploiting a change in election timing for Californian school districts, [Berry and Gersen \(2011\)](#) found instead that packing elections together did raise voter turnout significantly, but had virtually no impact on public policy. [Augenblick and Nicholson \(2016\)](#) tested whether voting and turnout decisions are affected by the positioning of contests on the ballot. The “exogenous” hike in turnout caused by concurrence has been exploited also by [Lo Prete and Revelli \(2014\)](#), who find that higher turnout (and possibly therefore less informed voters) makes voting outcomes less responsive to changes in performance, and increases the chances of election of lower-valence politicians.

Finally, a number of papers have explored the issue of coat-tails in concurrent elections.

Ahn and Oliveros (2012, 2014) look into a seemingly unrelated issue: how information aggregation in juries is affected by the choice of sequential or joint trials; this is analogous to voters deciding on common-value electoral contests held either concurrently or separately, but for the size of the “electorate”: very small for a jury, very large for elections. Zudenkova (2011) sets up a political agency model with concurrent elections, in which politicians care about their own and their fellow partisan re-election chances; in such a setup the optimal voters’ strategy is to hold each politician accountable for performances of all incumbents jointly, thus minimising incumbents’ free-riding on each other’s effort. Halberstam and Montagnes (2015) explain why it is the case that U.S. senators elected together with the President tend to be more partisan: according to their model a popular presidential candidate increases the chances of victory of co-partisan senatorial candidates, allowing them to be more extremists.

More fundamentally, our paper relates also to the vast literature on voters responsiveness to politicians’ past performance and political accountability. The early economic tests of decentralized government accountability in the US focused on the hypothesis that the generality of voters dislike public spending growth and debt accumulation, that is behave at the polls as fiscal conservatives (Peltzman, 1992). More recent research has pointed instead to the vote-buying power of at least some more visible public expenditure items, and investigated the electoral consequences of the mix and cycles of various categories of decentralized expenditures (Akhmedov and Zhuravskaya, 2004; Veiga and Veiga, 2007; Sakurai and Menezes-Filho, 2008; Drazen and Eslava, 2010; Jones et al., 2012). Other works concentrated on whether voters able to interpret information correctly. This goes back to Alesina and Rosenthal (1995) and Wolfers (2002) (among others) and the challenge to test voters’ rationality, and broadly relates to Matejka and Tabellini (2015), who describe rationally inattentive voters, who decide how to concentrate limited resources in the information gathering process about the electoral contests they are facing.

Finally, some recent contributions have been able to ascertain the impact of more precise measures of local government performance on election results, like observed student performance scores as a measure of education quality in Israeli local governments (Brender, 2003), local authorities’ performance rankings as evaluated by an independent commission in the UK based on audit and inspection activity and service quality indicators (Revelli, 2008), or the overall quality of life in Italian cities (Bianchini and Revelli, 2013).

Our empirical exercise is closest to the work by Halberstam and Montagnes (2015). In their paper, they analyse the ideological positions of US congressmen, comparing those elected concurrently with the president with those elected in mid-term elections. Under concurrent elections voters use information they hold about the high-stake (presidential) contest to update their beliefs on the lower stake one. They focus on candidates’ ideology, and find

that in low stake contests candidates with more extreme views are more likely to win under concurrent elections, where voters are swayed by the (more centrist) presidential candidates. Some elements of this setup is shared by other theoretical papers (among others [Caillaud and Tirole, 2002](#); [Snyder and Ting, 2002](#); [Geys and Vermeir, 2008](#)), which highlight how parties play a role in conveying information to voters about candidates’ ideological position, i.e. on the game’s private value dimension.

Our paper focuses instead on the “common value” component of candidate policies, such as the ability to provide public services at lower cost, as proxied by tax revenue per capita. In a full-information context, a voter would always reward (or punish) each incumbent in each tier on her merits. When information is more scarce, i.e. if a voter have information only on the most salient contest, he may use this information also when voting in the other contest. This implies that a candidates in the low-stake contest may be rewarded (punished) for the good (bad) “performance” of the incumbent in the salient contest.

3 Institutional Background

Italy is subdivided in twenty regions, about 100 provinces, and over 8,000 municipalities. Five regions—accounting for about 15% of the population—enjoy a “special status”, and have wider autonomy in tax, spending and internal organization, including lower-tier government structure, and are therefore discarded from our analysis. The institutional framework is such that about 70% of public spending is done by the central government, 20% by regions (mostly on healthcare), almost 2% by provinces (mostly on local roads, environment, vocational training and school buildings), and the remaining 8% by municipalities (on primary schools, social services, environment, local transport). This paper focuses on provinces and municipalities.

Looking both at turnout and voters’ knowledge of the different tiers of government, we can state that the top and bottom tiers are the one that receive most attention: voters are generally much more aware of who is their mayor, than of who is the provincial or regional president. This is also evident from the turnout levels. In [Figure 1](#) we plotted the time series of turnout in different types of elections for all available years.¹ The first notable finding is a historical trend of decreasing turnout in all tiers. More interestingly, we can also note that the two most popular contests are general and municipal elections, while European, regional and provincial elections are less popular (the exception being the 2013 regional elections, held

¹For municipal elections, we focus on the main date in which each election is held. Each year a very limited number of municipal elections (typically one or two) may be held on a different date, usually due to a last-minute delays such as a court case on the procedural matters involving a specific municipality. For general and European elections, we omitted the votes of residents abroad.

concurrently with the general elections, but separately from all other municipal elections). We can also see how the provincial election line is constantly below the municipal election one, and follows a similar trend. This is true also for the two year on which we concentrate: 2004 and 2009, which are highlighted with dashed vertical lines. As it can be seen in Figure 2, this is also true when disaggregating our data at the regional level. These graphs show the average turnout (net of invalid ballots) and average share of invalid ballots in provincial and municipal elections in 2004 and 2009 by region (sorted from North to South, from West to East); voters' turnout and net turnout are higher in municipal than in provincial contests and invalid ballots are more frequent in provincial elections across all regions. Figure 2 also shows how turnout generally decreases moving southwards.

A further issue that is notable of attention is a practical aspect of the electoral mechanism. No postal vote is allowed for local elections. When at the polling stations, voters are given separate ballots for each electoral contest. It is practically feasible for voters to refuse some of the ballots and vote only in a subset of contests, but it is an extremely rare event. More often voters may take all ballots, but decide to spoil or leave blank some of them.²

Regional Presidents, Provincial Presidents and Mayors are directly elected together with their respective councils, remain in power for 5 years, and can be re-elected only once. Elections are generally held once a year, and each year a number of municipalities, provinces, and regions goes to elections. This is because if a president/mayor resigns, dies, or loses a confidence vote in the council, elections are called for the following Spring and a new mayor or President is elected for a full five-year term. In time this generated independent terms of office across space and tiers. Provincial presidents and mayor of municipalities with more than 15,000 inhabitants are directly elected with a runoff system,³ while mayors of smaller municipalities are elected with plurality rule.

