Dynasties and the Political Budget Cycle

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Abstract

In this paper, we test whether dynastic leaders differ in their policy-making once in office. Based on a large sample of local Italian politicians in the period 1985-2012, we find that dynastic mayors increase spending and obtain higher transfers during the pre-electoral year. This strategic behavior seems especially evident when electoral incentives are stronger. Overall, we suggest that they might behave differently both because they *can* (thanks to inherited political skills) and because they *want* to (due to higher returns from politics). Nevertheless, when looking at their performance, we do not find any difference between dynastic and non-dynastic mayors.

1 Introduction

Even though political positions in democratic societies are generally awarded via elections, families often continue to play a significant role in politics. In fact, political dynasties are common in diverse settings including Argentina (Rossi (2017)), Japan (Fukai and Fukui (1992); Asako et al. (2015)), the Philippines (Querubin (2013)) and the United States (Dal Bó et al. (2009); Feinstein (2010)). The emerging academic literature on political dynasties has so far predominantly focused on whether and how political dynasties arise and/or persist, and has not investigated their effects. By contrast, this paper focuses on whether dynastic elected leaders behave differently from other politicians once they are in office.

Two main hypotheses suggest that this might be the case. First, previous studies show that dynastic politicians are electorally more successful (Dal Bó et al. (2009); Rossi (2017); Querubin (2013)). In turn, dynastic leaders might also be more capable of enforcing their preferred policy agenda due to inherited political skills, for example the ability to mobilize local networks, negotiate with local elites and exploit their family's reputation (Rossi (2017); Querubin (2013); Dal Bó et al. (2009); Feinstein (2010)). However, such reasoning also suggests that dynastic leaders might behave less strategically when setting their agenda, since they benefit from an electoral advantage that makes it less important for them to signal their competence.[1]

While this first hypothesis is based on signaling models, a second one might refer to career concerns, i.e. dynastic politicians might receive greater gains from politics, due to their inherited political skills. In turn, they will implement policies that enable them to remain in office.[2] Overall, dynastic politicians might behave differently from non-dynastic politicians once in office both because they *can* (thanks to inherited political skills) and/or because they *want* to (due to higher returns from politics).

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[1]This is in line with Besley and Reynal-Querol (2015), who argue that dynastic leaders perform particularly well when constraints on the executive are weak, and dynastic transmission of power is easier.

[2]For instance, dynastic members might take advantage of their predecessor's networks. Indeed, political networks have been shown to increase politicians' revenues, the revenues of their relatives (Folke et al. (2017), Labonne and Fafchamps (2015), Fisman et al. (2012), Querubin and Snyder Jr (2011), Eggers and Hainmueller (2009)) and the profits of connected firms (Faccio (2006),Amore and Bennedsen (2013) Gagliarducci and Manacorda (2014)). Moreover, dynastic politicians might prefer a political career for reputational reasons, i.e., they might perceive a higher utility (than non-dynastic politicians would) from holding political office (this motivation is related to the political science literature on public service motivations (e.g., Houston (2000)). Finally, an alternative explanation is that dynastic politicians might suffer from a "Carnegie effect" (Durante et al. (2014)) if the advantage granted by their elected ancestors led them to underinvest in their own human capital: in this case, a worse outside option might incentivize dynastic politicians to shape policies that maximize their chances of re-election.

In this paper, we test these two hypotheses using data on Italian local politicians from the period 1985–2012. Our estimates, based on a panel fixed-effects estimation and on a regression discontinuity design (RDD) on local elections won by a close margin, show that dynastic mayors are more likely to increase public spending in the year before an election. They increase spending, especially capital expenditure, and finance such spending mostly through higher transfers. The increase is substantial – between 70 and 190 euros per capita depending on the preferred specification. Indeed, we also find that non-dynastic mayors increase spending in a pre-electoral year, however, less than dynastic leaders. Therefore, dynastic politicians seem more prone to adopt a policy, i.e. higher pre-electoral spending, which is considered optimal also by non-dynastic politicians. This is in line with the idea that dynastic politicians appear to be more strategic because of higher ability and/or higher gains from being in politics. In favour of this interpretation, we also show that they are reactive to electoral incentives, as we find evidence of a political budget cycle (PBC) mostly for i) dynastic mayors at the end of their first term, i.e., those who are eligible to run for re-election (Italian mayors have a two-term limit); ii) dynastic mayors elected in more contested elections. However, we do not find a stronger PBC for dynastic leaders when a relative will run in the next electoral round. This suggests that pre-electoral spending is used for individual rather than family ambitions. Finally, when looking at their performance, we do not find any difference between dynastic and non-dynastic mayors.

An underlying assumption of our analysis is that dynastic mayors differ from non-dynastic mayors. Indeed, we find that dynastic politicians have more successful careers and better electoral performances: they are more likely to win local elections and get elected in higher levels of government (i.e. provincial parliaments) than non-dynastic politicians[3]. Indeed, political power is persistent in Italian municipalities: an elected mayor is twice as likely to have a relative in office as a non-elected mayoral candidate. These striking differences are in line with the relevance of inherited political skills, and justify our interest in the policy-making side.

As our analysis covers all Italian local elected politicians in the period 1985–2012 (N=571,824), we have to rely on a systematic method to identify family ties among them. In line with previ-

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[3]Therefore, it appears that the electoral advantage enjoyed by dynastic mayors does not prevent them from behaving more strategically, in terms of higher spending before elections. This might be due to the relatively low cost of enforcing PBCs compared to the high cost of losing elections under electoral uncertainty. Also we do not find evidence of the fact that PBC affects electoral performance. However, this test relies on a correlation and cannot be causally interpreted (we address this point in the Web Appendix).

ous studies on academic and political dynasties (Allesina (2011); Durante et al. (2014); Querubin (2013)) as well as inter-generational social mobility (Clark (2014); Clark and Cummins (2015)), we define family ties as politicians who share the same surname in the same municipality. Clearly, this method of identification reduces the precision of our estimates. We show that our results are confirmed or reinforced when we exclude politicians with frequent surnames, since identifying family ties is more likely to be problematic in these cases.

Our research contributes to four strands of literature. First, it enhances understanding of the strategic behaviors that elites might engage in to sustain their power in modern democracies (Michels (1915); Mosca (1939); Pareto (1901); Robinson and Acemoglu (2008)). According to theories of power transmission, dynasties, like other elite groups, strive to guarantee their power and its perpetuation to future generations (Michels (1915); Mosca (1939); Pareto (1901)). For instance, Robinson and Acemoglu (2008) provide a model of endogenous political persistence in which "the elite, by virtue of their smaller numbers and their greater expected returns from controlling politics, have a comparative advantage in investing in de facto power" (Robinson and Acemoglu (2008)).

Second, we provide additional evidence of the relevance of dynasties in the political arena in the context of an affluent European country.[4] Our results are in line with previous studies showing that dynasties self-perpetuate and have an electoral advantage over non-dynastic politicians. Specifically, a first group of studies focuses on the causal impact of the length of a politician's tenure on the probability that they will have a family member in politics in the future (Dal Bó et al. (2009); Rossi (2017); Querubin (2013)). Rossi (2017), for instance, exploits an exogenous change in the Argentinian electoral law to show that a longer tenure in the Argentinian Congress increases the probability of having a relative in future congresses. Dal Bó et al. (2009) and Querubin (2013) find very similar results for the United States and the Philippines using an RDD. A second group of studies more directly investigates the electoral performance of dynastic versus non-dynastic politicians (Feinstein (2010); Asako et al. (2015), Van Coppenolle (2014)). Controlling for other individual characteristics, these studies find that dynastic politicians have a higher probability of success than non-dynastic politicians in national elections in the United States and Japan.

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[4]see Folke et al. (2017) and Fiva and Smith (2016) for different results in other affluent European countries, i.e. Norway and Sweden.

Third, we contribute to the literature on the effects of "strong" family ties, which have been linked to detrimental outcomes in terms of firms' performance (Bertrand and Schoar (2006); Bennedsen et al. (2007)), labor market participation (Alesina and Giuliano (2010)) and academic recruitment (Durante et al. (2014)). Finally, we also contribute to the literature on PBCs (Rogoff (1990); Blais and Nadeau (1992)), showing that the incentives to manipulate expenditure can vary across political groups (Persson et al. (2003)). In particular, PBCs have been linked to rent seeking: for instance, Shi and Svensson (2006) show that the size of the PBC depends on politicians' rents of remaining in power. In this light, the results of this paper complement those of Bragança et al. (2015) and Geys (2017) related to the potential rent-seeking behaviors of dynastic politicians.

The remainder of the paper is structured as follows. In Section 2 and 3, we present the institutional background and the data we use. We estimate the impact of dynasties on municipal budgets in Section 4, before discussing the potential channels driving our results in Section 5. In Section 6 we test the underlying assumption that dynastic mayors differ from non-dynastic mayors. We discuss our findings in Section 7 and conclude in Section 8.

2 Institutional background and data

2.1 Local politics in Italy

The Italian political system has three levels of governance: municipalities (about 8,000 across the country) represent the lowest level, followed by regions (20) and the national level. Until 2014, provinces (110) represented another level of government between cities and regions. Nonetheless, as in most other European countries, municipal governments have important responsibilities with respect to education, social welfare, culture and recreation, city planning, transport, economic development, waste management and local police. They also have important fiscal powers, and setting the local property tax rate is the central annual financial decision (Bordignon et al. (2003)). As the share of national transfers has gradually decreased over time, local revenues have increasingly financed the municipal budget. However, their spending capacity is constrained by the "Internal Stability and Growth Pact," which limits the ability of

municipalities to incur debts. Moreover, according to the Italian Constitution, such debts can only cover capital expenditures.

Local elections are held every five years (every four years before 2000) to elect council members and the (directly elected) mayor. The electoral system depends on the size of the municipality. In cities of fewer than 15,000 inhabitants, voters effectively have only one vote, which they cast for a candidate mayor and her list of supported candidates for the municipal council (though additional 'preference votes' for candidates within this list of candidates are possible). Elections are held in a single round, in which the mayoral candidate who obtains the most votes is selected, and her list of candidates is allocated at least 66% of the council seats. The remaining seats are allocated proportionally to the vote share of the other mayoral candidates and their lists. In municipalities with more than 15,000 inhabitants, voters choose between parties (or coalitions) that present a list of candidates for the municipal council and support a candidate mayor. Voters cast one vote for a candidate mayor and one vote for a list of candidates for the council (which can, but need not be, the list supporting a voter's preferred mayoral candidate). Elections for mayor in these larger municipalities follow a run-off system, whereby the two top candidates run in a second round if no candidate obtains an outright majority in round one. The list(s) supporting the winning mayor are allocated at least 60% of the council seats, and there is a 3% threshold for the proportional allocation of the remaining seats (see Bordignon et al. (2013) for more details).[5]

2.2 Identifying political dynasties in Italy

In this paper, we gather a wide set of data concerning local Italian municipalities in order to identify political dynasties and measure fiscal outcomes at the municipality level. Specifically, we base our estimates on three different datasets: i) individual data about all local elected politicians in the period 1985–2012, which includes some biographical information (e.g., gender, education, date and place of birth, job); ii) local election outcomes in the period 1993–2012;[6] iii) a dataset about city fiscal outcomes (revenues and expenditures) in the period 1998–2012. All data

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[5] Even though we do not use the threshold of 15,000 inhabitants as an identifying device in our analysis, in Section 4 we provide evidence that it is unlikely to affect our results.

[6] This dataset also includes information on candidates who were either elected mayor or who received enough votes to become a councilor.

are publicly available and provided by the Italian Ministry of Interior for the above-mentioned periods.

