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economia pubblica**

XXII
CONFERENZA

DOES THE CENTRAL GOVERNMENT PREFER MAYORS
ELECTED WITH RUNOFF OR PLURALITY RULE?
A REGRESSION DISCONTINUITY ANALYSIS OF
INTERGOVERNMENTAL TO ITALIAN MUNICIPALITIES

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Does the central government prefer mayors elected with runoff or plurality rule? A Regression Discontinuity Analysis of Intergovernmental to Italian municipalities

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Abstract

Italian mayors and city councils are elected with a different electoral system according to their population, while grants from the central government to municipalities are supposedly decided irrespective of this difference. We exploit this legal threshold to verify whether the central government discriminates in favor of the smaller or the larger municipalities, i.e. if it invests more in municipalities in which the mayor is elected through a first-past-the-post or a runoff electoral system. The different electoral systems enhance different polities, and different party dynamics across the threshold. One may argue that the central government uses the threshold as a rule-of-thumb proxy for visibility, and therefore favors larger, politically more relevant municipalities, or that, on the contrary, first-past-the-post is a "safer" electoral system that gives incentives to the central government to politically invest in those municipalities with such an electoral system. A regression discontinuity analysis of the intergovernmental grants from central government to municipalities across the 15,000-inhabitant threshold is performed, and evidence is found that larger municipalities are favored.

1 Introduction

The notion that the electoral law shapes the behaviour of politicians and parties is already present in the literature. Proportional representation and parliamentary systems have been shown to generate higher levels of spending with respect to majoritarian and presidential systems. In addition, in many large democracies a large amount of resources is transferred from the central government to local authorities or federated states. The political economy of intergovernmental grants has been extensively studied, in particular for what concerns the effects of political alignment between local and central ruling politicians. This paper explores a topic that bridges between these two strands. For this aim we exploit an insitutional feature of Italian municipalities: on the one hand intergovenmental grants to municipalities are sparsely regulated and managed on a yearly basis, loosely adjusting previous grants to meet the year's government's objectives, on the other hand mayors are directly elected by voters according to an electoral system that changes according to the size of the municipality. Smaller municipalities elect their mayors with a first-past-the-post system, while larger ones elect their mayors with a runoff system. Moreover, the mayor who wins is also awarded a majority of the city council for the list(s) linked with his or her candidacy, but in smaller municipalities each mayor

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can be linked with at most one list, while the runoff system allows for coalition of lists (parties) to back a mayoral candidate.

We therefore check whether the central government discriminates in favor of mayors elected with runoff, backed by a coalition of parties or in favor of mayors elected with a first-past-the-post system backed by a single list through a regression discontinuity analysis around the 15,000-inhabitant institutional threshold.

To our knowledge there is very little work on the comparative effects of runoff and first-past-the-post on public finance decisions; in this sense the Italian institutional setup offers us a good quasi-experimental setup to test our hypothesis. Ex-ante we could argue in favor of the central government granting more funds to either runoff/larger municipalities or plurality/smaller municipalities.

This paper links to: Political Economy Alesina, Tabellini, Persson

Theory of local public finance

Political economy of intergovernmental grants: alignment

Comparative analysis of electoral systems

2 Some words on Italy

2.1 Electoral Systems and Polity

Italy there are over 8,000 municipalities (*comuni*), which provide basic public goods like primary schools, nurseries, public transport, and basic social services. Mayors are very visible and important figures from the electorate perspective: municipalities are perceived as the closest and most practically useful political institution, and this is mirrored by the very high turnout at municipal elections; second only to the general elections' turnout.

Since the mid-nineties a process of devolution of powers and fiscal autonomy has begun, in the hope of improving the provision of local public good, increasing the accountability and efficiency of the civil service, and giving more substantial powers to the local communities. Up to that moment in time all local authorities were almost completely financed by central government grants, and had very little autonomy in their decision: on the one hand the central government had strict control over their choices (up to the point of authorizing or not the hiring of civil servants), on the other hand the primary criterion with which the grants were decided was the so-called "historical expenditures", i.e. the amount of expenditure carried out in the past by that particular municipality. This generated very obvious political and efficiency incentives to moral hazard, that created the large territorial disparities in the number of civil servants, output and efficiency levels.

This local public finance framework was also coherent with an institutional framework in which mayors didn't have a direct mandate from the electors, but were chosen, as in a small-size parliamentary system, by city councils elected in at-large district through a pure proportional representation system with open lists, on the basis of post-electoral alliances between parties. A mayor had relatively little power both in front of his or her city council and its ruling coalition and in front of the central government and its constraints. Also at the national level the text-book parliamentary system was in place, with multi-party post-electoral coalitions sustaining the government.

From the early Nineties corruption scandals and some reforms changed dramatically the political panorama. The need of a higher level of accountability was embraced through various institutional changes: from 1992 mayors and county and region presidents were directly elected by voters together with the respective council. This direct election reinforced the visibility and accountability of the heads of local authorities, and in particular of mayors. To insure governability, avoid the instability given by (often varying) post-electoral coalitions experienced up to the Eighties, but retain the multi-party system, a new electoral system was invented.