Each tier of government finances its expenditures through own taxes, charges, and grants from upper tier governments. Municipalities are relatively less reliant on grants than provinces, as they have access to larger tax bases and levy more charges. As an example, Tables 1-2 shows the share of current revenues from taxes, grants, and other charges for provinces and municipalities in year 2004. Both provinces and municipalities receive most of the grants from central and regional government. Municipalities receive hardly any transfer from provincial governments, making the two tiers independent from the budgetary point of view.

Municipalities' main tax revenue source is a property tax (ICI), which is levied on all

²For example in 2004 both the municipality and the province of Florence went to elections. Within the municipality of Florence the difference of turnout between mayoral and provincial elections accounted to 0.03% (86 voters in total).

³If no candidate obtains an absolute majority of votes in the first round, a second round of elections is called between the top two candidates of the first round. The candidate winning the second round is elected.

properties. Its tax base is the land registry value of each property, and its tax rate is freely decided by each mayor within a band. This tax has been at the forefront of the political debate, so much so that its abolition or reduction has proven to be a successful electoral promise in more than one instance.⁴ Provinces' own revenues are instead mostly coming from a tax on new car registrations, on car insurance policies and on electricity consumption; for each of these levies each province decides the tax rate within a centrally set band. The nature of these taxes also implies that it is nearly impossible for a provincial government to target provincial taxation towards (or away from) specific municipalities for electoral reasons.

In terms of expenditures, the two main spending chapters for both tiers are general administration and education, with municipalities taking care of primary schools, and provinces taking care of secondary schools (mainly building maintenance and ancillary services). Tables 1-2 shows the main expenditure components in each tier for year 2004.

Our choice to focus on provinces and municipalities is motivated by a number of reasons. First of all, we are interested in analyzing the electoral outcome of second-tier elections, and provincial elections are among the least favoured by Italian voters. Secondly, the lower-tier / higher-salience quality of mayoral elections allows us to separate municipalities within a province into a treatment and a control group.

In Table 3 we report the number of mayoral elections taking place each year in the fifteen "ordinary status" regions (comprising about 85% of the population), together with the number of municipalities called to the polls for other contests on the same day. This table shows how our identification strategy would not be applicable to other years or other elections. For example, regional elections (which are themselves low-stake contests) are held mostly in years in which only a handful of municipalities are called to the polls (2005 and 2010, the latter being further contaminated by four provincial contests as well), and 2008 was dominated by the general elections, which historically sees the highest turnout. In 2007 and 2011 only a small subset of those municipalities electing their provincial president also elected a mayor (resp. 18 and 16 municipalities). 2011 would also be problematic in itself as the debate on the abolition of the provincial institution (or more precisely, its downgrade into an indirectly-elected body) was very advanced, and this may well have influenced voters' interest and willingness to gather information on these contests. All in all, 2004 and 2009 are the only years for which we observe a sufficient number of municipal and provincial elections, and in which mayoral elections are coupled only with lower-salience contests.

⁴Ahead of 2006 general elections, the conservative incumbent Silvio Berlusconi promised exemption to resident-owners. This is believed to have contributed to narrow his electoral defeat. The (barely) winning left-wing coalition increased the tax allowance for resident-owners. When new elections were called in 2008, Silvio Berlusconi won and honoured his promise, exempting from the real-estate tax resident-owners living in non-luxury dwellings.

As one can see from Table 3, most provincial elections are held in years ending in 4 and 9 (59 provinces went for elections in 2004 and 55 in 2009).⁵ Over 4,500 municipalities are included in these provinces and—within these—about 3,000 mayors are running for election in the same year. This implies that we can observe the voting behaviour at the municipal level in over 4,500 municipalities, 3,000 of which are “treated” by having concurrent mayoral elections, and 1,500 are a natural “control” group, in which only the provincial elections are held.

4 The Data

We collected municipal-level data of provincial and municipal elections held in 2004 and 2009. We then collected data on local government officials, such as mayors and provincial presidents, and their political affiliation. Both of these sets of data are made public by the Interior Ministry. From the national statistical office (ISTAT), we also collected demographic data on municipalities that could affect the demand and cost of supply of public services and the tax bases, such as population, the share of children, elderly and foreigners, the average declared personal income-tax base (source: Finance Ministry).

As political controls we constructed variables capturing the ideological complexion of the ruling coalition at the provincial (left/right) and municipal (left/right/local voters’ association) level, whether the incumbent provincial president or mayor are subject to a term limit, and whether the incumbent mayor and provincial president belong to the same political coalition (align), and how many year the incumbent mayor has been in office.

The municipality is our unit of observation: in other words we observe the electoral behaviour in any electoral contest (municipal, provincial) at the municipality level. For each election we construct a number of measures. First of all, the number of votes cast, as a share of eligible voters (turnout), then the number of *valid* votes cast as a share of eligible voters (net turnout) and the share of invalid (i.e. spoiled and blank) ballots, as a share of eligible voters.

We also construct measures of votes (in provincial elections) obtained by the coalition ruling at the provincial level (*incumbent*), by the opposing coalition (*challenger*), and the difference between these two, i.e the margin of victory of the incumbent (*mv*, which is negative

⁵Three provinces elected their president in 2004 and 2008: this was because their presidents decided to run for Parliament in 2008, and had to file early resignation as the two offices cannot be legally held contemporaneously. The Province of L’Aquila went to elections in 2004 and 2010; elections were planned for June 2009, but they were postponed as L’Aquila was hit by a severe earthquake in April 2009. From 2012 the provincial institution was radically changed, and provincial councils are now elected by mayors and municipal councillors within each province.

if the incumbent loses the elections).

Provincial fiscal performance is captured by average yearly per capita tax revenues over the term of office (*Entrate Tributarie*). This measure captures the province-wide fiscal policy, and is therefore invariant within each province/provincial term of office. Consistently with other papers using similar data (among others [Bianchini and Revelli, 2013](#); [Bracco et al., 2015](#); [Bordignon et al., 2017](#)), we expect it to have a negative effect on the popularity of the incumbent government. Similarly, we take total per-capita municipal tax revenues as an inverse indicator of municipal government performance, and expect it to have both a direct negative on incumbent mayors, and possibly an indirect negative spill-over effect on the popularity of same-party provincial incumbents. All monetary values are deflated.