Political dynasties are common at the municipal level in Italy. To identify dynastic politicians, we rely on the three datasets described above. Our data, however, do not allow us to directly identify family ties between elected representatives in Italy. Similar to recent studies on academic and political dynasties (Allesina (2011); Durante et al. (2014); Querubin (2013)) as well as inter-generational social mobility (Clark (2014); Clark and Cummins (2015)), we search for individuals with the same surname to identify (presumed) family ties. Specifically, we define dynastic mayors as those with at least one politician elected in the past (since 1985) in the same municipality with the same surname.

Using surnames to operationalize political dynasties is a valid approximation in our Italian setting, since children receive the surname of their father. However, such a methodology might suffer from two different types of errors. First, since people can have the same surname without being related, we might wrongly identify individuals from different families as dynastic. Second, this operationalization only identifies ties between family members if they have the same surname. While these reflect the closest family ties that are likely to generate the strongest effects (e.g., children, grandchildren), it may overlook more distant kinship ties (e.g., cousins, nephews, son-in-law) and those among spouses and daughters who have changed their surname upon marriage. Therefore we might wrongly identify as non-dynastic individuals who belong to the same family but have different surnames. Although data availability prevents us from directly addressing both issues, it is important to observe that they bias our estimates towards zero. Both issues indeed imply that we fail to define a certain number of dynastic politicians as part of a dynasty (i.e., these remain in the control, "non-dynastic" group). For instance, since dynastic politicians are expected to have different spending patterns than non-dynastic politicians, this misallocation pushes the average spending in the 'control' group closer to the average in the 'treatment' group (i.e., dynastic politicians) – inducing a bias in our estimates towards zero. This not only stacks the deck against us, but also implies that our findings reflect a lower bound of the true effect of political dynasties. Nonetheless, we further address this concern through several tests, such as excluding the most common surnames from the estimation

sample and controlling for the relative frequency of each surname at the provincial level in the overall Italian population.

3 Importance and characteristics of dynastic politicians

3.1 Share of dynastic politicians: heterogeneity across time and space
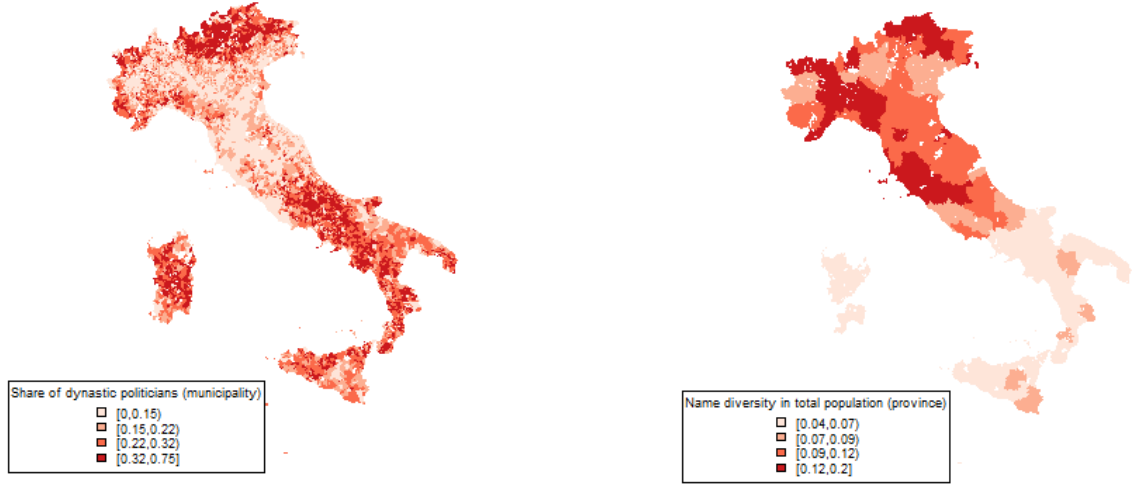
Dynastic local politicians represent an important share of politicians.[7] As shown in Figure 1a, the share of dynastic politicians by municipality over the period 1998–2012 is heterogeneously spread across the country: it seems to be particularly high in the south and north of the country (more than one politician in three has at least the same surname as a previous member of the city council), and lower in the center of the country (with shares closer to 10%). However, the distribution in the shares of dynastic politicians during this period might reflect some underlying characteristics of the municipalities. For example, surname concentration is not even across the country. Using tax data (from 2005) that records the occurrence of every surname in the Italian population at the province level [8], Figure 1b displays surname concentration at the province level. Surname diversity is very heterogeneous across Italian provinces, and higher in the north than the south (i.e., more individuals share the same surname in the south). In the north, the number of surnames corresponds to about 10–15% of the total number of individuals, while in the south this figure is about 5–10%.

A second source of heterogeneity stems from the fact that the number of presumably dynastic individuals is not constant over time. Figure 2 highlights this heterogeneity over time, representing the share of dynastic mayors for different categories of mayors, according to the frequency of their surnames in the total population. During our period of interest (1998–2012), the share of all dynastic mayors doubled, from 15% to more than 30%. If we restrict the sample to individuals whose surname is not among the 100 most common surnames at the province level (which excludes about 15% of elected mayors), the share of assumed dynastic individuals increases from 13% in 1998 to 28% in 2012. For individuals whose surname is not among the 500 most common

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[7]We use "politicians" to refer to members of municipality councils. Note that in this section, we mostly focus on dynastic politicians in the period 1998–2012, as our main analysis – on fiscal outcomes – is restricted to this period due to data availability.

[8]We are grateful to Giovanna Labartino for providing these data.

Figure 1: Dynastic mayors and surname concentration

(a) Share of dynastic politicians at the city level (1998–2012)
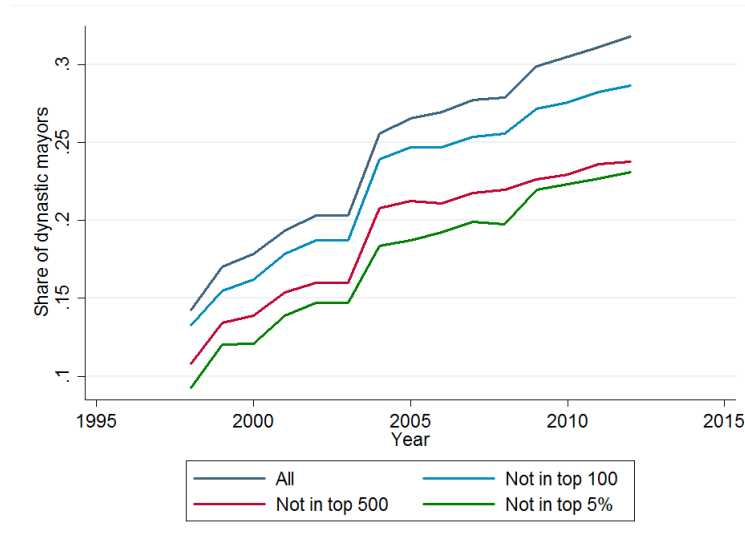
(b) Surname diversity by province

surnames at the province level (which excludes 20–25%), this share rises from 11% in 1998 to 24% in 2012. Finally, for individuals whose surname is not among the 5% most common surnames in the province (which excludes about 50% of the sample), this share grows from 9% in 1998 to about 23% in 2012.

However, the huge increase in the number of dynastic candidates reflects the fact that for politicians elected in the later years of our dataset, a longer time window is available (i.e., all previous years in our dataset since 1985) to determine whether they are dynastic or not. This can be problematic because the number of dynastic individuals not identified as such is likely to decrease over time, which can induce a time-varying bias.[9]

In order to address this issue, we provide alternative definitions of dynastic individuals, defining a mayor as dynastic if the first observed individual holding the same surname as him entered

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[9]Moreover, in the Web Appendix, we show that the average age difference between first generations and their presumed dynastic successors increases over time (from about 8 years in 1998 to about 20 years in 2012). The distribution of age differences between the first individual of a dynasty (hereafter referred to as "first generation") and his potential successors during the period 1998–2012 is bimodal. The first mode is around 0 and the second is around 30. This evidence is compatible with the hypothesis that the kinds of linkages that we capture most often are either siblings or fathers and sons. Finally, even though our analysis starts in 1998, because of dataset limitations, we can assume that we are relatively more likely to catch sibling linkages at the beginning of the period, and relatively more likely to catch father-and-son linkages at the end of the period.

Figure 2: Evolution of dynastic mayors and surname concentration

The figure represents the share of dynastic mayors for different subsamples, based on the frequency of their surname at the province level. The sample "Not in top 100" (resp. 500) includes all mayors whose surname is not among the 100 (resp. 500) most common in the province. The sample "Not in top 5%" includes all mayors whose surname is not among the 5% most common surnames in the province.

the municipal council within 10 years or within 5 years before his first appearance in a municipal council. As emphasized in Figures 3a and 3b, dynastic mayors identified within 10 years still correspond to more than 60% of the assumed dynastic individuals in 2012, while those identified within 5 years account for only 35% in that year.

Below, our benchmark results impose no restrictions, either in terms of politicians' surname frequency or of time window used to identify dynastic mayors: we use the full sample of politicians and identify dynastic individuals through shared surnames in the same city. However, we use the alternative specifications presented in this section to control for the robustness of the results.

3.2 Characteristics of dynastic politicians

Table 1 shows the characteristics of dynastic mayors in cities between 1998 and 2012 (see the Appendix for the exact definition of each variable). Dynastic mayors are much younger (4 years) and have a shorter political tenure (4 years less of previous political experience). This is likely due to the fact that, as they inherit an electoral advantange, they need less political experience to be electorally competitive as mayoral candidates. We will discuss this point later in the pa-

(a) Varying time windows

(b) Share of all dynastic mayors represented by dynastic mayors identified within 5- and 10-year windows

Figure 3: Dynastic mayors and time windows

per. Moreover, they are are also much more likely to run in civic parties (i.e. parties without a national organization) and in the south of the country.

In terms of cities' characteristics, we observe higher unemployment rates and lower levels of trust in cities run by dynastic leaders. We also find that the average term length for a dynastic mayor is slightly longer than for a non-dynastic mayor. Finally, we find slightly worse performance for dynastic mayors as measured by the share of actual revenues over expected revenues and the share of due expenditures paid during the year. However, as discussed more below, some of these facts are driven by structural effects.

Table 1: Characteristics of dynastic mayors

	Non-Dynastic	Obs.	Dynastic	Obs.	Diff.	T-Stat
Mayor characteristics						
Re-elected	0.532	9496	0.536	3222	-0.004	-0.362
	(0.499)		(0.499)			
Age	51.123	81113	47.921	26119	3.202	47.031
	(9.422)		(10.018)			
Male	0.913	81113	0.898	26119	0.015	7.228
	(0.282)		(0.303)			
Education	14.48	79651	14.707	24770	-0.228	-9.126
	(3.457)		(3.333)			
Born in city	0.498	81113	0.522	26119	-0.024	-6.882
	(0.5)		(0.5)			
Experience	11.948	81113	7.183	26119	4.765	105.885
	(6.662)		(5.14)			.
Civic	0.59	81113	0.694	26119	-0.104	-30.226
	(0.492)		(0.461)			
City characteristics						
South	0.273	81113	0.368	26119	-0.095	-29.262
	(0.446)		(0.482)			.
Population	8088.602	79371	4698.555	25603	3390.047	11.135
	(47716.83)		(17266.436)			.
Unemployment	9.322	80780	10.739	26027	-1.418	-23.416
	(8.287)		(9.114)			
Trust	0.316	70906	0.312	22739	0.004	3.838
	(0.14)		(0.145)			
Average budget						
Total Exp	1582.137	78140	1890.757	25201	-308.621	-7.142
	(2445.329)		(11286.531)			.
Current Exp	776.592	78140	887.023	25201	-110.431	-5.948
	(1221.81)		(4722.564)			
Capital Exp	587.691	78143	757.284	25200	-169.593	-6.946
	(1336.632)		(6406.442)			
Tax rev	346.746	78146	382.897	25224	-36.151	-2.594
	(587.284)		(3756.499)			
Loans	138.074	78044	160.904	25204	-22.83	-2.666
	(397.479)		(2287.443)			
Capital transfers	449.084	78037	588.179	25218	-139.095	-8.344
	(1480.282)		(3860.675)			
Competence						
Term duration	3.632	22337	3.806	6859	-0.174	-7.963
	(1.616)		(1.485)			
Speed of payment	77.805	76621	77.573	24496	0.231	2.975
	(11.269)		(8.155)			
Ability of revenue collection	61.544	76854	60.773	24579	0.771	6.536
	(15.919)		(16.613)			
Growth of private tax base	0.022	36586	0.014	12531	0.008	1.719
	(0.524)		(0.142)			

The considered variables are: re-election rate, age, gender, level of education (as measured by the minimum number of years to obtain a certain degree), birthplace of the mayor, number of years since the first election to the city council, being a candidate of a civic party (the base category is being a candidate of a national political party), being elected in Southern Italy, city's population and unemployment rate, trust (at the provincial level), levels of total, current and capital expenditures, tax revenues, contracted loans and received capital transfers (all expressed in euros per capita), duration of the term, speed of payment, revenue collection capacity and yearly growth of the private tax base.
Standard deviations in parentheses.