Each year, usually in Spring, a number of municipalities holds mayoral elections. In each of these municipal election the city council and the mayor are elected at the same time. The elected mayors is visibly linked on the ballot paper with one or more lists (parties). The lists linked with the winning mayor are automatically awarded 60% of the seats in the city council, ensuring in this way a stable council majority. In municipalities which have less than 15,000 inhabitants according to the latest available census, the mayor is elected through plurality rule, and can be linked with one and only one list. In municipalities with more than 15,000 inhabitants the mayor is elected though a runoff system, and mayors can be supported by more than one list (party) of city council candidates. Moreover voters have the possibility to split their votes, i.e. vote for one mayor, and for a city-council list that supports another mayor. This possibility is not given to voters in smaller municipalities. For simplicity, across this paper we will refer to the former as "smaller" and to the latter as "larger" municipalities.

Together with the introduction of this new electoral system, a different governance model was introduced: in a nutshell, municipalities passed from a parliamentary to a presidential model of democracy. If a mayor resigns, the whole city council is dissolved, and new elections are called. Before the reform the resignation of a mayor would have probably brought to the city council to appoint another mayor, as a result of bargaining between the parties sitting in the council. Moreover, the mayor, very much like the British Prime Minister, has power of nominating and substituting *assessori*, who are some sort of city ministers, without needing any approval from the council. In conclusion, this new institutional setup increased the political visibility and accountability of these figures, shifting power from the council to the mayor, who now has a direct mandate to govern and the powers to do so.

This difference in electoral system across municipalities' size has elicited a sharp difference in the party politics at the municipality level: allowing each party to run with its own brand and separate list without harming the probability to win (in larger municipalities) means that not only there are more lists running in larger municipalities, but also that parties end up having a more constant presence and visibility in larger municipalities and mayors end up being supported by an "explicit" coalition of parties, while in smaller ones local voters' associations (*liste civiche*) prevail, and parties who back the same mayor must go through the presentation of a single joint list. The prevalence of local "independent" candidates is possibly obvious in very small municipalities, representing only small hamlets, but is less so in municipalities near the 15,000-inhabitants threshold, in which, through some descriptive qualitative analysis, it can be observed a larger incidence of local lists below the threshold (see Tables 1 and 2).

At the same time at the central level the political panorama changed as well. From circa 1994 Italian politics sees two opposing coalition of parties alternating at the government. The electoral law changed twice (first before 1994 elections, and then just before 2006 elections), many parties formed, split, or merged, but the two coalitions have been pretty stable and consistent. Most importantly, the coalition of parties that rule at the central and at the local level are mostly homogenous. We can therefore easily decline concepts like political alignment between mayor and Prime Minister even if we are talking about a multi-party polity.

2.2 Local Public Finance

Up to the early Nineties the municipalities received grants covering the whole amount of any expenditure they incurred, and the financial autonomy of municipalities was very low. This obviously created a situation in which moral hazard was widespread, and incentives for efficiency were scarce. A first attempt to correct this was performed through increasing the amount of the main grant from cental to local governments ("ordinary grant", *fondo ordinario*) to municipalities with lower per-capita expenditure,[1] but without decreasing any grant to any municipality. In 1993 a reform was attempted to reshape the grant system in order to meet the standardized needs of expenditure. This system, applied only to the "ordinary grant" account, should have lead to a 16-year-long transition period to a more equitable distribution of grants. Unfortunately this didn't last long: it has been actually applied only for the year 1994. Throughout the Nineties, in the meanwhile, municipalities' financial autonomy increased sensibly, in particular through the institution in 1993 of a property tax (ICI) collected by municipalities, and on which municipalities also had the freedom to choose the tax rate. From 1995 a particular "equalization grant" (*fondo perequativo*) was added beside the ordinary grant: this fund has the aim to transfer money to municipalities with lower fiscal revenues (calculated at the default 0.4% ICI tax rate) and ordinary grant. It must be underlined how this has been done without any intervention on the "ordinary grant", which already included extra monies for disadvantaged areas.

From 1999 municipalities saw their possibility of imposing taxes increased, through a small rise of the Income Tax rate (up to an additional 0.5% on top of the personal income tax rate).[2] Moreover it was granted them access to a fixed share of the Income Tax revenues generated in their territory. This last provision though has been actually enforced only since year 2002. Each time new local taxes, or shares of national taxes, have been transferred to municipalities, the ordinary grant has been offset of an equivalent amount, calculated at the basic or default tax rate. Nevertheless the way this has been recorded in the State accounting system has been quite volatile in the years (the share if Income Tax has been either added to the Ordinary grant for years after 2007, or added to the dedicated fund "Compartecipazione

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[1]Lower per-capita expenditure has been calculated dividing municipalities into twelve demographic classes, and comparing the expenditures within each class. The population thresholds, calculated looking at the latest census available, are the following: $500, 1,000, 2,000, 3,000, 5,000, 10,000, 20,000, 60,000, 100,000, 250,000, 500,000$

[2]It must be observed though, that municipalities are allowed to raise the tax rate of at most 0.2% more than the previous year, and that the central government decided to freeze the possible increases of surtax rates in more than one occasion.

IRPEF" for years up to 2006).