5 Empirical Strategy and Results

We are interested in two phenomena related with concurrent elections. First, its effect on turnout; second, how voters' ability of holding politicians accountable is affected by concurrence.

We perform an OLS analysis of all municipalities in which provincial elections are held for year 2004 and 2009. When looking at turnout, our main specification is the following:

$$y_{it} = \alpha + \beta M_{it} + \gamma X_{it} + \phi_p + \tau_t + \varepsilon_{it} \quad (1)$$

where i indexes the municipality, $t = 2004, 2009$, y is in turn (1) net turnout at the municipal level (validly cast ballots over registered voters), (2) invalid ballots (spoiled and blank ballots over registered voters), M is a dummy variable taking value 1 if mayoral elections are held in the same day, X is a battery of controls. Province fixed effects are also added, and errors are clustered at the province level. As controls we include political controls (whether mayor and provincial presidents are barred from seeking re-election because of the term limit, and whether they are politically aligned), demographic controls (population, share of children, elderly and foreigners) and average income tax base.

Table 6 shows evidence that municipalities with concurrent mayoral elections had an increase of about 6% in validly cast ballots for provincial candidates (Net Turnout, columns 1-3). From columns 4-6 we can see that also spoiled and blank ballots increased by over 3%. These results are hardly affected by the inclusion of controls (columns 2 and 5), and when we restrict our sample to municipalities with partisan mayors (columns 3 and 6, more on this later). This shows that roll-off is a relevant phenomenon also in Italy, but it accounts for less than half of the extra turnout caused by concurrent election. Also some control variables

show a significant effect; richer municipalities tend to vote more, and to have a smaller share of invalid ballots. This is also consistent with evidence on the effect of concurrence on the turnout to Italian mayoral elections (Revelli, 2017).

Having established that the decision to turn out is affected by the concurrence of elections, we now turn to the main focus of this paper, which is electoral accountability. Our aim is to see whether and how voters are able (or willing) to hold into account politicians when they are faced with more than one election at the same time. To do this, we focus on a number of variables that we believe proxy well the perceived performance of provincial presidents and mayors.

Our identification strategy is fairly simple, as we rely on the independence of mayoral terms across space within each province:

$$\begin{aligned}
mv_{it} = & \alpha + \beta M_{it} + \\
& + \delta_1 M_{it} * PROVPerf_{it} + \delta_2 (1 - M_{it}) * PROVPerf_{it} + \\
& + \delta_3 M_{it} * MUNICPerf_{it} + \delta_4 (1 - M_{it}) * MUNICPerf_{it} + \\
& + \gamma X_{it} + \phi_r + \tau_t + \varepsilon_{it}
\end{aligned} \tag{2}$$

where mv is the provincial incumbent’s margin of victory at the municipal level, $PROVPerf$ is our measure of provincial performance (invariant for each province-year), $MUNICPerf$ is the measure of municipal performance, X is the same battery of political, demographic and economic controls described for the turnout regressions. Area and time fixed effects are also included; standard errors are clustered at the provincial level. We decided to interact performances both with M and its complement to ease the exposition of the results, i.e. to highlight the differentiated impact of fiscal performances in the treatment and control groups.

In these “performance” regressions, we concentrate our analysis on the subset of municipalities, in which a partisan mayor is in power. In very small towns and villages mayoral elections are very often dominated by non-partisan candidates, i.e. candidates who do not belong to any national-level party and run under local voters’ association (“Lista Civica”) banners. Non-partisan mayors rule on more than half of our sample municipalities, but these account for only a quarter of the population (see Tables 4-5). In these (mostly) small villages mayors are less likely to be perceived as “politicians” and the municipal-level politics is detached and independent of the party-politics happening in all other tiers. For these reasons, we do not expect voters go through the same informational contamination as in partisan-led municipalities, and we discard these municipalities from our sample.

Municipal and provincial finances are almost completely separated and independent: mu-

municipalities receive hardly any direct grant from provinces, and their taxes do not insist on the same tax bases. For these reasons, it is highly unlikely that provincial election outcomes at the municipal level affect mayoral fiscal choices, thus creating problems of endogeneity. It is even less likely that provincial fiscal choices—which are valid for the whole province at large—are caused by municipal-level voting at provincial elections.

Tables 7 shows our main results. In Column 1 we present the regression with demographic and economic controls, and the fixed effects. In Column 2 we add the political controls, and in Column 3 we interact the municipal performances with the alignment dummy. For the sake of clarity, demographic and economic controls are not shown in the Table; full results are available upon request.

At first glance, we can observe how provincial performance is consistently significant across specification under *non-concurrent* elections (δ_2), while municipal performance affects provincial voting behaviour only under *concurrent* elections (δ_3). More precisely, we also test that each provincial performance is significantly stronger when elections are not held concurrently, and that each municipal performance is significantly stronger when elections are *not* held concurrently. At the bottom of Table 7 the results of these tests are shown. With a 95% confidence we can state that provincial performance matters more when provincial elections are not “contaminated” by municipal ones. As for municipal performance, this result is less stark: with only 90% confidence we can say that municipal performance affects provincial elections more under concurrent elections (once we add political controls, Column 2).

Looking at the results in Column 2, we can say that a 1 Euro increase in provincial per-capita tax revenues generates a 0.6% drop in the provincial incumbent margin of victory *in absence* of concurrent elections. Similarly a 1 Euro increase in per-capita municipal taxes generates a 0.014% decrease in the provincial incumbent margin of victory *in presence* of concurrent municipal elections. Regarding this last result, though, one has to remember that we are only 90% confident that this effect is stronger in the treatment than in the control group. The magnitude of these two effects are also quite different, but it is worth reminding that municipal per capita tax revenues are about four times provincial per-capita revenues (see Table 4).

As anticipated in the literature review section, partisan alignment may well play a role in voters’ mind when using information across tiers of government. In Column 3 we interact the municipal performance variables with alignment. This generally strengthens our results, somehow confirming how the interaction of ideological allegiances in the two tiers matter substantially.

The point estimates are hardly changed in Column 3, but their interpretation is slightly

more challenging. We can now state that municipal fiscal performance affects provincial-elections voting behaviour only under concurrence, and that this effect is significantly stronger than under non-concurrent elections (test on δ_3 and δ_4 at the bottom of the table); mind that these findings are now to be ascribed to unaligned municipalities. Also for aligned municipalities, we can say (albeit only with 90% confidence) that municipal performance affects voting behaviour under concurrent elections ($\delta_3 + \delta_5$, bottom of the Table), but not under non-concurrent elections ($\delta_4 + \delta_6$, bottom of the Table).