4 Consequences of political dynasties on local budgets

In this section, we present our main results about the behavior of dynastic politicians while in office.

4.1 Identification strategies

4.1.1 Fixed-effects regressions

To explore the effects of dynastic mayors on municipal budgets, we first use a fixed-effects approach on the full sample of observations between 1998 and 2012. We are interested in two specific features: (1) the extent to which the size of the components of municipal budgets varies across dynastic and non-dynastic mayors and (2) the presence of PBCs at the municipality level, and their magnitude for dynastic vs. non-dynastic mayors.

Table 2: Year of election of mayors in the sample (1998–2012)

Year	Panel specification		RDD specification	
	All obs.	Restricted	All obs.	Restricted
1999	4,312	3,855	977	919
2000	841	605	126	101
2001	1,182	880	305	261
2002	891	586	269	221
2003	437	260	132	119
2004	4,202	3,660	1,232	1,103
2005	811	607	132	105
2006	1,178	902	396	347
2007	870	655	300	257
2008	500	358	175	145

The restricted samples are those used to estimate the PBCs. The panel specification includes all cities for which we observe two full terms after 1999. In the RDD specification, we include all elections for which information on the two best candidates is known, where at least one of them is dynastic and the subsequent term is complete (i.e., 5 years long).

We first test for the effect of dynastic mayors on average revenues and expenditures using the following specification:

$$Y_{it} = \alpha + \beta D_{it} + \nu X_{it} + \gamma_t + \epsilon_i + u_{it},$$

where $Y_{i,t}$ is an outcome variable for city i in year t, D_{it} is a dummy equal to 1 if the mayor of city i in year t is dynastic, X_{it} is a set of city characteristics for city i in year t, γ_t is a year fixed effect, ϵ_i is a city fixed effect and u_{it} is a time-varying error term. The parameter β indicates the difference in outcome variables between dynastic and non-dynastic mayors.

In a second specification, we test for the presence of stronger PBCs for dynastic mayors by estimating the following equation:

$$Y_{it} = \alpha + \beta D_{it} + \delta LY_{it} + \kappa(D_{it} * LY_{it}) + \nu X_{it} + \gamma_t + \epsilon_i + u_{it}$$

where LY_{it} is a dummy equal to 1 if the next election in city i at time t occurs during the following year and 0 otherwise.

The parameter β indicates the average value of the outcome variable for dynastic mayors during the three first years of their term. The parameter δ indicates, for mayors who are non-dynastic, the difference in outcomes between the last year of the term and the first three years. The parameter κ indicates the extent to which this difference is higher for dynastic mayors than for non-dynastic mayors.

Note that we are able to identify PBCs because for each city, the electoral calendar is exogenously defined *ex ante*, and because municipal elections do not occur in the same year for each city. We are therefore able to separate year fixed effects from the effect of time until the next election. Furthermore, to make sure that we properly estimate PBCs, we only include cities that meet a certain number of criteria. In the fixed-effects estimation, we only include cities for which two full 5-year terms are observed (i.e., for elections occurring after 1999). This ensures that we avoid cases of early termination and that we have enough intra-city variation in terms of explanatory

Table 3: Effect of political dynasties and term limits on average budget

	Total exp	Current exp	Cap. exp	Tax rev	Loans	Cap. transfers
Dynasty	28.618	3.637	20.914	3.281	9.514	12.273
	(21.019)	(4.562)	(17.574)	(2.096)	(5.228)*	(16.323)
R^2	0.02	0.24	0.02	0.41	0.01	0.01
N	47,420	47,420	47,420	47,418	47,416	47,416

The table presents estimates from fixed-effects panel regressions, using categories of public expenditures and income as dependent variables (all are expressed in euros per capita, and winsorized at the 1% level). The main explanatory variable is a dummy indicating whether the mayor is dynastic. The sample is comprised of all cities for which two full 5-year terms were observed between 1999 and 2012. Election years are excluded from the estimation. All specifications control for city and year fixed effects, as well as population size and the mayor's sex, age, experience, years of education, birthplace and term-limit. Standard errors are clustered at the city level. Standard errors in parentheses.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

variables to separately identify all the effects mentioned above. [10] [11] Overall, this amounts to using a sample of 6,184 cities for the fixed-effects analysis (see Table 2 for the full list of elections by year).[12] In order to avoid potential outliers, we winsorize the outcome data at the 1% level. Finally, since the quasi totality of the elections in our sample were held between the months of April and June, in case of a change of mayor, we are not sure of who is deciding of the budget in electoral years: we therefore drop the latter from the estimation.

4.1.2 Estimation

Table 3 reports the estimation results for average budget components. The reported variables of interest are total expenditures, current expenditures, capital expenditures, taxes, loans, and capital transfers from the regional and national governments (expressed in euros per capita). Each regression controls for the mayor's age, experience and years of education, as well as for term limits. Covariates also include dummies indicating whether the mayor was born in the city, and whether (s)he is from a civic party (i.e. a party without a national organization). Finally, we also control for the city's population.

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[10]While such a restriction aims at properly identifying Political Budget Cycles and at obtaining a balanced panel, it might create endogeneity issues if the probability of early termination is correlated with the dynastic nature of a mayor. However, as we show in section 7, dynastic mayors are not more subject to early termination of their term.

[11]In the RDD framework implemented in the following sections, because the inference relies upon inter-city variation (as opposed to intra-city variation in the fixed-effect framework), we impose a slightly less stringent constraint and keep cities for which at least one full term is observed between 1999 and 2012.

[12]There are 2,938 cities in the RDD specification: the number of cities present in this specification is smaller as additional constraints to identify closely elected dynastic candidates are necessary (see next section).

Table 4: Effect of political dynasties on PBCs

	Total exp	Current exp	Capital exp	Tax rev	Loans	Cap. transfers
Dynasty	14.595	1.835	8.920	2.133	5.945	4.182
	(21.462)	(4.617)	(17.926)	(2.096)	(5.336)	(16.668)
LY	44.550	-0.615	36.181	-5.223	12.898	19.475
	(10.114)***	(1.398)	(9.143)***	(0.840)***	(3.032)***	(8.112)**
Dynasty*LY	51.078	7.183	43.875	5.042	12.852	30.088
	(17.137)***	(2.254)***	(15.996)***	(1.570)***	(5.187)**	(14.740)**
R^2	0.02	0.24	0.02	0.42	0.01	0.01
N	47,420	47,420	47,420	47,418	47,416	47,416

The table presents estimates from fixed-effects panel regressions, using categories of public expenditures and income as dependent variables (all are expressed in euros per capita, and winsorized at the 1% level). The main explanatory variables are two dummies indicating (1) whether the mayor is dynastic and (2) whether it is the last year in the mayor's term. All outcome variables are expressed in euros per capita. The sample is comprised of all cities for which two full 5-year terms were observed between 1999 and 2012. Election years are excluded from the estimation. All specifications control for city and year fixed effects, as well as population size and the mayor's sex, age, experience, years of education, birthplace and term-limits. Standard errors are clustered at the city level. Standard errors in parentheses.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

In Table 3, we observe no effect of political dynasties on average current and capital expenditures. Nor do we find any effect on tax revenues and capital transfers from upper layers of government. However, it appears that dynastic mayors contract slightly more loans (9.5 euros per capita, on average) than non-dynastic mayors.

But while few effects are noticeable in terms of average budget, we find much more variation in terms of PBCs. Several conclusions can be drawn from the analysis of Table 4. First, in cities run by non-dynastic mayors, expenditures are about 45 euros per capita higher in the last year of the term than at the beginning. This is mainly due to an increase in capital expenditures (which are 36 euros per capita higher), which seems to be financed by an increase in capital transfers from the government and the region (with a difference of about 19 euros per capita between the last year and the three first years of the term) and by an increase in contracted loans (with a difference of about 13 euros per capita). However, tax revenues seem to decrease during the last year of the term by about 5 euros. Put differently, we observe a strong PBC in our sample: before the elections, non-dynastic mayors increase capital expenditures and reduce taxes, while increasing loans and transfers from upper levels of government.

Second, PBCs are much higher for dynastic mayors. Indeed, between the last year and the previous three years of the first term, the variation in total per capita expenditures of non-term-limited mayors is 51 euros higher for dynastic than for non-dynastic mayors. This higher PBC

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comes mostly from a substantial additional increase in capital expenditures during the last year of the term (44 additional euros compared to the previous three 3 years), and from an additional increase in current expenditures per capita (about 7 euros). This increase in expenditures during the last year of the term is mostly financed by capital transfers from the national and regional governments (with a difference of 30 euros) and by an increase in contracted loans (with a difference of 13 euros), while taxes relatively increase by an additional 5 euros during the last year. Therefore, the PBC of dynastic mayors is much more pronounced than that of non-dynastic mayors: they spend relatively more at the end of the term than non-dynastic mayors, and finance this additional increase in expenditures mostly through capital transfers from the national and regional governments.[13]

Importantly, such results are robust to imposing some restrictions on the identification of dynastic mayors. In Table 5 we show that if we keep only mayors whose name is not among the 100 most common in the province, the estimated relative PBC of dynastic mayors is higher than in the baseline analysis - suggesting that our main results suffer from attenuation bias. In a Web Appendix, we show that our results are also robust to excluding politicians whose name is among the 500 most frequent in the province, and to considering as dynastic mayors who had a relative in office during the last 10 years.[14]

4.2 Regression-Discontinuity Design

Even though the electoral schedule is exogenous, the effects identified in the panel regressions might be biased if unobserved mayor and city characteristics are correlated with both dynasty and the outcome. This could happen, for example, if voters chose their candidate depending on criteria that affect both the probability of having a dynastic mayor and the policies implemented.

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[13]The ability of receiving higher transfer in pre-electoral years might signal that dynastic politicians are likely to have more connections with upper layers of governments - thus securing transfers more easily, in line with findings of Brollo and Nannicini (2012)), who show that, in Brazil, politically aligned mayors are more likely to get transfers in pre-electoral years).

[14]Furthermore, we observe several interesting sources of heterogeneity in this analysis. First, the relative political budget cycle of dynastic mayors is much higher in smaller municipalities (although we do not observe any jump at the 15,000 threshold - see Section 2), and for mayors having liberal occupations (such as lawyer, mayor or notaries). We also find that these differences are higher for younger and less experienced mayors. Since family ties and reputational effects are likely to be stronger in smaller municipalities and for liberal occupations, the advantages and incentives inherent to dynasties might be stronger there. Finally, the finding about the age and experience of dynastic politicians is especially compatible with a career concern motive (as proposed by Alesina et al. (2015) about young mayors, and as we emphasize in Section 5).