At this moment municipalities have a quite large financial autonomy, but the heterogeneity in tax compliance, fiscal capacity and expenditure across the country generate a very patchy picture. On average, financial autonomy[3] is now about 75%, and it's lower for smaller municipalities (54% for villages up to 500 inhabitants), but swings between 55% to 85% according to the areas of the country (typically higher in the Centre-North, and lower in the South and Islands). Moreover each Budget Bill contains a large amount of ad-hoc funding provisions, which are more likely to follow political criteria, rather than efficiency and equity criteria . In Tables 6 and 7 some descriptive data on financial autonomy are reported as an example. Together with the national averages by demographic class, we report the figures for Bologna (in Northern Italy) and Crotone (in Southern Italy) as examples of how heterogeneous this figures can be along the Boot.

The grant system is now articulated on mainly five different grants that the central government, through the Interior Ministry, transfers to municipalities: (1) the Ordinary Grant (*Fondo Ordinario*), (2) the Consolidated Grant (*Fondo Consolidato*), in which many small funding streams for the most different aims flow, (3) an Equalizing Grant (*Fondo Perequativo*), aimed to target territories with smaller expected tax revenue, calculated at the basic or default tax rates, (4) the Ordinary National Investment Grant (*Fondo Nazionale Ordinario Investimenti*), which was aimed to finance investment and large public works expenditure, but that has been also largely used to finance underfunded very small municipalities (under 3000 inhabitants), and is quantified according to the demographic class and the past expenditure of the municipality, (5) the Investment Development Grant (*Fondo Sviluppo Investimenti*), which is aimed only at financing the mortgage repayments relative to older investment expenditures, and therefore is bound to expire when the mortgages will be totally repaid. There are also other smaller grants, aimed at directly financing the functions that have been transferred to municipalities over time, moreover the state transfers the Income Tax share assigned to municipalities, and further small grant which goes under the name of Other Grants (*Altri*). The collective name under which all these grants goes under could be translated as Entitlements (*Spettanze*) (see Table).

We can easily state that there is no implicit or explicit formula which overlooks the whole system, and the each Budget Bill establishes "freely" the amount of each grant, and the way to distribute it across municipalities, taking as a point of reference the previous year's decisions. This is confirmed both by the legal and administrative regulations overlooking this issue, and by a conversation I had with officers from IFEL (a Local Public Finance Foundation, linked with the Association of Italian Municipalities ANCI) who confirmed me this.

The operational mechanism relies therefore primarily on historical expenditure (in short: previous year's figures) adjusted at the macro level to meet the macroeconomic targets (say: "2% cut to the grants to local authorities") and at the micro level through the "small prints" of the budget bill to provide for specific issues.

Other than the Entitlements, we could have also looked at the municipalities'

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[3]Financial autonomy is calculated by the Interior Ministry, which acts as a "bank" for local authorities, as the ratio between tax revenue, tariffs and other autonomous incoming funds over the total of incoming funds.

Balance Sheets (*Conti Consuntivi*), which are publicly available, and in which the grants are registered. Nevertheless the different accounting rules (possibly at time misapplied at the local level) and the time discrepancies between municipalities' cash flow and central government's budget decisions make the Entitlements figures that come from the central government a more reliable picture of the annual amount of resources allocated to each municipality. The Balance Sheets will be therefore used only as a source of statistical information of the municipality.

Finally, a further element must be brought forward: out of the twenty Italian regions, five of them have been constitutionally granted special autonomy (Valle d'Aosta, Trentino-Alto Adige/Südtirol, Friuli Venezia-Giulia, Sicily and Sardinia) because they are bilingual, because of the geographic position, or because of their history of autonomy and independentist movements. Different rules regarding taxation and relationship between state, regions and local authorities apply to these five regions. For these reasons the municipalities belonging to these five regions are discarded from our analysis.

3   The Data

We analyze the "Entitlements" Grants (*Spettanze*) of the Italian municipalities in ordinary-statute regions, for the years 1998-2008 (but data for year 2002 are not available). The Interior Ministry publishes the financial data on each municipality, and also collects data on various aspects of the activity of the municipality.

The Interior Ministry also collects data on general and local elections. We therefore obtained data on the House of Deputies general elections that happened in years 1996, 2001 (proportional representation ballot paper) and 2006, at the municipality level, and aggregated the party votes into two blocks corresponding to the centre-left and centre-right parties.

From the Interior Ministry database of local-authority elected officers we obtained data on each mayor, comprising personal data (name, date and place of birth, job), and political data, like party affiliation and year of election.

From the National Statistical Office (ISTAT) we obtained more census data on the demographic distribution within the municipality: in particular the amount of children (under 6 and under 15 years old), and elderly (over 65 years old) from 1991 and 2001 census, and from the "inter-census reconstruction", tracking these figures yearly. To record the income level in each municipalities, we sourced two separate measures: firstly, we obtained from ISTAT the data on GDP produced in each county for each year of interest but the last one (for which the previous year's data are used), secondly we obtained data from the Treasury[4] data on the personal income tax base at the municipality level (again, the last year's data are not yet available, and we used previous year's figures for that). Each monetary figure has been deflated taking 2008 as a year of reference.

Summary statistics are reported in Table –.

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[4]This data is public, and owned by the Treasury, nevertheless we were able to obtain a workable file through the Labour Ministry.

3.1 Econometric Strategy and Empirical Results

The focus of this paper is to detect whether the central government discriminates according to the electoral system, between small and large municipalities. Looking at the history and the present framework of local public finance laws and rulings, these two categories of municipalities should be treated exactly the same. The law (Legislative Decree 267/2000) that regulates this matter divides the municipalities in demographic classes, and the seventh of them comprises municipalities between 10,000 and 19,999 inhabitants, as from the latest census data.