Most of the other control variables are non significant, probably also because of the presence of fixed effects. The only notable exception is the ideological alignment between provincial president and mayor. It is highly significant both in the treatment and control group in both tables. This obviously picks up on the ideological “homogeneity” of voters in a given location.

All in all our results confirm the theoretical intuitions that concurrence affects the information used by voters and the ability of voters to hold politicians into account: voters are shown to “react” to provincial policies as long as provincial elections are the main item on the ticket. When the ticket also includes (more salient) mayoral elections, voters punish and reward the provincial incumbent looking at the behaviour of the incumbent mayor. These findings are reminiscent of [Halberstam and Montagnes \(2015\)](#), who find that the congressional (low-stake) elections are affected by the presidential (high-stake) contest when these are held concurrently.

6 Robustness checks

Our experimental design relies on two main features. First, on the randomness of the mayoral terms of office within each province. This is of little concern as it is the outcome of decades of events in local polities that little have to do with accountability and voting behaviour in our sample period. It also seems unreasonable to think that local politicians would push for early elections in order to strategically opt into the concurrent (or non-concurrent) election cycle. New elections are called if the CEO resigns or dies, or if a majority of the council passes a no-confidence motion. In all of these instances, it would be the ruling party—expressing the CEO and the majority of the Council—to decide to “gamble” a new elections, thus shortening the term in office.

Second, we need to be sure that our results are not driven by specific characteristics of the municipalities included in the two groups. The large array of fixed effects and control variables included in our analysis addresses at least partially these concerns. On the other hand, a closer look at these characteristics across municipalities shows that the treatment

and control groups are substantially different in their observables.

In Table 8 we can see how the treatment group includes municipalities which are on average “older”, with a stronger presence of immigrants, and with fewer inhabitants.

To overcome this we make use of a balancing non-parametric technique that relies on Propensity Scores (Imbens, 2004; Caliendo and Kopeinig, 2008). We calculate the propensity of scores of being in the treatment group, using the same demographic and economic controls as in our main regressions, excluding political variables, and including time and province fixed effects. We chose this specification as we are aiming at “predicting” the probability of being in the treatment group irrespective of any political dynamic, as voting behaviour is the outcome variable we want to predict with our regressions. The weights obtained through this are then utilised as regression weights to re-run the regressions as in Tables 7. This allows us to balance the treatment and control groups, and run our main regressions with (forcefully) balanced treatment and control groups. In Table 9 we show the weighted means of covariates in treatment and control group, which are now balanced.

To insure that propensity score is appropriate to our data, we need to check that treatment and control groups have a *common support*. A plot of the propensity scores in Treatment and Control group is shown in Figure 3: all observation are included in the common support. We can also argue that the *conditional independence assumption* is also fulfilled, given the “selection” mechanism into the treatment group. Our weights are calculated through a logit nearest neighbour algorithm; use of alternative algorithms gives analogous results.

The results of these regressions are shown in Tables 10. The point estimates are almost identical to the ones in Table 7; through this process some effects that were previously at the margins of significance see their robustness increased. Looking at the results in Column 2, we can say that a 1 Euro increase in provincial per-capita tax revenues generates a 0.559% drop in the provincial incumbent margin of victory if provincial elections are held *non-concurrently*. Similarly a 1 Euro increase in per-capita municipal taxes generates a 0.016% decrease in the provincial incumbent margin of victory if provincial elections are held together with the municipal ones. Both of these results are now significant at the 95% confidence level. In Column 3 we can see once again what happens when we interact the municipal performance variable with the alignment dummy.

We can now state with 95% confidence that municipal performance affects provincial-elections voting behaviour both in aligned and unaligned municipalities under concurrence (see resp. $\delta_3 + \delta_5$ at the bottom and δ_3 in the main panel of Table 10), and that this effect is significantly stronger than under non-concurrent elections. The interaction with the alignment dummies does not give us strong assurances on whether what is observed is to be ascribed to voters rewarding provincial presidents who are co-partisan to mayors who cut

taxes.

As a further robustness check, we run once again the performance regression using an alternative measurement of the provincial government performance: the yearly road expenditure per kilometer of provincial road averaged over the term of office. Non-motorway national-importance roads are maintained and managed by the central government, while local (non-urban) roads are managed by provincial governments. Road names and codes are indicative of the managing authority: SS for state-managed roads (“strade statali”) and SP for province-managed roads (“strade provinciali”). Provincial budgets report not only the expenditure, but also the extension (in km) of the provincial road network. For these reasons, we believe that this figure could well represent a visible public good provided by the provincial government. On the other hand, we are aware that figures related to the extent of the road network are subject to large reporting errors and mistakes: as it is not a strictly financial figure, auditors may be less interested in its reliability, and bureaucrats may have less incentive of updating or correcting the figures. Because of this, we decided to report these results separately as corroborating evidence, rather than show them together with the main results in the previous section. Tables 11-12 report the results of the OLS and WLS regressions, in the same format as the previous tables.

The point estimates are qualitatively analogous to the ones obtained in our main results, with the notable difference that voters tend to reward mayors for spending, in the same way they punished them for taxing. Looking at the results in Column 3, we can say that a 1,000 Euro/km increase in provincial expenditure generates a 0.009% increase in the provincial incumbent margin of victory if provincial elections are held *non-concurrently*. Similarly a 1 Euro increase in per-capita municipal taxes generates a 0.018% decrease in the provincial incumbent margin of victory if provincial elections are held together with the municipal ones. Both of these results are now significant at the 99% confidence level, and we are 95% confident that the effect of provincial (municipal) performance is larger in absolute value under non-concurrent (concurrent) elections.

Table 12, which presents the results of the weighted least-square regressions using road-expenditure measures as provincial performance, shows very similar outcomes as well. Looking at Column 3, we can say that a 1,000 Euro/km increase in provincial expenditure generates a 0.007% increase in the provincial incumbent margin of victory if provincial elections are held *non-concurrently*. Similarly a 1 Euro increase in per-capita municipal taxes generates a 0.019% decrease in the provincial incumbent margin of victory if provincial elections are held together with the municipal ones. Both of these results are at least 95% significant, and we are at least 90% confident that the effect of provincial (municipal) performance is larger in absolute value under non-concurrent (concurrent) elections.