Table 5: Dynasties and PBCs: restriction to mayors whose name is not among the 100 most common in the province

	Total exp	Current exp	Capital exp	Tax rev	Loans	Cap. transfers
Dynasty	12.919	6.587	3.001	3.899	-1.381	4.165
	(25.798)	(5.595)	(22.091)	(2.648)	(6.562)	(20.775)
LY	39.736	-0.057	30.238	-5.480	13.084	11.226
	(12.204)***	(1.577)	(10.910)***	(0.991)***	(3.633)***	(9.753)
Dynasty*LY	80.641	6.749	75.700	6.117	17.903	55.332
	(22.208)***	(2.750)**	(20.583)***	(1.834)***	(6.710)***	(19.125)***
R^2	0.02	0.26	0.01	0.41	0.01	0.01
N	34,198	34,198	34,198	34,205	34,203	34,203

The table presents estimates from fixed-effects panel regressions, using categories of public expenditures and income as dependent variables (all are expressed in euros per capita, and winsorized at the 1% level). The main explanatory variables are two dummies indicating (1) whether the mayor is dynastic and (2) whether it is the last year in the mayor's term. All outcome variables are expressed in euros per capita. The sample is comprised of all cities for which two full 5-year terms were observed between 1999 and 2012, restricted to mayors whose name is not among the 100 most common at the province level. Election years are excluded from the estimation. All specifications control for city and year fixed effects, as well as population size and the mayor's sex, age, experience, years of education, birthplace and term-limits.Standard errors are clustered at the city level. Standard errors in parentheses.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

In addition, if the probability of electing dynastic candidates is affected by policy outcomes or the PBC, then our estimated effect might be biased.

To address these issues, we use an RDD, focusing on close elections in which the two best candidates are a dynastic and a non-dynastic one. We define the forcing variable as the difference in vote shares between the best dynastic candidate and the best non-dynastic candidate. This variable can take any value between -1 and 1, and it takes a positive value if a dynastic mayor is elected. The intuition behind this methodology is that the assignment of dynastic or non-dynastic mayors in elections won by a narrow margin is as good as random. Our setting involves a sharp RDD. D_i is the dummy variable indicating whether a dynastic mayor is elected, and X_i denotes the margin of the best dynastic candidate. In this case, we have:

$$D_i = \mathbf{1}[X_i > 0]$$

Assuming that the threshold cannot be manipulated (i.e., that the forcing variable is not discontinuous around the threshold of 0), and that there exists no discontinuity in other potential confounding factors around the threshold, we can estimate the effect of dynasty as a local aver-

age treatment effect (LATE), which corresponds to the discontinuity of the observed variable at the threshold. Denoting $Y_i(0)$ as the outcome variable of a city not run by a dynastic mayor and $Y_i(1)$ as the outcome variable of a city run by a dynastic mayor, we seek to estimate the following LATE at the threshold $X_i = 0$:

$$\beta = \mathbf{E}[Y_i(1) - Y_i(0)|X_i = 0].$$

Such an estimate can be found by running the following regression:

$$Y_{it} = \alpha + \beta D_{it} + \delta P(X_{it}) + \gamma P(X_{it})D_{it} + \epsilon_{it},$$

where Y_{it} is the outcome of interest in city i over the *term t*, D_{it} is a dummy equal to 1 if the elected mayor is dynastic and $P(X_{it})$ is a polynomial function of the mayor's margin of victory. The estimated effect of dynastic mayors is therefore the coefficient $\hat{\beta}$.[15]
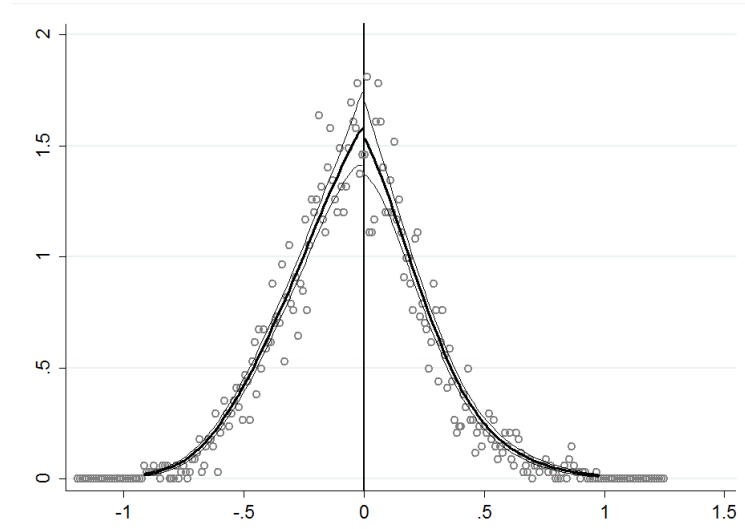
However, as pointed out by Hahn et al. (2001) and summarized by Lee and Lemieux (2010), in order for the observations below the threshold to be a good counterfactual of individuals on the right of the threshold, and for the estimate $\hat{\beta}$ to be unbiased, the potential outcomes $\mathbf{E}[Y_i(1)|X]$ and $\mathbf{E}[Y_i(0)|X]$ must be continuous around the threshold. This implies that if some control variables correlated with the outcome variable are also discontinuous around the threshold, the estimated local treatment effect is likely to be biased. Below, we show that this is precisely what is happening in our setting.

4.2.1 Estimation

As explained above, the RD provides unbiased estimates of the treatment if the threshold of the forcing variable cannot be manipulated. This amounts to testing whether the running variable

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[15] As in the fixed-effect estimation, we include only full 5-year terms after 1999, and exclude election years from the estimation.

Figure 4: McCrary test on the RDD sample of municipal elections

The figure represents a McCrary test of discontinuity in zero of the density of the margin of the best dynastic candidates for our selected sample of elections between 1999 and 2007

is continuous around the threshold. To check the validity of this hypothesis in our framework, we run a McCrary test (McCrary (2008)), the results of which are presented in Figure 4. To identify the margin of dynastic and non-dynastic candidates, we only kept elections for which information on at least the two best candidates is available, and in which at least one dynastic candidate was identified. As previously explained, we only present results for cities for which full 5-year terms are observed (the number of elections meeting these criteria is presented in Table 2 above). The test suggests that the margin of dynastic candidates on the panel of elections we consider is not discontinuous around zero.

Another key hypothesis of the RDD is that around the threshold, the allocation of the treatment (i.e., having a dynastic mayor or not) should be as good as random. Put differently, we should not observe any significant discontinuity around the threshold for other covariates. However, as emphasized in Figure 5, age and experience are markedly lower for dynastic mayors. As shown in Figure 6, the main other control variables are mostly balanced around the threshold. Table 6 confirms this intuition: it gathers results from the estimation of an RD in which we estimate a local polynomial regression with polynoms of order 2, using an optimal bandwidth selected

Table 6: Discontinuity of covariates around the threshold

Order 2 Polynom	Age	Exp	Born in city	Male	Education
Dynasty	-2.877**	-6.117***	0.029	-0.038	0.614
	(1.365)	(0.665)	(0.077)	(0.037)	(0.454)
Bandwidth	0.278	0.375	0.209	0.250	0.270
N (left)	1291	1563	1067	1217	1247
N (right)	1139	1350	947	1080	1082
	Civic list	South	Population	Unemployment	
Robust	-0.010	0.035	1899.222	1.048	
	(0.067)	(0.068)	(1357.696)	(1.214)	
Bandwidth	0.259	0.275	0.159	0.241	
N (left)	1244	1285	831	1184	
N (right)	1103	1134	775	1054	

The table presents the results of an RD estimation with an optimal bandwidth calculated using the Calonico et al. (2014) method, which employs a triangular kernel and controls for an order-two polynom of the margin of victory of the best dynastic candidate. Dependent variables are characteristics of mayors and their cities. The sample consists of all full 5-year mayoral terms for election years between 1999 and 2012. Age and experience and population are measured at the beginning of the term, while population corresponds to the average population during the term. Robust standard errors clustered at the city level in parentheses.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

according to the methodology developed by Calonico et al. (2014) and a triangular kernel.[16]. Robust standard errors are clustered at the municipal level.

Overall, around the threshold, dynastic mayors are 2.8 years younger and have spent 6 years less in the municipal council (which corresponds to more than a term of difference). On the one hand, such discontinuities in observed covariates confirm that dynastic leaders differ from other politicians. Their dynastic advantage is likely to determine their mayoral candidacy at an early age and at an early stage of their political career.

On the other hand, given these discontinuities, which might affect PBCs (Alesina et al. (2015) show, for example, that young mayors in Italian municipalities have higher PBCs), the estimation of the causal effect of dynastic leadership on PBCs might be biased. In fact, our results indicate the type of policies implemented by a certain type of politician, who would be dynastic, young and with little political experience. However, if we assume that dynastic politicians are younger and less experience *because* of their dynastic advantage, this would still provide us an unbiased effect of the policies implemented by dynastic leaders. [17]

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[16]The results are similar when controlling for a higher or lower order of the polynoms.
[17]We therefore embrace the points of view of Becker et al. (2016), Campa and Serafinelli (2015) and Gagliarducci and Paserman (2016), who discuss RDD results in a similar fashion.
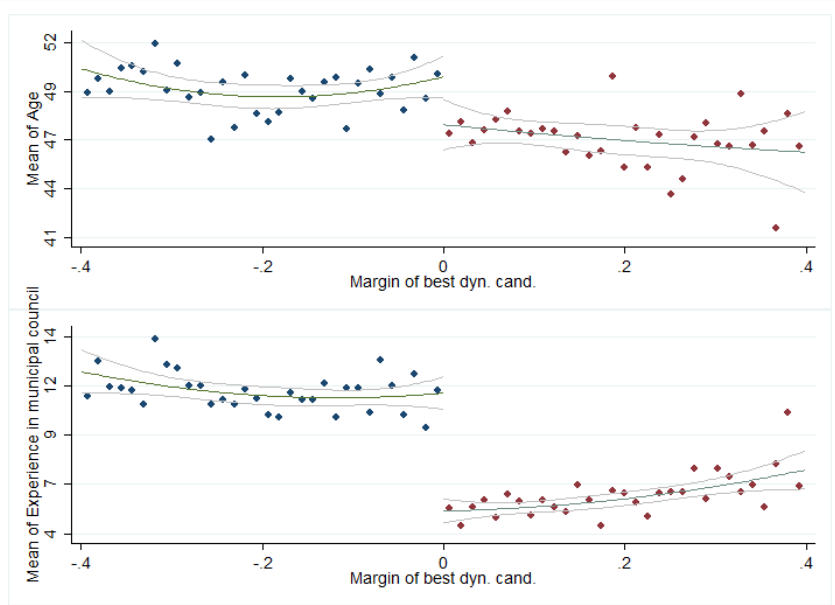
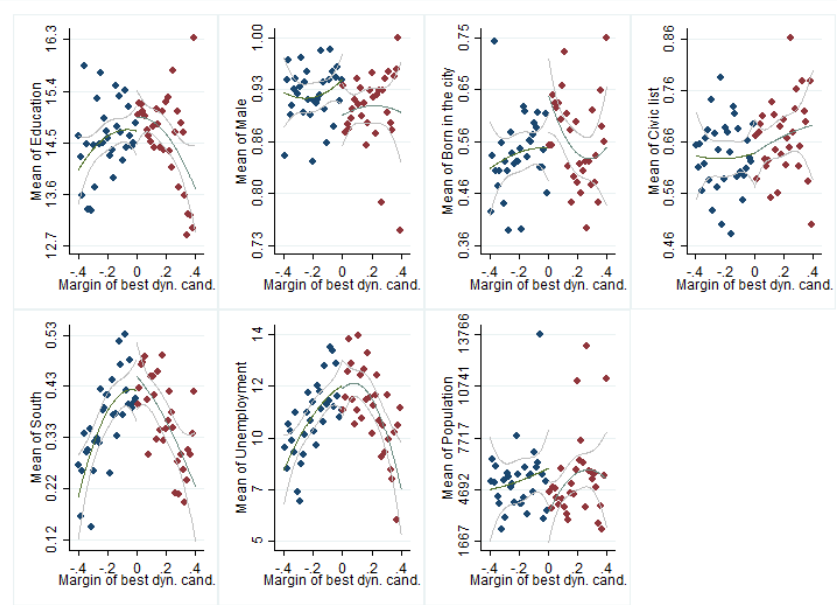Figure 5: Discontinuity of age and experience (full sample)