Nevertheless, the very same law lays out a different electoral law for municipalities above or below the 15,000 inhabitants threshold.

Moreover the same law allows larger municipalities to have a larger "political bureaucracy". For example, they are allowed to hire staff specifically in support of the city council work, and the members of the "city cabinet" (*assessori*) are not allowed to sit in the city council, marking a sharp difference between the legislative and the executive powers and simply increasing the number of people who "live off politics". In smaller municipalities instead, this incompatibility does not occur, and in fact most of the *assessori* are also city councillors elected in the list linked to the mayor. As already pointed out (and as found in Bordignon and Tabellini) the electoral system allows national parties to keep their identity in larger municipalities , and generates on average city council with a larger number of parties and a less extremist political leadership. More anecdotally, the different electoral system could be a rule of thumb through which both politics, media, and voters discriminate between large municipalities, which have some sort of national electoral and political relevance, and small municipalities, in which only local issue matter. One could also argue that national parties are officially present only in larger municipalities where there is a critical mass of voters, and find it convenient to put out their brand only there, delegating their position to independent candidates in smaller units.

For all these reasons, our hypothesis is that the central government favors larger municipalities when deciding the grants, while local public finance rules do not explicit any difference in treatment across the 15,000-inhabitants threshold. A final observation is needed: if, as it is, the rationale of the grants has to be searched in the historical expenditures before the partial reforms started in the early Nineties, then we need to be sure of the (legal, regulatory, and empirical) irrelevance of the 15,000-inhabitants threshold before this new electoral system was introduced. The data on Entitlements before the reforms are not available, we can nonetheless look at the regulatory framework. Analysing the laws that were valid at that time,[5] one can observe that there used to be a distinction between small and large municipalities, but that this distinction, different in nature, was placed at the 10,000-inhabitants threshold. No "historically-motivated" discontinuity therefore should arise around the new augmented threshold.

For these reasons, the empirical strategy implies the use of a regression discontinuity design, exploiting the 15,000-inhabitants legal threshold. Given that the dataset stretches for a 11-year period, a panel data approach seems the most appropriate.

It is therefore defined the dummy variable $runoff_{it}$, which takes value 1 when

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[5]The main reference for this is the Decree of the President of the Republic 570/1960.

the incumbent mayor has been elected through a runoff election, i.e. when the latest available census figure at the time of his or her election was over 15,000 inhabitants. It must be underlined how the legal threshold refers to the last available census. The results of the 2001 census data affected elections starting from 2003, and therefore it affected government grant decisions made at the end of 2002, relative to 2003 grants, and this is mirrored in the dataset. Together with the dummy variable, we added the population as from the census available at the time of last elections, and its interaction with the already mentioned dummy variable. In order to avoid the risk of mistaking a non-linear pattern around the threshold as a discontinuity, the census population and its interaction with the dummy are inserted up to the fourth power.

This choice of dummy hints to the fact that the government discriminates strictly according to the electoral rule that was used to elect the current mayor, and not the electoral rule that will be knowingly applied to elect the "next" mayor. It implies therefore very little anticipation in the central government decisions. This choice is strongly supported by the data, which do not show any significance when a dummy "current electoral system" is used, as opposed to "electoral system that elected the current mayor".

The further characteristic of the RDD approach that need to be made explicit, has to do with the fact that the regression is not performed on the whole dataset, but only on the observations within an interval around the threshold. On the one hand we would like to perform our analysis within an interval which is as small as possible, in order to compare municipalities that are the most similar. On the other hand reducing too much our interval would let us have a very small number of observation, and make our analysis very difficult and very dependent on the specific, and possibly unobserved, characteristics of the few municipalities left in the dataset. We attempted many intervals, and found little difference in our finding for intervals spacing from $\pm 4,000$ to $\pm 2,000$ inhabitants around the 15,000 figure. Intervals narrower than $\pm 2,000$ gave very inconsistent and variable results as the interval got smaller and smaller, making us believe that the dataset was getting too small, and the results started being dominated by dynamics relative to the small amount municipalities left in the dataset. Our choice of a $\pm$ 2,000-inhabitants interval leaves us with 130 different municipalities, and a sample size of 863. We chose to restrict the dataset to a population interval, rather than focusing on certain municipalities that are near the interval at one of the two observation points (i.e. the two censuses). Again, our aim is to assess whether municipalities near the threshold, but just below, are receiving less monies than the ones just above, so focusing only on those who are constantly (or only at one point in time) near the threshold, does not seem particularly interesting. More interesting is instead to focus on any municipality that at any point in time happens to be near the threshold.

In general, it must be underlined how the municipalities that passed from one side to the other of the threshold are a quite small number (see Table 5): 46 of them jumped above the threshold, and 16 jumped below the threshold.

The econometric specification is therefore the following:

$$\ln ent_{it} = over_{it} \cdot (\sum_{0}^{j} \beta_j census_{it}^j) + ... + \epsilon_{it} \qquad (1)$$

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As a dependent variable we used the total sum of entitlements *spettln* (logged), and the sum of this figure with the share of income tax revenue accruing to the municipality (*spettcompln*). The reason for this choice is twofold: on the one hand, when the decision to devolve a share of the tax revenue to municipalities was taken, the grants were offset of the same amount, so that this operation were revenue neutral for both central government and municipalities. On the other hand, analyzing the data, we discovered that in some years the grants have been registered in a way that puts this income tax share revenue within the ordinary grant figure, for reason that our beyond our understanding.