Column 3 of both Tables 11-12 also shows that municipal performance affects provincial-elections voting behaviour both in aligned and unaligned municipalities under concurrence (see resp. $\delta_3 + \delta_5$ at the bottom and δ_3 in the main panel of both Tables), and that this effect is significantly stronger than under non-concurrent elections. The interaction with the alignment dummies is still not giving us strong assurances on whether what is observed is to be ascribed to voters rewarding provincial presidents who are co-partisan to mayors who cut taxes.

7 Conclusions

The literature studying the consequences of holding elections for different tiers of government separately or concurrently has focused on the impact of the timing of elections on voter turnout rates and on the type of policies that are implemented by governments that are elected in elections with different degrees of voter participation. Concomitant elections are generally praised for raising voter turnout - a result that passes most empirical tests and that is confirmed in our analysis too. Using the quasi-experimental conditions of having a control group of Italian municipalities that only experience provincial (upper-tier) elections whose stakes are considered to be low, and a treatment group of municipalities that face both provincial and mayoral (lower-tier) elections whose stakes are considered to be high on the very same day, we find turnout rates to be higher by almost ten percentage points in the treatment group, and valid votes to be higher by about six percentage points. However, we also argue that the concomitance of elections might hinder the accountability of lower stakes government incumbents. This would be the case if the policy implemented by the higher stakes government having elections on the same day has a spill-over onto the popularity of incumbents of the lower-stakes tier by attracting voters' attention. In other words, voters would acquire more easily the information on the most visible and salient policy, and would vote in both elections by taking it into account at the expense of the less visible and less salient policy.

Indeed, our results show that the more salient contest (mayoral elections) affects the less salient one (provincial elections), with voting behaviour in the latter turning out to be insensitive to own policy (provincial tax burden), but responding instead to the performance of politicians—municipal tax burdens—of the former one. These findings shed light on how voters acquire information on incumbent politicians, and prove that the effectiveness of local elections as an accountability tool may, in spite of the apparently desirable increase in voter turnout that is observed in “election day” voting schemes, be hindered by the decision of holding them concurrently with more salient and higher stakes ones.

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Table 1: Provinces' Consolidated Budgets, 2004.

| Current Revenues | | Current Expenditures | |
|------------------|-----|------------------------|-----|
| Tax Revenues | 50% | General Administration | 29% |
| Grants | 42% | Education | 22% |
| Fees and Charges | 8% | Roads | 12% |
| | | Transport | 11% |
| | | Economic Dev. | 11% |
| | | Environment | 7% |
| | | Social | 3% |
| | | Tourism | 3% |
| | | Culture | 3% |

Table 2: Municipalities' Consolidated Budgets, 2004.

| Current Revenues | | Current Expenditures | |
|------------------|-----|------------------------|-----|
| Tax Revenues | 52% | General Administration | 32% |
| Grants | 28% | Environment | 19% |
| Fees and Charges | 22% | Social | 14% |
| | | Education | 10% |
| | | Transport and Traffic | 9% |
| | | Local police | 6% |
| | | Licensing and trade | 1% |
| | | Economic Dev. | 1% |
| | | Tourism | 1% |
| | | Justice | 1% |

Table 3: Number of Municipal Elections in “ordinary-status” regions, number of municipalities holding other elections on the same day, [number of institutions being elected on the same day] by year.

| year | municipal | provincial | regional | general | European | Notes |
|-------------|-----------|------------|-----------|---------|----------|---------------------------------------|
| 2004 | 4235 | 4582 [59] | 0 | 0 | 6628 | |
| 2005 | 361 | 650 [2] | 6361 [13] | 0 | 0 | Basilicata reg. el on a separate date |
| 2006 | 1150 | 0 | 0 | 0 | 0 | General el. on a separate date |
| 2007 | 760 | 642 [7] | 0 | 0 | 0 | |
| 2008 | 395 | 664 [8] | 0 | 6628 | 0 | Abruzzo reg. el. on a separate date |
| 2009 | 4015 | 4226 [55] | 0 | 0 | 6628 | |
| 2010 | 440 | 339 [4] | 6187 [13] | 0 | 0 | |
| 2011 | 1169 | 669 [9] | 0 | 0 | 0 | Molise reg. el. on a separate date |

Table 4: Summary statistics — Full Sample

| Variable | Mean | Std. Dev. | Min. | Max. | N |
|------------------------------------|---------|-----------|---------|----------|------|
| Net Turnout | 0.674 | 0.095 | 0.11 | 0.971 | 8774 |
| % Invalid ballots | 0.071 | 0.035 | 0 | 0.312 | 8774 |
| mv | 11.895 | 28.095 | -87.617 | 93.75 | 8543 |
| M | 0.652 | 0.476 | 0 | 1 | 8779 |
| PROVperf (Tax Rev., Euro pc) | 70.116 | 14.04 | 37.64 | 98.159 | 8779 |
| PROVperf (Road exp., ,000Euros/km) | 37.209 | 133.506 | 2.115 | 1276.178 | 8779 |
| MUNICperf (Tax Rev., Euro pc) | 305.378 | 187.297 | 31.831 | 3741.173 | 8775 |
| Align | 0.247 | 0.431 | 0 | 1 | 8779 |
| Termlimited PresProv | 0.396 | 0.489 | 0 | 1 | 8779 |
| Termlimited Mayor | 0.283 | 0.45 | 0 | 1 | 8779 |
| Share children | 13.008 | 2.785 | 0 | 24.926 | 8779 |
| Share elderly | 22.6 | 6.307 | 6.169 | 63.265 | 8779 |
| Share foreign | 4.92 | 3.697 | 0 | 26.439 | 8779 |
| Income tax base | 14.29 | 3.007 | 5.467 | 32.592 | 8746 |
| Pop, 000 | 6.645 | 25.418 | 0.036 | 987.984 | 8779 |

Table 5: Summary statistics — Only non-partisan mayors

| Variable | Mean | Std. Dev. | Min. | Max. | N |
|-----------------------------------|---------|-----------|---------|----------|------|
| Net Turnout prov | 0.676 | 0.087 | 0.206 | 0.941 | 3055 |
| % Invalid Ballots | 0.065 | 0.03 | 0.005 | 0.23 | 3055 |
| mv | 15.422 | 25.405 | -74.528 | 87.136 | 2957 |
| M | 0.555 | 0.497 | 0 | 1 | 3056 |
| PROVperf (Tax Rev., Euro pc) | 67.619 | 15.545 | 37.64 | 98.159 | 3056 |
| PROVperf (Road exp., ,000Euro/km) | 38.294 | 139.388 | 2.115 | 1276.178 | 3056 |
| MUNICperf (Tax Rev., Euro pc) | 297.218 | 145.744 | 31.831 | 1628.15 | 3053 |
| Align | 0.692 | 0.462 | 0 | 1 | 3056 |
| Termlimited PresProv | 0.469 | 0.499 | 0 | 1 | 3056 |
| Termlimited Mayor | 0.257 | 0.437 | 0 | 1 | 3056 |
| Share children | 13.579 | 2.518 | 0 | 24.76 | 3056 |
| Share elderly | 21.37 | 5.36 | 6.92 | 62.791 | 3056 |
| Share foreigners | 4.735 | 3.665 | 0 | 22.645 | 3056 |
| Income Tax base | 14.095 | 3.214 | 5.804 | 32.592 | 3043 |
| Pop, 000 | 13.569 | 41.552 | 0.043 | 987.984 | 3056 |