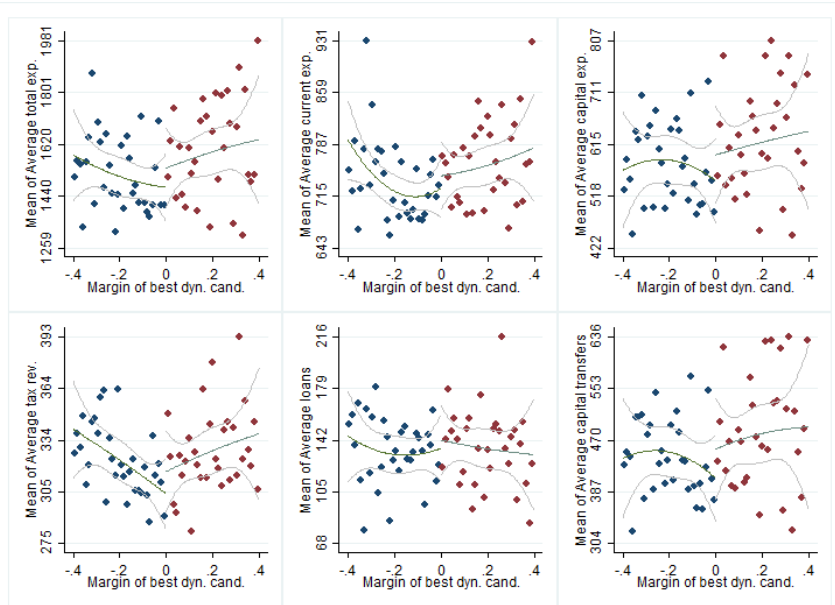Figure 6: Discontinuity of other variables (full sample)

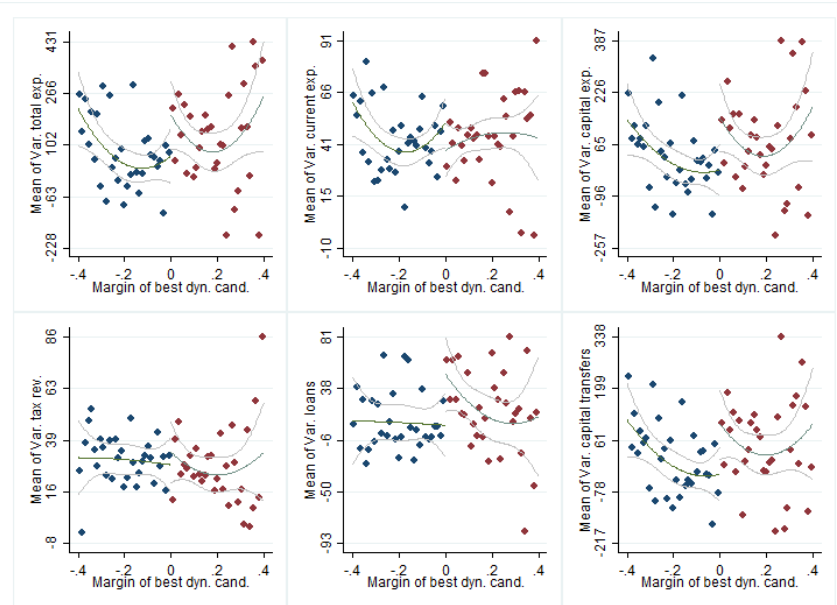Figure 7: Average expenditures and revenues (full sample)

Figure 8: Variation in expenditures and revenues (full sample)

Still, even when relaxing this assumption, we partially recover a pure effect of being dynastic, firstly by including age and experience as covariates in our RDD estimates[18]; secondly, in the Web Appendix we complement this RDD with a matching procedure inspired by Alesina et al. (2015), which helps reducing the observed imbalances around the threshold, i.e., it controls for differences in age and experience between dynastic and non-dynastic mayors; thirdly, we test the RDD estimations on the subsample of "young" (below the median age) and "inexperienced" (freshmen candidates) mayors. In this case, the comparison is, for instance, between a young closely elected dynastic candidate and a young closely elected non-dynastic candidate. If the dynastic effect is evident also in these subsamples, this cannot be explained by the observed discontinuities in age and experience.

We report the RDD estimates in Figure 7, Figure 8 and in Tables 7 and 8. Specifically, Figure 7 reports the differences in average expenditures and average revenues between dynastic and non-dynastic mayors, as a function of the margin of the best dynastic candidate. While Figure 8 reports the difference between the last year of the term and the average of the previous years. The results suggest that the variation in capital expenditures and capital transfers is clearly discontinuous at the threshold, and markedly higher for dynastic mayors. Conversely, there are no clear differences for average expenditures and revenues. Tables 7 and 8, which report estimates of the discontinuity of these different variables at the threshold (following the same methodology as the one used for the covariates, and controlling respectively for order-one and order-two polynoms of the margin of dynastic mayors[19]), confirms the graphical representation: capital expenditures and capital transfers per capita increase much more during the last year of the term for dynastic mayors. Specifically, the difference in variation between dynastic and non-dynastic mayors is about 150 to 190 euros per capita for both capital expenditures and capital transfers. The bottom panels of Table 7 and Table 8 show that including control variables in the estimation does not seem to affect our estimates. Finally, in Table 9 we report the RDD on different subsamples. In the top panel, we compare young dynastic and young non-dynastic mayors. In this case, previous findings are not only confirmed, but reinforced, since the esti-

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[18]However, in this framework, controlling for observed covariates has a limited effectiveness. As emphasized by Calonico et al. (2016), controlling for observed covariates helps improving the consistency of the estimation only if the continuity of the potential outcome is likely to hold. These authors further argue that controlling for interactions between covariates and treatments is likely to improve the consistency of the estimation only in very restrictive situations.

[19]In the subsequent tables, we report only results for order-two polynoms

Table 7: Discontinuity of Average Budget and PBCs - Order 1 Polynom

Without Covariates

Order 1 Polynom	Total exp	Current exp	Capital exp.	Tax rev	Loans	Transfers
Dynasty	92.450	4.842	79.400	13.878	18.991	76.948
	(97.246)	(37.293)	(67.270)	(17.612)	(18.975)	(61.186)
Bandwidth	0.211	0.186	0.193	0.217	0.219	0.196
N (left)	1066	948	988	1093	1104	1001
N (right)	948	863	888	965	972	900
	Δ Total exp	Δ Current exp	Δ Capital exp	Δ Tax rev	Δ Loans	Δ Transfers
Dynasty	155.417*	-12.911	172.010**	0.305	52.848*	166.523**
	(85.813)	(10.292)	(80.620)	(10.947)	(27.134)	(67.137)
Bandwidth	0.167	0.196	0.171	0.219	0.188	0.177
N (left)	843	976	857	1079	937	876
N (right)	791	890	803	961	869	821

With Covariates

Order 1 Polynom	Total exp	Current exp	Capital exp	Tax rev	Loans	Transfers
Dynasty	148.277	29.666	75.332	32.609**	16.339	79.356
	(102.634)	(37.470)	(69.367)	(15.755)	(19.310)	(63.829)
Bandwidth	0.160	0.178	0.155	0.218	0.213	0.156
N (left)	821	892	804	1079	1048	807
N (right)	748	805	725	932	913	726
	Δ Total exp	Δ Current exp	Δ Capital exp	Δ Tax rev	Δ Loans	Δ Transfers
Dynasty	174.232**	-13.341	183.721**	4.525	63.433**	157.789**
	(86.426)	(10.396)	(81.041)	(10.378)	(27.661)	(65.842)
Bandwidth	0.164	0.193	0.169	0.238	0.172	0.195
N (left)	812	949	838	1122	849	956
N (right)	751	850	769	989	782	853

The table presents the results of an RD estimation with an optimal bandwidth calculated using the Calonico et al. (2014) method, which employs triangular kernel and controls for an order-one polynom of the margin of victory of the best dynastic candidate. Dependent variables are the average of categories of expenditures and revenues over the term (top part of each panel), and the differences of categories of expenditures and revenues between the last year and the average of the first 3 years (bottom part of each panel). All variables are winsorized at the 1% level. The sample consists of all full 5-year mayoral terms, for election years between 1999 and 2012. The first panel includes no covariates, while the second panel controls for term-limit, experience, age, place of birth, sex and years of education of the mayor, mean population and unemployment in the city, as well as dummies indicating whether the mayor is from a civic party and whether the city is in the South of the country. Robust standard errors clustered at the city level in parentheses.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 8: Discontinuity of Average Budget and PBCs - Order 2 Polynom

Without Covariates

Order 2 Polynom	Total exp	Current exp	Capital exp	Tax rev	Loans	Transfers
Dynasty	148.937	-8.355	91.057	37.122	20.297	91.561
	(121.730)	(38.965)	(79.409)	(23.879)	(23.856)	(72.737)
Bandwidth	0.219	0.323	0.231	0.209	0.243	0.239
N (left)	1104	1420	1150	1061	1188	1174
N (right)	972	1242	1019	942	1056	1043
	Δ Total exp	Δ Current exp	Δ Capital exp	Δ Tax rev	Δ Loans	Δ Transfers
Dynasty	167.455*	-13.041	172.886*	-1.737	50.537	193.545**
	(97.754)	(12.147)	(89.394)	(12.693)	(31.226)	(79.063)
Bandwidth	0.235	0.279	0.252	0.310	0.271	0.224
N (left)	1135	1260	1187	1347	1239	1101
N (right)	1016	1117	1062	1199	1102	986

With Covariates

Order 2 Polynom	Total exp	Current exp	Capital exp	Tax rev	Loans	Transfers
Dynasty	162.249	3.910	76.821	54.062**	16.190	79.599
	(119.631)	(38.349)	(77.668)	(21.302)	(23.645)	(71.763)
Bandwidth	0.209	0.329	0.220	0.218	0.247	0.222
N (left)	1040	1403	1083	1079	1177	1095
N (right)	907	1207	939	932	1025	950
	Δ Total exp	Δ Current exp	Δ Capital exp	Δ Tax rev	Δ Loans	Δ Transfers
Dynasty	189.197*	-13.656	193.428**	1.218	63.369**	202.975**
	(98.401)	(12.328)	(91.028)	(13.061)	(31.305)	(80.207)
Observations	3409	3409	3409	3411	3411	3411
Bandwidth	0.231	0.268	0.241	0.294	0.254	0.222
N (left)	1102	1209	1131	1279	1168	1074
N (right)	971	1056	1001	1113	1029	943

The table presents the results of an RD estimation with an optimal bandwidth calculated using the Calonico et al. (2014) method, which employs triangular kernel and controls for an order-one polynom of the margin of victory of the best dynastic candidate. Dependent variables are the average of categories of expenditures and revenues over the term (top part of each panel), and the differences of categories of expenditures and revenues between the last year and the average of the first 3 years (bottom part of each panel). All variables are winsorized at the 1% level. The sample consists of all full 5-year mayoral terms, for election years between 1999 and 2012. The first panel includes no covariates, while the second panel controls for term-limit, experience, age, place of birth, sex and years of education of the mayor, mean population and unemployment in the city, as well as dummies indicating whether the mayor is from a civic party and whether the city is in the South of the country. Robust standard errors clustered at the city level in parentheses.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

mated coefficients are much higher. Similar findings arise from the second panel, comparing inexperienced mayors. The higher estimated effect suggests that career concerns might play a role: young dynastic mayors might be more interested in pursuing a political career, and in turn, enforcing PBCs. Also, based on Signaling Models, it might be that inexperienced non-dynastic mayors lack the necessary skills to enforce such strategic spending. Nevertheless, these results validate that previous findings are not driven by the fact that dynastic politicians are younger and less experienced. Finally, in the bottom panel, we report the RDD estimates dropping common surnames (the 100 most common in the province). Also in this case, previous findings are confirmed. We report in the Web Appendix similar tests using other surnames' cutoffs.