As controls, we include the demographic composition of the population (children under 6 years old and elderly people over 65, either from the two censuses or from the yearly figures), the GDP per capita at the county level (yearly data, deflated) or the income tax base, a dummy variable for municipalities whose mayor is politically aligned with the Prime Minister (*align*), a dummy with the interaction between being aligned and being "marginal"[6] (*swingalign*), a dummy for municipalities whose mayors are not aligned with any political party (*unknown*), and finally year dummies (y2-y11). Random effects are preferred over fixed effects, after having performed the Hausman test, and finally errors are robust.

3.2   Results

Our result confirm that the central government treats unequally municipalities across the 15,000-inhabitant threshold. It favors larger municipalities awarding them (ceteris paribus) around 45% more grants. Moreover it seems to generally favor municipalities whose mayors belong to national parties and not to "Civic Lists", punishing them with an average of 8% less grants. It is also discovered a strongly significant alignment effect, that sees aligned municipalities receiving about 18% more grants.

Demographic variables instead have an effect which does not appear robust across specifications, and the year dummies and the constant appear instead very significant. This would confirm the intuition that the Italian grant system is mostly based on successive sedimentation of reforms and it has little have to do with economical criteria, and that each year's Budget Bill decides most of the distribution of grants.

The income tax base is instead, as expected, strongly significant and impacting negatively on the grants, underlying probably two distinct dynamics. On the one hand municipalities with lower tax capacity are granted larger funds, on the other hand inefficiency (e.g. higher employee/inhabitant ratio) and lower per capita income tend to be highly correlated in Italy. We can imagine therefore that municipalities that historically have been granted larger amounts of money because of their higher expenditure rates, are also the one that now have poorer population, and therefore smaller income tax base.

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[6]A municipality is defined as "marginal" if the share of votes to one of the two coalition at the latest general elections is between 45% and 55%.

	< 15,000	> 15,000	Total
Civic List	3,762	24	3,786
Left	1,403	283	1,686
Right	582	180	762
Total	5,747	487	6,234

Table 1: Political Affiliaton of Mayors in year 2003 for Municipalities below and above the 15,000-inhabitant threshold

	$10k - 15k$	$15k - 20k$	Total
Civic List	100	10	110
Left	142	80	222
Right	59	59	118
Total	301	149	450

Table 2: Political Affiliaton of Mayors in year 2003 for Municipalities in the [10,000; 15,000]- and [15,000; 20,000]-inhabitant intervals

2001 / 1991	≤500	up to 1k	up to 2k	up to 3k	up to 5k	up to 10k	up to 20k	up to 60k	up to 100k	up to 250k	up to 500k	>500k	total 1991
up to 500	779	70	0	0	0	1	0	0	0	0	0	0	850
up to 1,000	36	981	109	0	0	0	0	0	0	0	0	0	1126
up to 2,000	1	89	1497	88	1	0	0	0	0	0	0	0	1676
up to 3,000	0	0	99	793	83	0	0	0	0	0	0	0	975
up to 5,000	0	0	0	130	1030	45	0	0	0	0	0	0	1205
up to 10,000	0	0	0	0	108	1031	12	0	0	0	0	0	1151
up to 20,000	0	0	0	0	0	79	550	7	0	0	0	0	636
up to 60,000	0	0	0	0	0	0	23	347	4	0	0	0	374
up to 100,000	0	0	0	0	0	0	0	4	46	4	0	0	54
up to 250,000	0	0	0	0	0	0	0	0	0	29	0	0	29
up to 500,000	0	0	0	0	0	0	0	0	0	1	6	0	7
over 500,000	0	0	0	0	0	0	0	0	0	0	0	6	6
Total 2001	816	1140	1705	1011	1222	1156	585	358	50	34	6	6	8089

Table 3: Demographic class transition matrix in the two Censuses.

Table 4: Financial Autonomy of Municipality (taxes, tariffs and autonomous incoming funds over total revenues)

Fin. Autonomy / Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
10k-20k Inhabitants	63.6	64.95	67.79	64.66	71.24	76.16	78.4	79.7	78.43
National Average	60.21	60.38	62.7	59.88	66.35	71.59	73.64	75.16	74.86

10k to 20k inhab.	1991	2001	changes across 15,000
<15k	406	448	-16
≥15k	179	191	46
	585	639	

Table 5: Municipalities between 10,000 and 19,999 inhabitants: municipalities that passed across the 15,000-inhabitant threshold

National	71.59
10,000-20,000 inhabitants	76.16
County of Bologna	89.89
County of Crotone	49.82