Table 6: Net Turnout and Spoiled Ballots. OLS Regression

| | Net Turnout | | | Invalid Ballots | | |
|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
| | (1) b/se | (2) b/se | (3) b/se | (4) b/se | (5) b/se | (6) b/se |
| M | 0.057*** (0.002) | 0.061*** (0.002) | 0.056*** (0.003) | 0.034*** (0.001) | 0.032*** (0.001) | 0.030*** (0.001) |
| Align | | 0.002 (0.002) | -0.003 (0.003) | | -0.004*** (0.001) | -0.002** (0.001) |
| Termlimited PresProv | | 0.008*** (0.002) | 0.006*** (0.002) | | -0.001 (0.001) | -0.002** (0.001) |
| Termlimited Mayor | | -0.002 (0.002) | -0.004 (0.003) | | 0.001** (0.001) | -0.001 (0.001) |
| % children | | 0.002*** (0.001) | 0.002 (0.001) | | -0.001** (0.000) | -0.001 (0.000) |
| % elderly | | -0.004*** (0.000) | -0.004*** (0.001) | | -0.000 (0.000) | -0.000 (0.000) |
| % foreigners | | 0.000 (0.000) | 0.001*** (0.000) | | -0.000*** (0.000) | -0.001*** (0.000) |
| Taxbase, pp | | 0.008*** (0.001) | 0.008*** (0.001) | | -0.001*** (0) | -0.001* (0) |
| Pop, 000 | | -0.000*** (0.000) | -0.000*** (0.000) | | -0.000 (0.000) | -0.000 (0.000) |
| Constant | 0.646*** (0.004) | 0.613*** (0.017) | 0.572*** (0.034) | 0.062*** (0.001) | 0.091*** (0.007) | 0.089*** (0.013) |
| N | 8759 | 8727 | 3033 | 8759 | 8727 | 3033 |
| r2 | 0.292 | 0.454 | 0.521 | 0.391 | 0.448 | 0.501 |
| Fixed Effects | Prov & Time | Prov & Time | Prov & Time | Prov & Time | Prov & Time | Prov & Time |
| Sample | All | All | only partisan mayors | All | All | only partisan mayors |

* p<0.1, ** p<0.05, *** p<0.01

Table 7: Effect of Provincial and Municipal fiscal performance on Provincial Elections. OLS Results.

| | (1) | (2) | (3) |
|--|---------------------|----------------------|----------------------|
| | mv | mv | mv |
| | b/se | b/se | b/se |
| M | -10.991 (22.057) | -15.738 (21.886) | -12.905 (22.341) |
| PROVperf X M (δ_1) | -0.331 (0.236) | -0.389* (0.206) | -0.391* (0.206) |
| PROVperf X (1-M) (δ_2) | -0.544** (0.251) | -0.617*** (0.223) | -0.616*** (0.223) |
| MUNICperf X M (δ_3) | -0.016* (0.008) | -0.014** (0.007) | -0.017** (0.007) |
| MUNICperf X (1-M) (δ_4) | -0.006 (0.006) | -0.003 (0.006) | -0.001 (0.006) |
| MUNICperf X M X Align (δ_5) | | | 0.005 (0.007) |
| MUNICperf X (1-M) X Align (δ_6) | | | -0.002 |
| Align | | 16.424*** (1.472) | 17.521*** (2.743) |
| Termlimited PresProv | | 4.155 (3.677) | 4.159 (3.672) |
| Termlimited Mayor | | 1.080 (0.994) | 1.112 (0.994) |
| N | 2911 | 2911 | 2911 |
| r2 | 0.129 | 0.241 | 0.241 |
| Controls | Dem. | Dem.& Pol. | Dem. & Pol. |
| Fixed effects | Area&year | Area&year | Area&year |
| Tests: | | | |
| Prov. perf. under <i>concurrent</i> el. : | | | |
| $\hat{\delta}_1 > \hat{\delta}_2$ (p-value) | (0.035)** | (0.032)** | (0.033)** |
| Munic. perf. under <i>concurrent</i> el. : | | | |
| $\hat{\delta}_3 < \hat{\delta}_4$ (p-value) | (0.129) | (0.072)* | (0.031)** |
| Munic. perf. under <i>concurrent</i> el. in aligned munic. : | | | |
| $\hat{\delta}_3 + \hat{\delta}_5$ (p-value) | | | -0.012* (0.069) |
| Munic. perf. under <i>non-concurrent</i> el. in aligned munic. : | | | |
| $\hat{\delta}_4 + \hat{\delta}_6$ (p-value) | | | -0.004 (0.321) |

* p<0.1, ** p<0.05, *** p<0.01

Table 8: Mean Difference: Control and Treatment Groups

| | Control | Treatment | t | $p > t $ |
|------------------|---------|-----------|--------|-----------|
| Share elderly | 20.21 | 21.98 | -9.08 | 0.00 |
| share children | 14.18 | 13.23 | 10.23 | 0.00 |
| share foreigners | 3.82 | 5.51 | -12.80 | 0.00 |
| Income, pp. | 13.73 | 14.36 | -5.28 | 0.00 |
| Pop, 000 | 18.03 | 11.09 | 4.47 | 0.00 |

Table 9: Mean Difference: Control and Treatment Groups with PS weights

| | Control | Treatment | t | $p > t $ |
|------------------|---------|-----------|-------|-----------|
| Share elderly | 21.96 | 21.97 | -.12 | 0.90 |
| share children | 13.26 | 13.24 | .014 | 0.97 |
| share foreigners | 5.82 | 5.50 | -2.43 | 0.01 |
| Income, pp. | 14.35 | 14.19 | 0.94 | 0.35 |
| Pop, 000 | 18.03 | 11.09 | 1.51 | 0.13 |