Overall these results therefore suggest that dynastic mayors increase spending in a pre-electoral year, financing it through higher capital transfers. As we observe a political budget cycle also for non-dynastic mayors, it appears that dynastic leaders are more able to enforce this strategic policy, in line with the idea that they might have higher ability or higher gains from politics. In the next section, we provide some suggestive evidence in line with this interpretation.

5 Channels

In this section, we show that the difference in political budget cycles vary depending upon electoral incentives, suggesting that dynastic politicians are either better at or more willing to keep power for themselves. However distinct, these two hypotheses are difficult to disentangle empirically, since the reasons why dynastic politicians are better at holding on to power might be the same as the ones helping them extracting more gains from the political process.

Finally, we do not find any evidence supporting the fact that political budget cycles are higher when there are incentives to transmit power to another member of the family. This finding suggests that political budget cycles are rather used to keep power for oneself rather than for easening the transmission of power to family members.

Table 9: PBC: Robustness checks

Without Covariates (Second-order polynom)

Young	Δ Total exp	Δ Current exp	Δ Capital exp	Δ Tax rev	Δ Loans	Δ Transfers
Robust	331.855**	-6.472	319.472**	5.154	81.139**	323.800***
	(161.421)	(17.793)	(145.355)	(15.850)	(40.734)	(125.495)
Bandwidth	0.231	0.234	0.241	0.349	0.303	0.223
N (left)	483	489	498	606	565	473
N (right)	541	544	555	694	643	526
Inexperienced	Δ Total exp	Δ Current exp	Δ Capital exp	Δ Tax rev	Δ Loans	Δ Transfers
Dynasty	260.650*	-14.798	318.366**	-7.547	73.049*	309.291**
	(155.746)	(18.569)	(142.130)	(19.174)	(42.778)	(126.193)
Bandwidth	0.219	0.246	0.202	0.279	0.293	0.186
N (left)	389	416	362	443	455	326
N (right)	688	748	655	796	821	613
Uncommon name	Δ Total exp	Δ Current exp	Δ Capital exp	Δ Tax rev	Δ Loans	Δ Transfers
Dynasty	159.222	-11.178	185.824*	-5.888	49.615	207.217**
	(116.743)	(12.909)	(107.316)	(16.477)	(40.289)	(93.342)
Bandwidth	0.281	0.322	0.310	0.293	0.264	0.264
N (left)	740	806	783	755	719	720
N (right)	664	717	704	681	645	645

The table presents the results of an RD estimation with an optimal bandwidth calculated using the Calonico et al. (2014) method, which employs a triangular kernel and controls for an order-two polynom of the margin of victory of the best dynastic candidate. Dependent variables are the differences of categories of expenditures and revenues between the last year and the average of the first 3 years, winsorized at the 1% level. No covariates are included. The sample consists of all full 5-year mayoral terms, for election years between 1999 and 2012. The first panel restricts the analysis to mayors who are younger than the median age observed in the sample. The second panel restricts the analysis to mayors who have less experience in city council than the median experience observed in the sample. The third panel restricts the sample to elections where no candidate had a name among the 100 most common at the province level. Robust standard errors clustered at the city level in parentheses.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 10: Term limits and PBCs: Fixed-effects

	Total exp	Current exp	Capital exp	Tax rev	Loans	Cap. transfers
Dynasty	11.147	-0.792	4.653	1.228	8.002	-0.448
	(22.806)	(4.867)	(19.201)	(2.223)	(5.746)	(17.785)
LY	48.167	-1.555	39.270	-8.552	13.967	23.296
	(11.526)***	(1.671)	(10.474)***	(1.059)***	(3.476)***	(9.383)**
TL	-2.549	4.660	-10.117	-3.110	-1.250	-2.551
	(12.175)	(2.753)*	(10.434)	(1.333)**	(3.228)	(9.566)
Dynasty*LY	62.304	7.873	60.294	7.501	18.991	45.949
	(21.871)***	(2.829)***	(20.336)***	(2.014)***	(6.505)***	(18.598)**
LY*TL	-9.281	2.530	-8.210	8.161	-3.205	-9.945
	(16.107)	(2.293)	(14.679)	(1.505)***	(4.698)	(12.863)
Dynasty*TL	11.320	9.872	13.177	2.377	-9.270	14.829
	(26.941)	(6.123)	(23.221)	(2.907)	(8.053)	(21.230)
Dynasty*TL*LY	-35.181	-1.393	-50.090	-5.115	-18.732	-48.884
	(38.241)	(4.746)	(34.670)	(3.425)	(10.697)*	(30.600)
R^2	0.02	0.24	0.02	0.42	0.01	0.01
N	47,420	47,420	47,420	47,418	47,416	47,416

The table presents estimates from fixed-effects panel regressions, using categories of public expenditures and income as dependent variables (all are expressed in euros per capita, and winsorized at the 1% level). The main explanatory variables are three dummies indicating (1) whether the mayor is dynastic, (2) whether the mayor is term-limited (3) whether it is the last year in the mayor's term. All outcome variables are expressed in euros per capita. The sample is made of all cities where two full terms of five years were observed between 1999 and 2012. Election years are excluded from the estimation. All specifications control for city and year fixed effects, as well as population size and the mayor's sex, age, experience, years of education, birthplace and term-limits. Standard errors are clustered at the city level. Standard errors between brackets.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 11: Term limits and PBCs: RDD

Without Covariates (Second-order polynom)

No Term Limit	Δ Total exp	Δ Current exp	Δ Capital exp	Δ Tax rev	Δ Loans	Δ Transfers
Dynasty	196.430*	-18.614	204.538**	1.414	37.844	227.041***
	(107.048)	(14.874)	(98.337)	(14.520)	(36.336)	(84.801)
Bandwidth	0.215	0.254	0.217	0.303	0.255	0.206
N (left)	778	861	787	931	862	752
N (right)	734	820	742	895	821	721
Term Limit	Δ Total exp	Δ Current exp	Δ Capital exp	Δ Tax rev	Δ Loans	Δ Transfers
Dynasty	68.990	-1.469	133.952	0.103	91.508	64.113
	(261.928)	(22.410)	(248.339)	(29.229)	(71.510)	(201.588)
Bandwidth	0.343	0.301	0.357	0.297	0.274	0.374
N (left)	453	395	469	391	360	492
N (right)	321	285	327	277	261	345

The table presents the results of an RD estimation with an optimal bandwidth calculated using the Calonico et al. (2014) method, which employs a triangular kernel and controls for an order-two polynom of the margin of victory of the best dynastic candidate. Dependent variables are the differences of categories of expenditures and revenues between the last year and the average of the first 3 years, winsorized at the 1% level. The sample consists of all full 5-year mayoral terms, for election years between 1999 and 2012. Regressions are run separately on the sample of term-limited and non-term-limited elected mayors, and include no covariates. Robust standard errors clustered at the city level in parentheses.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

5.1 Electoral Incentives
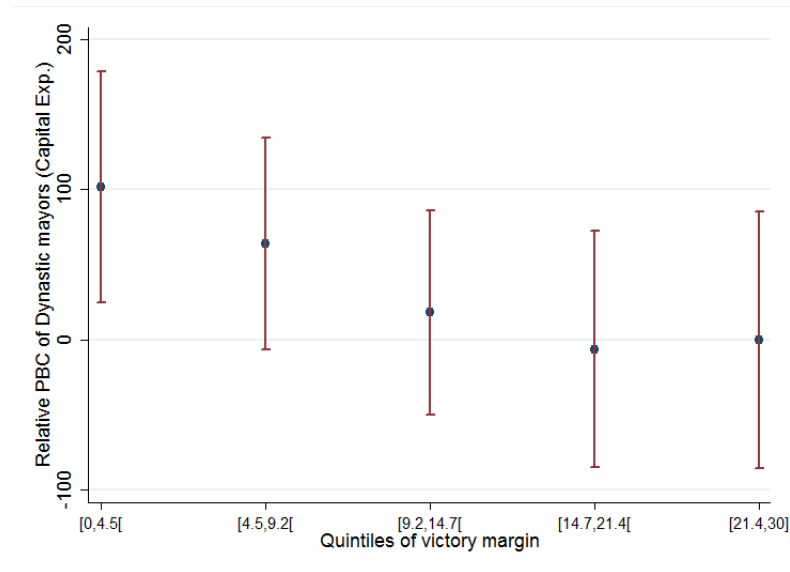
5.1.1 Binding term limits

Italian mayors cannot hold the office more than two terms in a row. Therefore, incentives for reelection apply only to mayors in their first term. If political budget cycles are used as a tool for reelection, we should observe higher PBC for mayors in their first term. In Table 10, we test the presence of different pre-electoral spending among term-limited and non-term-limited mayors using the panel fixed-effects estimation.[20] The coefficient of interest is the triple interaction *(Dynasty*LY*TL)* , where *(TL)* is a dummy equals to one for mayors in their second term. The results suggest the dynastic mayors have a higher pre-electoral spending especially during their first term when they are eligible for re-running. Conversely, the negative coefficients of the triple interactions - although not significant - suggest that term-limited dynastic mayors do not behave differently from non-dynastic term-limited ones. This interpretation is suggested also by Table 11, where we replicate the RDD estimations on the subsample of first term (top panel) and second term (bottom panel) politicians. In this case, we observe statistically significant (and much higher) coefficients only for mayors in their first term, therefore eligible for rerunning.

5.1.2 Electoral competition

The key role of electoral incentives is further substantiated by the heterogeneity of political budget cycles with respect to electoral competition. In Figure 9, we plot the relative PBC of dynastic mayors in their first term, for different levels of political competition (as measured by their margin of victory in the previous election, therefore, in this case, we can rely only on the fixed effects estimation). We consider elections with margins of less than 30%, and decompose them into quintiles. The results suggest that PBC (in terms of capital expenditures) are relatively higher for dynastic politicians when political competition is higher - i.e. when the mayor in place won

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[20]Such a comparison might suffer from selection effects in the reelection of incumbents. In particular, reelected mayors, whether dynastic or not, might be better politicians and might not need to run big PBCs. While we do not find that PBCs have a differential effect on reelection when they are run by dynastic and non-dynastic mayors, we cannot rule out that some unobserved differences between term-limited and non-term limited explain the results below.

Figure 9: Political Budget Cycles and Margin of victory

The figure represents the interaction coefficient *Dynasty*LY* (with confidence intervals at the 10% level) for fixed-effects regressions run on subsamples corresponding to quintiles of the margin of the winner in the previous election.

by a narrow margin (for similar results, see Labonne (2016)).[21] Note that this test might explain why we estimated such higher coefficients in the RDD than in the fixed-effects estimation.

5.2 Intergenerational Transmission of Power and Dynasty Founders

In the previous section, we discussed whether PBCs are used differently depending on the individual electoral incentives. However, political budget cycles might be used as well to for "family" electoral incentives, i.e. to transmit power to another member of a family.

In Table 12, we test whether PBCs are higher when a family member is running in the next election, and the mayor himself does not run again for election. The results clearly indicate that the political budget cycles are not relatively higher in this case. Such a finding, combined with

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[21] An alternative interpretation of this result would be that it signals higher rent-seeking from dynastic mayors when their power is challenged: if mayors know they have fewer chances of being reelected, they might engage relatively more in rent-seeking activities. However, it is not clear why such rent-seeking motives should be channeled through higher expenditures and transfers only at the end of the term. Instead, one might think that it should translates into higher expenditures and transfers throughout the whole term, which is not what we observe, even under high political competition. Finally, note also that we do not find different effects when focusing on areas where corruption is more likely to take place, i.e. areas with a strong presence of organized crime (as proxied by two indicators of organized crime at the city level: the number of seized firms/houses to organized crime and the number mafia casualties). These results are available upon request."