Table 6: Financial Autonomy Index

County of Bologna	75.86
County of Crotone	45.35
National Average	68.33

Table 7: Share of Own Revenues collected by the end of the financial year in 2003

year	Total	Ordinary	Consolidated	Devolved Functions - Capital	Devolved Functions - Current	Equalization	Investment Develop.	Ordinary Nat. Inv.
1998	9,600,000,000	6,860,000,000	1,910,000,000	58,600,000	0	777,000,000	0	0
1999	9,620,000,000	6,900,000,000	2,010,000,000	60,900,000	0	647,000,000	0	0
2000	8,330,000,000	5,710,000,000	1,930,000,000	74,300,000	0	619,000,000	0	0
2001	9,200,000,000	6,690,000,000	1,730,000,000	253,000,000	3,619,523	528,000,000	0	0
2003	5,930,000,000	2,380,000,000	1,430,000,000	11,200,000	32,100,000	542,000,000	1,310,000,000	215,000,000
2004	4,820,000,000	1,970,000,000	1,200,000,000	9,424,412	27,500,000	509,000,000	998,000,000	109,000,000
2005	5,100,000,000	1,900,000,000	1,170,000,000	8,858,915	25,100,000	505,000,000	790,000,000	41,800,000
2006	4,610,000,000	1,810,000,000	1,050,000,000	8,254,522	23,200,000	470,000,000	604,000,000	40,500,000
2007	9,830,000,000	5,990,000,000	1,900,000,000	10,300,000	29,800,000	503,000,000	692,000,000	82,200,000
2008	11,600,000,000	5,660,000,000	1,850,000,000	10,100,000	29,300,000	495,000,000	574,000,000	79,500,000

Table 8: Total Sums of Grants, by year and fund

Variable		Mean	Std. Dev.	Min	Max	Observations
ord_pp	overall	125.3024	97.24893	-66.7748	1773.44	N = 62417
	between		85.57811	3.881418	1272.139	n = 6361
	within		46.19256	-311.011	1542.171	T-bar = 9.81245
cons_pp	overall	26.99672	23.22453	-0.02222	300.2006	N = 62417
	between		22.59355	1.601089	267.1468	n = 6361
	within		5.978879	-101.365	200.1237	T-bar = 9.81245
altri_pp	overall	20.94904	27.80009	0.178504	1177.259	N = 25204
	between		20.52847	0.402989	971.1846	n = 6359
	within		19.57318	-390.465	770.2144	T-bar = 3.96352
tcap_pp	overall	5.319675	17.69556	-0.01089	805.0703	N = 62417
	between		5.507244	0.102681	83.88667	n = 6361
	within		16.8155	-78.4305	726.5033	T-bar = 9.81245
tcor_pp	overall	0.399657	0.610306	-0.01089	28.58142	N = 43704
	between		0.552299	0.124068	23.78656	n = 6361
	within		0.264294	-19.388	7.013857	T-bar = 6.87062
pereq_pp	overall	15.11288	18.91759	-0.01111	117.6059	N = 62417
	between		18.83987	0	105.7474	n = 6361
	within		2.721106	-20.2031	38.80657	T-bar = 9.81245
NazOrdInv_pp	overall	18.39087	35.30648	-0.01111	837.3171	N = 37583
	between		32.47468	-0.00185	557.9596	n = 6361
	within		13.60746	-205.85	324.4331	T-bar = 5.90835
SvInv_pp	overall	33.82151	42.80783	-0.01111	784.2134	N = 37583
	between		40.17239	0	701.2437	n = 6361
	within		14.44928	-184.561	379.5045	T-bar = 5.90835
left_mayor	overall	0.277184	0.447612	0	1	N = 62417
	between		0.338988	0	1	n = 6361
	within		0.292272	-0.62282	1.177184	T-bar = 9.81245
unknown_mayor	overall	0.615922	0.48638	0	1	N = 62417
	between		0.377287	0	1	n = 6361
	within		0.307472	-0.28408	1.515922	T-bar = 9.81245
compirpef_pp	overall	72.07831	48.51303	2.735484	511.6876	N = 37583
	between		23.79957	12.8121	305.4821	n = 6361
	within		42.35698	-191.314	372.5185	T-bar = 5.90835
spett_pp	overall	212.9093	155.7069	-0.01228	2428.242	N = 62417
	between		143.4519	15.23563	1562.43	n = 6361
	within		60.57191	-497.315	1349.321	T-bar = 9.81245
align	overall	0.842271	0.36449	0	1	N = 62417
	between		0.197193	0	1	n = 6361
	within		0.307119	-0.05773	1.742271	T-bar = 9.81245
child	overall	4.346544	1.264898	0	11.2837	N = 62362
	between		1.123387	0	9.346926	n = 6361
	within		0.600393	0.317329	8.299842	T-bar = 9.8038
elderly	overall	20.46471	6.900372	3.799412	64.28571	N = 62362
	between		6.642736	5.208813	63.31719	n = 6361
	within		1.898695	7.331588	29.22012	T-bar = 9.8038
census	overall	7107.818	44379.03	0	2775250	N = 62402
	between		44167.44	32.2	2638182	n = 6361
	within		1916.971	-84270.6	144175.4	T-bar = 9.81009
pending	overall	0.191374	0.393386	0	1	N = 62417
	between		0.0351	0	0.6	n = 6361
	within		0.391977	-0.40863	1.114451	T-bar = 9.81245
runoff	overall	0.078312	0.268664	0	1	N = 62417
	between		0.270147	0	1	n = 6361
	within		0.034562	-0.82169	0.978312	T-bar = 9.81245
runoff_unalign	overall	0.0321707	0.1764547	0	1	N = 62417
	between		0.1219171	0	1	n = 6361
	within		0.1293054	-0.8678293	0.9321707	T-bar = 9.81245
swing_a	overall	0.192848	0.394538	0	1	N = 62417
	between		0.282321	0	1	n = 6361
	within		0.275759	-0.70715	1.092848	T-bar = 9.81245
intercensus	overall	7230.865	43624.33	30	2705603	N = 62417
	between		43447.8	35.1	2592290	n = 6361
	within		970.3272	-44229.6	120544.4	T-bar = 9.81245
eld_intercensus	overall	21.76529	6.649114	4.194261	67.08861	N = 62417
	between		6.548463	5.842887	62.07388	n = 6361
	within		1.207542	8.278463	31.44457	T-bar = 9.81245
child_intercensus	overall	4.801523	1.336481	0	12.65823	N = 62417
	between		1.150754	0.196154	9.886298	n = 6361
	within		0.690096	-0.69035	10.94088	T-bar = 9.81245