Table 10: Effect of Provincial and Municipal “performance” on Provincial Elections. Weighted Results.

| | (1) | (2) | (3) |
|--|---------------------|----------------------|----------------------|
| | mv | mv | mv |
| | b/se | b/se | b/se |
| M | -11.760 (21.885) | -15.35 (21.429) | -12.479 (21.636) |
| PROVperf X M (δ_1) | -0.229 (0.246) | -0.314 (0.222) | -0.318 (0.221) |
| PROVperf X (1-M) (δ_2) | -0.446* (0.247) | -0.559** (0.224) | -0.558** (0.224) |
| MUNICperf X M (δ_3) | -0.018** (0.008) | -0.016** (0.007) | -0.018*** (0.006) |
| MUNICperf X (1-M) (δ_4) | -0.006 (0.006) | -0.003 (0.006) | -0.001 (0.006) |
| MUNICperf X M X Align (δ_5) | | | 0.004 (0.007) |
| MUNICperf X (1-M) X Align (δ_6) | | | -0.003 (0.008) |
| Align | | 16.297*** (1.594) | 17.651*** (2.982) |
| Termlimited PresProv | | 3.113 (2.981) | 2.988 (2.264) |
| Termlimited Mayor | | 1.212 (0.901) | 1.232 (0.902) |
| N | 2900 | 2900 | 2900 |
| r2 | 0.135 | 0.247 | 0.247 |
| Controls | Dem. | Dem. & Pol. | Dem. & Pol. |
| Fixed effects | Area & Year | Area&year | Area&year |
| Tests: | | | |
| Prov. perf. under <i>concurrent</i> el. : | | | |
| $\hat{\delta}_1 > \hat{\delta}_2$ (p-value) | (0.017)** | (0.014)** | (0.011)** |
| Munic. perf. under <i>concurrent</i> el. : | | | |
| $\hat{\delta}_3 < \hat{\delta}_4$ (p-value) | (0.082)* | (0.050)** | (0.015)** |
| Munic. perf. under <i>concurrent</i> el. in aligned munic. : | | | |
| $\hat{\delta}_3 + \hat{\delta}_5$ (p-value) | | | -0.014** (0.046) |
| Munic. perf. under <i>non-concurrent</i> el. in aligned munic. : | | | |
| $\hat{\delta}_4 + \hat{\delta}_6$ (p-value) | | | -0.004 (0.295) |

* p<0.1, ** p<0.05, *** p<0.01

Table 11: Effect of Provincial (road expenditure) and Municipal (tax-revenue) “performance” on Provincial Elections. OLS Results.

| | (1) | (2) | (3) |
|--|-----------|------------|-------------|
| | mv | mv | mv |
| | b/se | b/se | b/se |
| M | -2.068 | -6.262 | -4.175 |
| | (20.355) | (20.264) | (20.515) |
| PROVperf X M (δ_1) | 0.006* | 0.004 | 0.004 |
| | (0.004) | (0.003) | (0.003) |
| PROVperf X (1-M) (δ_2) | 0.010*** | 0.009*** | 0.009*** |
| | (0.004) | (0.003) | (0.003) |
| MUNICperf X M (δ_3) | -0.018** | -0.017*** | -0.018*** |
| | (0.007) | (0.006) | (0.006) |
| MUNICperf X (1-M) (δ_4) | -0.009 | -0.006 | -0.003 |
| | (0.007) | (0.006) | (0.006) |
| MUNICperf X M X Align (δ_3 X Align) | | | 0.002 |
| | | | (0.007) |
| MUNICperf X (1-M) X Align (δ_4 X Align) | | | -0.006 |
| | | | (0.008) |
| Align | | 15.988*** | 18.119*** |
| | | (1.504) | (2.732) |
| Termlimited PresProv | | 4.175 | 4.196 |
| | | (4.069) | (4.060) |
| Termlimited Mayor | | 0.849 | 0.871 |
| | | (1.052) | (1.051) |
| N | 2911 | 2911 | 2911 |
| r2 | 0.118 | 0.226 | 0.225 |
| Controls | Dem. | Dem.& Pol. | Dem. & Pol. |
| Fixed effects | Area&year | Area&year | Area&year |
| Tests: | | | |
| Prov. perf. under <i>concurrent</i> el. : | | | |
| $\hat{\delta}_1 < \hat{\delta}_2$ (p-value) | (0.087)* | (0.010) | (0.017)** |
| Munic. perf. under <i>concurrent</i> el. : | | | |
| $\hat{\delta}_3 < \hat{\delta}_4$ (p-value) | (0.145) | (0.084)* | (0.033)** |
| Munic. perf. under <i>concurrent</i> el. in aligned munic. : | | | |
| $\hat{\delta}_3 + \hat{\delta}_5$ | | | -0.016** |
| (p-value) | | | (0.019) |
| Munic. perf. under <i>non-concurrent</i> el. in aligned munic. : | | | |
| $\hat{\delta}_4 + \hat{\delta}_6$ | | | -0.009 |
| (p-value) | | | (0.144) |

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

Table 12: Effect of Provincial (road expenditure) and Municipal (tax-revenue) “performance” on Provincial Elections. Weighted Results.

| | (1) | (2) | (3) |
|--|-----------|------------|-------------|
| | mv | mv | mv |
| | b/se | b/se | b/se |
| M | -0.081 | -2.256 | 0.523 |
| | (20.693) | (20.054) | (20.205) |
| PROVperf X M (δ_1) | 0.006 | 0.004 | 0.004 |
| | (0.004) | (0.004) | (0.004) |
| PROVperf X (1-M) (δ_2) | 0.008** | 0.007** | 0.007** |
| | (0.004) | (0.003) | (0.003) |
| MUNICperf X M (δ_3) | -0.019** | -0.017*** | -0.019*** |
| | (0.007) | (0.006) | (0.006) |
| MUNICperf X (1-M) (δ_4) | -0.009 | -0.006 | -0.002 |
| | (0.006) | (0.006) | (0.006) |
| MUNICperf X M X Align (δ_3 X Align) | | | 0.003 |
| | | | (0.007) |
| MUNICperf X (1-M) X Align (δ_4 X Align) | | | -0.007 |
| | | | (0.008) |
| Align | | 15.598*** | 18.085*** |
| | | (1.545) | (2.984) |
| Termlimited PresProv | | 2.986 | 2.472 |
| | | (3.384) | (2.486) |
| Termlimited Mayor | | 1.091 | 1.100 |
| | | (0.938) | (0.939) |
| N | 2900 | 2900 | 2900 |
| r2 | 0.129 | 0.236 | 0.235 |
| Controls | Dem. | Dem.& Pol. | Dem. & Pol. |
| Fixed effects | Area&year | Area&year | Area&year |
| Tests: | | | |
| Prov. perf. under <i>concurrent</i> el. : | | | |
| $\hat{\delta}_1 < \hat{\delta}_2$ (p-value) | (0.206) | (0.030)** | (0.055)* |
| Munic. perf. under <i>concurrent</i> el. : | | | |
| $\hat{\delta}_3 < \hat{\delta}_4$ (p-value) | (0.121) | (0.086)* | (0.019)** |
| Munic. perf. under <i>concurrent</i> el. in aligned munic. : | | | |
| $\hat{\delta}_3 + \hat{\delta}_5$ | | | -0.016** |
| (p-value) | | | (0.019) |
| Munic. perf. under <i>non-concurrent</i> el. in aligned munic. : | | | |
| $\hat{\delta}_4 + \hat{\delta}_6$ | | | -0.009 |
| (p-value) | | | (0.122) |