Table 12: PBC and Member of Family Running Immediately After

	Total exp	Current exp	Capital exp	Tax rev	Loans	Cap. transfers
Fam. Candidate	135.650	-17.083	112.527	-4.440	30.434	79.844
	(122.098)	(17.031)	(93.897)	(7.773)	(19.829)	(82.083)
LY	70.366	7.365	57.150	-1.561	10.663	38.122
	(16.298)***	(2.431)***	(13.551)***	(1.379)	(4.303)**	(12.345)***
Fam. Candidate*LY	39.427	-14.686	37.746	-14.226	1.484	77.578
	(163.283)	(14.322)	(130.703)	(11.479)	(29.751)	(116.397)
R^2	0.03	0.20	0.02	0.51	0.01	0.02
N	23,881	23,881	23,881	23,876	23,875	23,875

The table presents estimates from fixed-effects panel regressions, using categories of public expenditures and income as dependent variables (all are expressed in euros per capita, and winsorized at the 1% level). The main explanatory variables are three dummies indicating (1) whether the mayor presumably has a member of his family running for office after him and (2) whether it is the last year in the mayor's term. All outcome variables are expressed in euros per capita. The sample is made of all cities where two full terms of five years were observed between 1999 and 2012, and restricts to mayors who did not run again for office. Election years are excluded from the estimation. All specifications control for city and year fixed effects, as well as population size and the mayor's sex, age, experience, years of education, birthplace and term-limits. Standard errors are clustered at the city level. Standard errors between brackets.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

the absence of differential political budget cycles for term-limited mayors, suggest that PBC are unlikely to be a tool for intergenerational transmission of power[22].

Furthermore, it is relevant for our hypothesis to test whether "founders" of political dynasties enforce, as well as their successors, higher pre-electoral spending. In fact, if the gains from being in office and/or the inherited political skills – and therefore their incentives to remain in office – are higher precisely because of the legacy of their predecessors, we expect to find no significant difference between the "founders" of political dynasties and other non-dynastic mayors. The results gathered in Table 13 (fixed effects) and Table 14 (RDD) confirm this prediction. Using the full-sample of observations, we test simultaneously whether first-generation mayors and dynastic mayors have higher PBC than non-dynastic mayors. The results show that while dynastic mayors indeed have higher political budget cycles than non-dynastic mayors, dynastic "founders" are not significantly different from the latter. Table 14 shows similar results in a RDD framework, in this case we compare closely elected "founders" with closely elected non-founders and non-dynastic mayors.[23]

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[22]For this test, we report only fixed effects estimates as we do not have enough observations to estimated a RDD.

[23]This RDD specification closely resembles previous ones. All RDD assumptions are respetected in this case (results available upon request).

Table 13: PBC, First Generations and Dynastic mayors

	Total exp	Current exp	Capital exp	Tax rev	Loans	Cap. transfers
Dynasty	17.830	2.658	6.882	1.979	6.763	3.637
	(22.104)	(4.709)	(18.632)	(2.150)	(5.521)	(17.264)
First Gen.	12.799	3.266	-7.530	-0.538	3.276	-1.885
	(19.520)	(4.419)	(16.579)	(2.140)	(5.003)	(15.419)
LY	37.914	-2.462	32.296	-5.991	10.611	16.539
	(10.983)***	(1.592)	(9.969)***	(0.954)***	(3.350)***	(8.730)*
LY*Dynasty	57.572	8.990	47.692	5.796	15.093	32.971
	(17.634)***	(2.344)***	(16.453)***	(1.626)***	(5.353)***	(15.093)**
LY*First Gen.	22.913	6.379	13.540	2.670	7.899	10.198
	(17.359)	(2.528)**	(15.759)	(1.443)*	(5.323)	(14.300)
R^2	0.02	0.24	0.02	0.42	0.01	0.01
N	47,420	47,420	47,420	47,418	47,416	47,416

The table presents estimates from fixed-effects panel regressions, using categories of public expenditures and income as dependent variables (all are expressed in euros per capita, and winsorized at the 1% level). The main explanatory variables are dummies indicating (1) whether the mayor is dynastic, (2) whether the mayor is a dynasty-founder (meaning that an individual with the same name as the mayor is elected afterwards) (3) whether it is the last year in the mayor's term. All outcome variables are expressed in euros per capita. The sample is made of all cities where two full terms of five years were observed between 1999 and 2012. Election years are excluded from the estimation. All specifications control for city and year fixed effects, as well as population size and the mayor's sex, age, experience, years of education, birthplace and term-limits. Standard errors are clustered at the city level. Standard errors between brackets.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

6 Are dynastic politicians really different?

In this section we provide a comprehensive set of results about an important assumption of our analysis. We assumed, based on previous studies, that dynastic politicians are electorally more competitive. In this section, we provide evidence showing that this is the case also among Italian dynastic mayors. Firstly, we find that dynastic candidates have longer political careers and are electorally more successful, as they are more likely to win local elections and to get elected in provincial/regional parliaments. Secondly, we show that, as previously shown in the US, Argentina and the Philippines (Dal Bó et al. (2009); Rossi (2017); Querubin (2013)), also in Italy dynasties self-perpetuate in the political arena.

Overall, this set of results confirms that dynastic leaders substantially differ from other politicians in terms of electoral performance. This provides a strong motivation for our interest in investigating whether their policy making is different as well.

Table 14: Founders of dynasties: RDD

Without Covariates

Order 2 Polynom	Δ Total exp	Δ Current exp	Δ Capital exp	Δ Tax rev	Δ Loans	Δ Transfers
First Generation	-137.975	-2.820	-124.519	-17.155	-14.853	-53.243
	(101.387)	(11.431)	(96.099)	(12.872)	(28.091)	(79.039)
Bandwidth	0.226	0.301	0.222	0.233	0.249	0.233
N (left)	970	1176	953	985	1039	986
N (right)	884	1066	867	903	941	904

With Covariates

Order 2 Polynom	Δ Total exp	Δ Current exp	Δ Capital exp	Δ Tax rev	Δ Loans	Δ Transfers
First Generation	-112.947	4.394	-97.844	-8.714	-9.748	-42.411
	(101.505)	(12.161)	(96.611)	(12.799)	(28.199)	(80.251)
Bandwidth	0.220	0.260	0.215	0.233	0.242	0.224
N (left)	927	1041	908	963	998	938
N (right)	854	959	842	893	912	866

The table presents the results of an RD estimation with an optimal bandwidth calculated using the Calonico et al. (2014) method, which employs triangular kernel and controls for an order-two polynom of the margin of victory of the best first-generation candidate. Dependent variables are the differences of categories of expenditures and revenues between the last year and the average of the first 3 years, winsorized at the 1% level. The sample consists of all full 5-year mayoral terms, for election years between 1999 and 2012. Covariates include experience, age, place of birth, sex and years of education of the mayor, average population population and unemployment in the city, as well as dummies indicating whether the mayor is from a civic party and whether the city is in the South of the country. Robust standard errors clustered at the city level in parentheses
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

6.1 Electoral Performance

Firstly, we focus on the electoral performance of dynastic candidates. Table 15 uses a linear probability model to predict dynastic candidates' probability of being elected. Specifically, Columns 1 and 2 consider the set of candidates to elections for which information about at least the two best candidates is known. All columns include city and year fixed effects; we also add to the previous set of control variables the number of candidates running for mayor. Column 1 suggests that being a dynastic candidate has a positive impact on the probability of being elected (of about 3.5 percentage points). Moreover, this effect does not change when considering incumbent dynastic politicians (see the interaction Dynasty*Incumbent). The same does not hold concerning the interaction with experience (Column 2): among candidates with at least one term of experience on the municipal council, dynastic candidates are not more likely to be elected, but among inexperienced candidates, they are 3–4 points more likely to be elected. Therefore, the dynastic advantage seems to somehow decrease depending on a candidate's level of political experience. This might be due to the fact that non-dynastic politicians also acquire some of the "inherited" skills over time. In this light, as shown in the previous section, the PBCs differences between dynastic and non-dynastic mayors are especially high for the subsample of inexperienced politicians.

Not only is political power persistent over generations but elected individuals who come from political dynasties are also likely to serve longer on municipal councils. In Table 15, Column 3, we regress their political experience (measured by the number of years as elected local politician) for each observed mayor or municipal council member on various characteristics. Specifically, we include only those who first entered in politics in 1995 or after (in order to observe a longer period to determine their first election to a council). As above, we include city and year fixed effects. From Column 3, we find that the average number of years an individual spent in a municipal council is higher for dynastic individuals than for non-dynastic individuals (about two additional months).

Table 15: Electoral performances and longevity of dynastic politicians

	Elected	Elected	Longevity	Provincial Admin.	Regional Admin.
Dynasty	0.035	0.002	0.09077	0.00084	0.00038
	(0.007)***	(0.011)	(0.01088)***	(0.00043)*	(0.00024)
Incumbent	0.401	0.404			
	(0.008)***	(0.007)***			
Dynasty*Incumbent	-0.003				
	(0.015)				
Number of candidates	-0.041	-0.041			
	(0.002)***	(0.002)***			
Years of experience in council	0.010				
	(0.000)***				
Years of education	0.009	0.009	0.02956	0.00129	0.00031
	(0.001)***	(0.001)***	(0.00160)***	(0.00006)***	(0.00003)***
Male	0.062	0.067	0.49856	0.00572	0.00085
	(0.009)***	(0.009)***	(0.01158)***	(0.00041)***	(0.00026)***
Born in City	0.029	0.032	0.22332	0.00087	-0.00003
	(0.006)***	(0.006)***	(0.01265)***	(0.00053)	(0.00031)
Age	-0.003	-0.003	-0.01278	-0.00022	-0.00009
	(0.000)***	(0.000)***	(0.00048)***	(0.00002)***	(0.00001)***
Civic	0.019	0.017	0.04172	-0.00227	-0.00031
	(0.006)***	(0.006)***	(0.01643)**	(0.00050)***	(0.00024)
Name frequency in province	0.004	0.006			
	(0.019)	(0.019)			
No Experience		-0.148			
		(0.006)***			
Dynasty*No Exp		0.041			
		(0.013)***			
R^2	0.16	0.17	0.32	0.04	0.04
N	51,216	51,216	291,988	291,988	291,988

The table reports estimates from linear regressions. The outcome variable of Columns 1 and 2 is a dummy variable indicating whether a candidate to an election between 1993 and 2012 is dynastic as a dependent variable, restricting the sample to cities where information about at least two candidates was known. In Column 3, the outcome variable is the observed longevity of a politician since in its first election in the municipal council. In Columns 4 and 5, the outcome variables are dummies indicating respectively whether an individual entered provincial and regional administration after its first entrance in a municipal council. In these three columns, we restrict the sample to politicians who were appointed or elected after 1995 All specifications control for city and year fixed effects. Standard errors are clustered at the city level. Standard errors in parentheses.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Dynastic politicians have more successful careers not only in terms of duration but also in terms of climbing the political ladder: they are more likely to be elected to provincial or regional parliaments after serving on a municipal council. The results are reported in Columns 4 and 5 of Table 15. Using the same specifications as those of Column 3, we define as a dependent variable a dummy equal to 1 if a municipal politician is later elected to the provincial or regional parliament (within the same region).

Among members of municipal council appointed or elected after 1995, only 1% were subsequently elected to a provincial parliament, and about 0.26% of all observed members were part of a regional parliament. However, after controlling for year and city fixed effects and other individual characteristics, a dynastic politician has a higher probability than a non-dynastic politician of entering a provincial administration of about 0.08 percentage points (corresponding to about 8% of the sample average). For regional parliaments, even though the difference in probabilities is not significant, it corresponds to about 0.04 percentage points (which corresponds to approximately 15% of the sample average). [24]

6.2 Persistence of political dynasties

Another important feature of political dynasties is that they seem to persist over time (Dal Bó et al. (2009) and Querubin (2013)). In this section, we show that power seems to self-perpetuate, as elected individuals are more likely than non-elected individuals to have a relative in office in subsequent years. To test for such persistence, we need to compare the probabilities that an elected candidate and a non-elected candidate will have a relative in office in subsequent years.