	(1)	(2)	(3)	(4)
	ord_ppln	cons_lnpp	spettcomp_ppln	spett_ppln
runoff	0.884**	1.834*	0.511**	0.594**
	(2.92)	(2.39)	(3.62)	(4.01)
census_elsys	-0.962	-2.789	-1.305**	-1.113**
	(-1.28)	(-1.28)	(-3.42)	(-2.79)
census_elsys_i	-0.438	1.248	0.642	0.199
	(-0.50)	(0.46)	(1.21)	(0.35)
unknown_mayor	-0.0216	-0.395	-0.0488	-0.0850$^+$
	(-0.34)	(-1.58)	(-1.09)	(-1.75)
align	0.189**	0.491$^+$	0.134**	0.186**
	(3.38)	(1.91)	(3.37)	(4.47)
swingalign	-0.340**	-0.536*	-0.172**	-0.254**
	(-4.84)	(-2.18)	(-3.38)	(-4.63)
child_intercensus	-0.0575	-0.444*	0.141**	0.0117
	(-1.01)	(-2.09)	(3.93)	(0.29)
eld_intercensus	-0.0174	-0.0672	0.0343**	0.00391
	(-1.13)	(-1.22)	(3.33)	(0.34)
taxbase	-2.930**	-8.315**	-1.876**	-2.477**
	(-12.50)	(-12.37)	(-12.60)	(-14.25)
_cons	14.75**	34.35**	9.824**	13.03**
	(15.11)	(10.90)	(16.04)	(17.88)
N	1754	1587	1754	1754

t statistics in parentheses

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

	(1) spettln	(2) spettcompln	(3) spettln	(4) spettcompln	(5) spettln	(6) spettcompln
over	0.124 (0.55)	0.320 (1.36)				
runoff			0.605** (3.38)	0.608** (4.42)	0.681** (3.88)	0.550** (4.01)
run_unalign			-0.173** (-2.89)	-0.113* (-2.12)	-0.214** (-3.52)	-0.106* (-1.99)
runoff1			-1.498** (-3.09)	-1.279** (-3.39)	-1.286** (-2.74)	-1.115** (-3.03)
unknown_mayor	-0.115* (-1.99)	-0.0204 (-0.44)	-0.0896 (-1.59)	-0.0229 (-0.52)	-0.115* (-1.97)	-0.0158 (-0.36)
swinga	-0.185** (-2.86)	-0.0650 (-1.36)	-0.260** (-4.00)	-0.151** (-3.05)	-0.300** (-4.60)	-0.141** (-2.86)
incomeppln	0.724 (1.14)	-1.779** (-12.06)	1.074$^+$ (1.85)	-2.112** (-11.66)	1.325* (2.13)	-1.619** (-10.86)
census			-0.271** (-3.63)	-0.181* (-2.40)		
child			-0.414** (-10.30)	-0.0943** (-2.90)		
elderly			-0.134** (-3.78)	-0.0206* (-2.43)		
interk	-0.0610 (-1.02)	-0.0438$^+$ (-1.74)			-0.242** (-4.33)	-0.126** (-3.90)
child_intercensus	0.0655 (1.00)	0.160** (4.14)			0.115$^+$ (1.78)	0.223** (5.88)
eld_intercensus	0.0104 (0.30)	0.0297** (2.93)			-0.00317 (-0.09)	0.0296** (2.94)
_cons	12.76** (5.00)	19.97** (31.66)	18.43** (6.92)	24.98** (18.12)	12.88** (5.14)	20.28** (30.79)
N	1759	1759	1754	1754	1754	1754