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

Figure 1: Turnout by year in main elections by type.

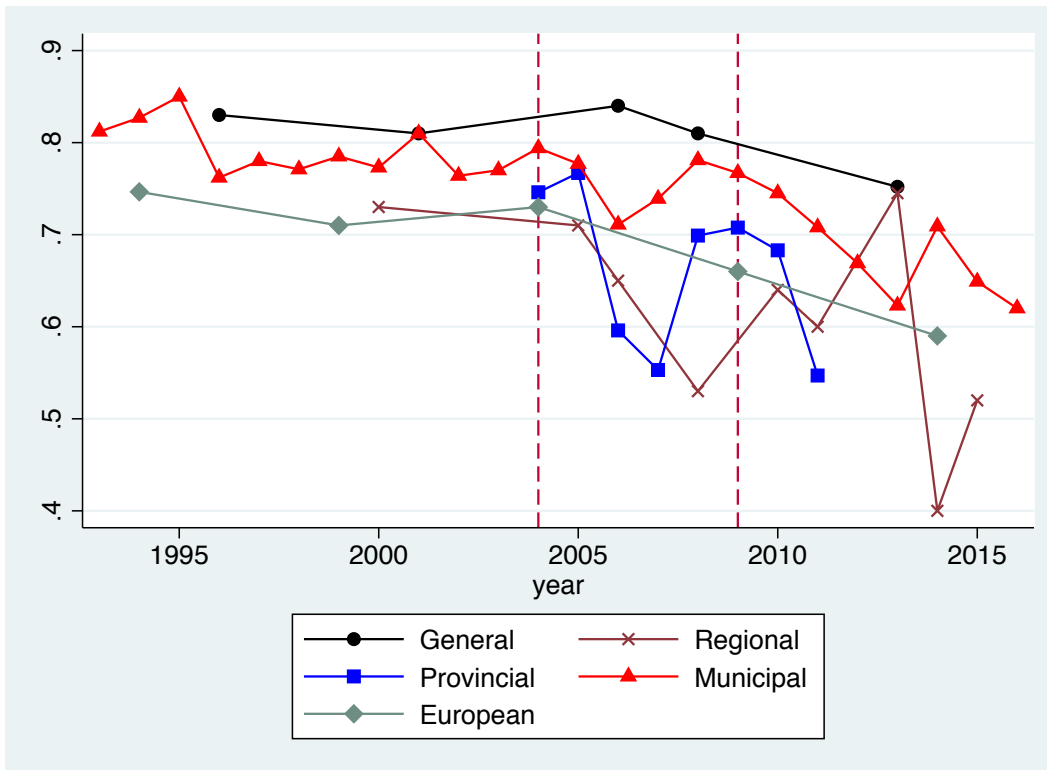


Figure 2: Municipal and Provincial Turnout by region (North to South). Years 2004 and 2009.

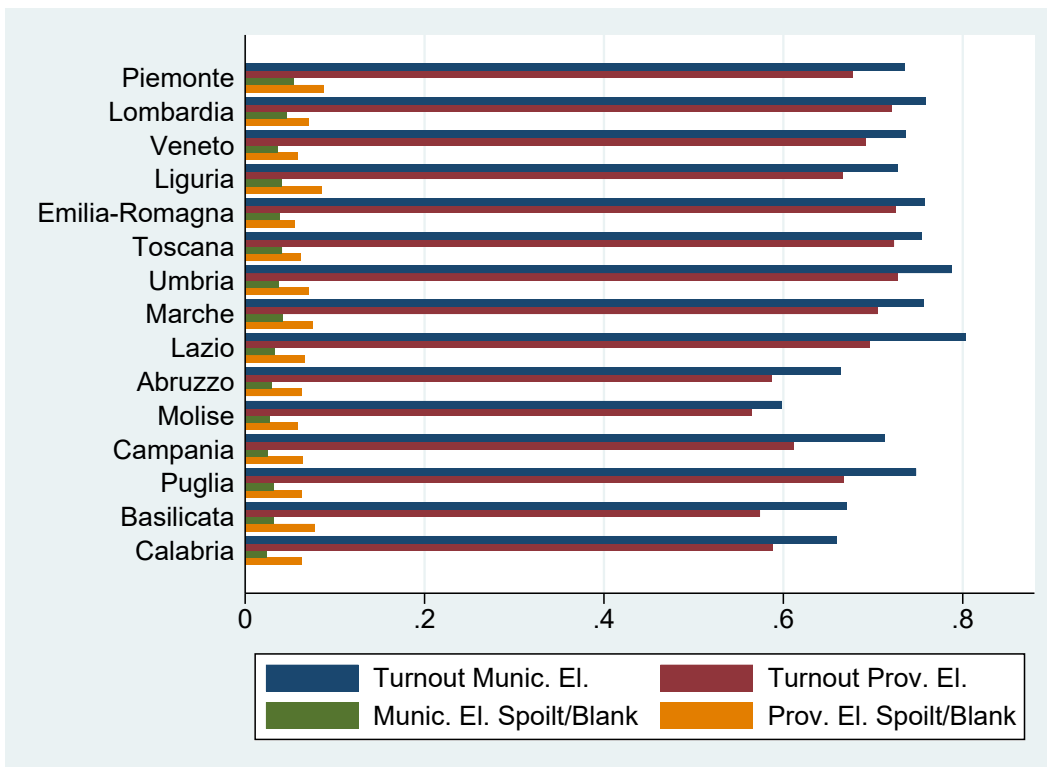


Figure 3: Propensity scores of treated and untreated groups.