t statistics in parentheses

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

	(1) ordln	(2) consln	(3) ordln	(4) consln	(5) ordln	(6) consln
over	0.711	-0.139				
	(1.08)	(-0.10)				
runoff			1.013**	2.437*	1.013**	2.437*
			(2.81)	(2.42)	(2.81)	(2.42)
run_unalign			-0.194**	-0.603	-0.194**	-0.603
			(-2.60)	(-1.61)	(-2.60)	(-1.61)
runoff1			-1.688*	-2.010	-1.688*	-2.010
			(-2.13)	(-0.64)	(-2.13)	(-0.64)
unknown_mayor	-0.109	-0.458	-0.0455	-0.469	-0.0455	-0.469
	(-1.53)	(-1.64)	(-0.64)	(-1.64)	(-0.64)	(-1.64)
swinga	-0.300**	-0.150	-0.372**	-0.488$^+$	-0.372**	-0.488$^+$
	(-3.80)	(-0.56)	(-4.59)	(-1.72)	(-4.59)	(-1.72)
incomeppln	-0.980	-9.313**	-0.601	-8.940**	-0.601	-8.940**
	(-1.03)	(-11.20)	(-0.66)	(-10.27)	(-0.66)	(-10.27)
interk	-0.0132	-0.302*		-0.446*		-0.446*
	(-0.16)	(-1.97)		(-2.32)		(-2.32)
child_intercensus	-0.0662	-0.668*		-0.633*		-0.633*
	(-0.69)	(-2.55)		(-2.33)		(-2.33)
eld_intercensus	0.0291	-0.166**		-0.188**		-0.188**
	(0.61)	(-2.62)		(-2.95)		(-2.95)
census			-0.122		-0.122	
			(-1.58)		(-1.58)	
child			-0.526**		-0.526**	
			(-8.55)		(-8.55)	
elderly			0.0187		0.0187	
			(0.40)		(0.40)	
_cons	17.62**	57.52**	19.89**	56.24**	19.89**	56.24**
	(4.71)	(13.93)	(5.36)	(13.43)	(5.36)	(13.43)
N	1759	1600	1754	1595	1754	1595

t statistics in parentheses

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

Data Appendix

The dataset has been built using various different sources; all the data are nominally public, even if in more than one occasion more than one ally had to be explored to obtain the data. Most of the data come from different department of the Italian Interior Ministry. From the Local Public Finance Directorate (http://finanzalocale.interno.it) we obtained the financial data of municipalities (Entitlements and Balance Sheets), the Elections Directorate (http://elezioni.interno.it) provided us with the electoral results. Moreover the Ministry publishes online a database of the public administrators (councillors and mayors, http://amministratori.interno.it), from which we gathered the party affiliation and time in office of mayors.

The data on the income tax base by municipality is published by the Treasury, and we manage to obtain them through the Labour Ministry.

Finally our third source of data is the National Statistical Office: it provided the census data, the intercensus population surveys, and the GDP estimates at the county level.

More specifically, here is the description of each variable used:

- *ord_pp*: Ordinary Grant (Fondo Ordinario), per person as from the latest available census

- *cons_pp*: Consolidated Grant (Fondo Consolidato), per person as from the latest available census

- *altri_pp*: Other Grants ("Altri" in the data request form of the Interior Ministry), per person as from the latest available census

- *pereq_pp*: Equalization Grant (Fondo Perequativo), per person as from the latest available census

- *cons_pp*: Consolidated Grant (Fondo Consolidato), per person as from the latest available census

- $NazOrdInv\_pp$: National Ordinary Investment Grant, per person as from the latest available census

- $SvInv\_pp$: Investment Development Grant, per person as from the latest available census

- *tcor_pp*: Devolved Functions Grant - Current Account (Funzioni Trasferite, parte corrente), per person as from the latest available census

- *tcap_pp*: Devolved Functions Grant - Capital Account (Funzioni Trasferite, parte capitale), per person as from the latest available census

- $spett_p p$: Total Entitlement (all the above funds), per person as from the latest available census

- $compirpef_p p$: Income-tax share devolved to municipalities (Compartecipazione IRPEF), per person as from the latest available census

- $spettcomp_p p$: Total Entitlement (spett_pp) plus the Income-Tax Share devolved to municipalities, per person as from the latest available census

- *left_mayor*: Dummy: takes value 1 when the mayor on January 1st belongs to a left-wing party

- *unknown_mayor*: Dummy: takes value 1 when the mayor on January 1st belongs to a civic association/does not belong to any national party

- *align*: Dummy: takes value 1 if on Jnauary 1st Prime Minister and Mayor belong to the same coalition

- *child*: share of population up to 5 years old, as from the latest available census

- *child_intercensus*: share of population up to 5 years old, as from the latest ISTAT intercensus reconstruction

- *elderly*: share of population over 65 years old, as from the latest available census

- *eld_intercensus*: share of population up to 65 years old, as from the latest ISTAT intercensus reconstruction

- *census*: population, as from the latest available census

- *intercensus*: population, as from the latest intercensus reconstruction

- *pending*: Dummy: takes value 1 if in the current year mayoral elections will be held

- *swing*: Dummy: takes value one if the share of votes to the left-wing coalition at the latest general elections was [45%, 55%]

- *swing_a*: Dummy: align*swing

- *census_elsys*: latest available census at the time when the latest mayoral elections were held

- *runoff*: Dummy: takes value 1 if the current mayor has been elected with a runoff electoral system.

- *runoff_unalign*: Dummy: interaction between runoff and align, takes value 1 if the current mayor has been elected with a runoff electoral system and is NOT aligned with the Prime Minister.

- *runoff1−4*: (census_elsys/1000)-15, elevated at the first, second, third, fourth power

- *irunoff1 − 4*: interaction between runoff1-4 and runoff (dummy)

- *over*: Dummy: takes value 1 if, according to the latest available census, the following mayoral elections will be held with runoff system

- *over1 − 4*: (census/1000)-15, elevated at the first, second, third, fourth power

- *iover1 − 4*: interaction between over1-4 and runoff (dummy)