As in the previous analyses, we exploit an RDD since it allows us to isolate a pure persistence effect from potentially unobserved factors that can determine both the probability that an individual will be elected and the probability that one of his relatives will be elected. In this framework, we compute the margin of votes for each candidate of each election. For the winner of the election, the margin corresponds to the difference between the share of votes he received and the share of votes received by his best challenger. For all losing candidates of an election, the margin corresponds to the difference between their share of votes and the share of votes re-

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[24]In the Web Appendix, we also document intergenerational persistence in terms of occupations, and find that the job category of a dynastic politician is very often similar to that of the first generation in the dynasty.

ceived by the winner. This variable takes values between -1 and 1: a positive value indicates that the individual was elected mayor, while a negative value indicates that he was not elected. Furthermore, for each individual running for mayor between 1993 and 2002, we indicate whether an individual with the same surname was elected mayor (or as a municipal councilor) within the 10 years after the election he ran in. [25]

Figure 10a shows that the average probability that an individual's relative will be elected mayor within 10 years increases with his margin of votes and is discontinuous around 0: in other words, elected officials are more likely to subsequently have a relative in office than losing candidates. As the probability of having a relative elected within 10 years is discontinuously higher when the margin of votes is positive, to the extent that the margin of votes is continuous around zero [26], a causal interpretation can be inferred. Figure 10b shows that losing candidates are much less likely to have a relative elected to municipal office in the next 10 years (and much less so if they lost the election by a large margin), but that there is no discontinuity of this variable around the zero threshold. In other words, mayors who are elected by a narrow margin are not much more likely to have a member of their family elected to the municipal council within the next 10 years than candidates who narrowly lose.

In the Web Appendix, we present detailed results from an RDD between closely elected and closely non-elected individuals, which confirm that closely elected candidates are significantly more likely to have a relative elected mayor during the subsequent 10 years, but are not more likely to have a relative elected to the municipal council. While raw comparisons of means across elected and non-elected candidates suggest that elected candidates are almost 50% as likely as non-elected candidates to have a relative elected mayor within 10 years (3.1% vs.2.2%), the jump in the probability of a relative being elected mayor within 10 years at the zero cutoff

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[25]We impose such a restriction because our sample of elections is from 1993 to 2012: therefore, for all elections during this time, a 10-year bandwidth ensures that the number of years considered after an election in the estimation is the same.

[26]Note that other covariates predicting the electoral performances of candidates are also continuous around this threshold (results available upon request).

(a) Relatives elected mayor (within 10 years)

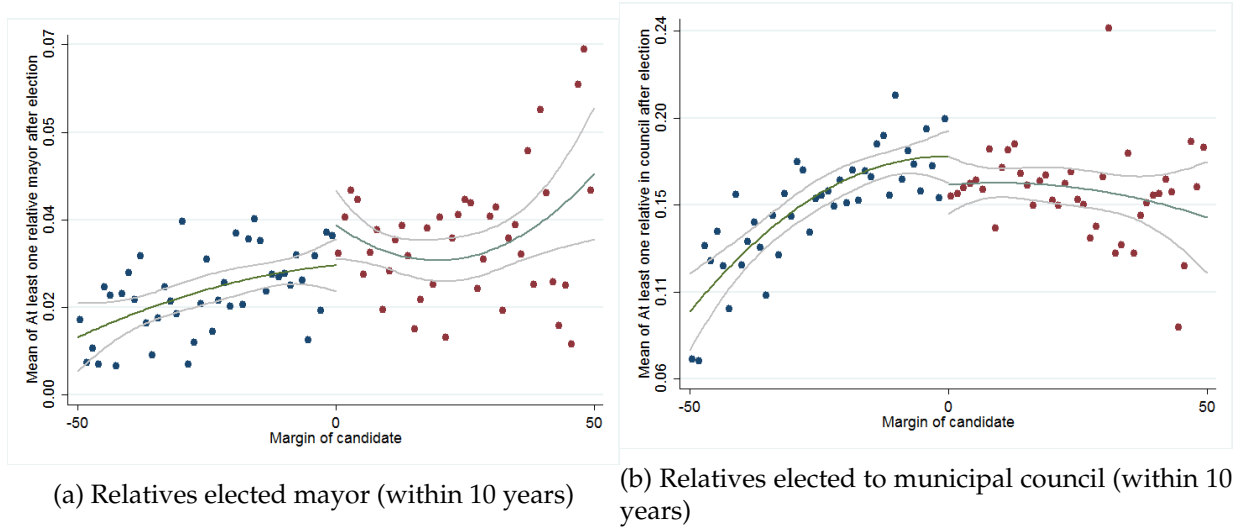(b) Relatives elected to municipal council (within 10 years)

Figure 10: Perpetuation of power –RD

is of the same magnitude and corresponds to about 1 percentage point: this suggests that being elected mayor increases the probability of having a relative elected mayor by about 50%. [27] [28]

7 Discussion

The evidence provided so far stresses that dynastic leaders behave differently in office, strategically increasing public spending – and attracting transfers – in pre-electoral years. This result is compatible with both signaling and career concerns models. However distinct, these two hypotheses are difficult to disentangle empirically, since the reasons why dynastic politicians are better at holding on to power might be the same as the ones helping them extracting more gains from the political process.

While we provided suggestive evidence on the role played by electoral incentives, we have not discussed the potential effects of PBCs. A first question is whether PBCs are effective in terms

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[27]Note that the results on perpetuation for mayors are likely to be biased downwards: indeed, because mayors usually stay in office for 4 or 8 years, the probability that someone from the same family will be elected within 10 years is estimated for only the last 2 to 6 years of the 10-year window. As we show in the Web Appendix , extending the estimation to the full sample of candidates between 1993 and 2012, and without imposing a 10-year bandwidth, does not change the results.

[28]The downward trend on the right-hand side of the graph about perpetuation in municipal councils is somewhat surprising: while individuals who lost elections by a large margin are very unlikely to later have relatives in the city council, we find that individuals who won by a large margin are less likely to have a relative in the city council than those who won by a narrow margin (yet we do observe a slightly upward perpetuation trend for the office of mayor). A potential explanation might be that mayors who have a strong grip on the city, and who want to transmit their power to their heirs, might have greater incentives to do so by helping them become mayor rather than a city councilor.

Table 16: Competence of dynastic mayors

Fixed-Effects	Average length of term	Ability rev. collection	Speed payment	Growth of tax base
Dynasty	-0.017	-0.170	0.083	-0.009
	(0.89)	(0.54)	(0.45)	(0.55)
R^2	0.77	0.13	0.03	0.02
N	27,289	45,494	45,485	17,603
RDD	Average length of term	Ability rev. collection	Speed payment	Growth of tax base
Dynasty	-0.077	-0.875	-0.702	0.017
	(0.135)	(2.274)	(0.985)	(0.015)
Bandwidth	0.306	0.311	0.283	0.147
N (left)	3046	1324	1252	386
N (right)	2590	1182	1109	348

The table presents estimates from fixed-effects panel regressions (first panel) and RDD regressions (second panel). Dependent variables are the mayors' average term length (measured in years), ability to collect revenue (measured as a ratio of collected revenue over expected revenue), speed of payment (measured as the share of due expenditures paid during the term) and the yearly growth rate of the private tax base (measured in percentage points). The main explanatory variable is a dummy indicating whether the mayor is dynastic. For the panel specification: In Column 1, observations include all observed terms between 1998 and 2012. Columns 2 and 3 include all cities for which two full terms were observed between 1999 and 2012, while Column 4 includes all full terms between 2001 and 2011. In Column 1, observations are aggregated at the term level. Estimations of Columns 2, 3 and 4 are at the yearly level. All specifications control for city and year fixed effects as well as population size, and for the mayor's sex, age, experience, years of education, birthplace and term-limit. For the RDD: In Column 1, observations include all observed terms between 1998 and 2012, Columns 2,3 include all full terms between 1998 and 2012, and Column 4 includes all full terms between 2001 and 2011. The estimation is made with an optimal bandwidth calculated using the Calonico et al. (2014) method, which employs a triangular kernel and controls for an order-two polynom of the margin of victory of the best dynastic candidate. No controls are included in the RDD specification. In all cases, election years are excluded from the estimation. Robust standard errors clustered at the city level in parentheses.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

of increasing the probability of being re-elected. However, the likelihood of observing a higher PBC is endogenous, for instance, as shown in Section 5, it depends not only on being dynastic but also on other dimensions, as electoral incentives. Therefore, our framework only allows testing the presence of a correlation between PBCs and electoral performances. We deal with this point in the Web Appendix, where we do not find a clear link between PBCs and electoral performance. Another relevant question is whether dynastic politicians, being more able and/or more interested in staying in office, are also "better" politicians in terms of maximizing citizens' welfare. We address this point in Table 16 where we test whether dynastic mayors perform better on a set of outcomes, which we believe are indicators of good governance: the length of their term (shorter terms indicate a higher probability of early termination, i.e., political instability), their ability to collect revenue and reimburse public debt on time, and the growth of the private tax base over the term (a proxy for the city's GDP).[29] Overall, we find no clear effects of political dynasty on these variables, showing that dynastic mayors are unlikely to be more(or

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[29]In Column 1 our period of observation is an entire electoral term instead of yearly observations.

less) competent. In a nutshell, being more strategic does not make them necessarily "better" politicians.

8 Conclusion

In this paper, we provide several insights about the relevance of dynasties in the political arena. Our test is based on data from Italian municipalities in the period 1985–2012 (and on mayoral elections in the period 1998–2012). Our main contribution is a test of whether dynastic mayors perform differently than non-dynastic mayors. Such differences might be due to higher ability thanks to inherited political skills and/or higher gains from being in office. In line with such a hypothesis, we find that dynastic mayors spend more (on capital expenditure) – and receive more transfers – in the year before an election. We show several tests in line with such an interpretation and provide evidence about the different electoral performance of dynastic politicians, a crucial assumption of our main test.

The results of this paper enhance our understanding of the role played by families in contemporary democracies, which continue to have a significant role in politics across very different countries. In this light, this study contributes to the debate about inequality and the transmission of wealth and power across generations (Piketty (2013)). We highlight that the dynamics of power transmission across generations have important political consequences, since dynastic politicians behave very differently in terms of both their electoral performance and their policy making. Although there are many potential explanations for the opportunistic behavior of dynastic mayors, the political skills and experience they inherit from their predecessors are likely to shape both their incentives to remain in office and the policies they implement to this end.

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Appendix: Variables

Table 17: Variables used in the analysis

Variable name	Definition	Time span	Source
Dynasty	Whether the politician had a relative in office before first being elected to the council	1985–2012	Ministry of Interior
First generation	Whether the politician had a relative in office after being elected to the council	1985–2012	Ministry of Interior
Sex	Sex of the politician	1985–2012	Ministry of Interior
Age	Age of the politician in years	1985–2012	Ministry of Interior
Years of education	Minimum number of years to complete the highest degree obtained	1985–2012	Ministry of Interior
Occupation	Classification of mayors' occupations*	1985–2012	Ministry of Interior
Experience	Number of years since first elected to the council	1985–2012	Ministry of Interior
Place of birth	Place of birth in the format *Name of the city (Province abbreviation)*	1985–2012	Ministry of Interior
Civic	Whether the politician is from a civic list	1985–2012	Ministry of Interior
South	Dummy for southern regions	1985–2012	Ministry of Interior
Population	Population size	1998–2012	Ministry of Interior
Unemployment	Unemployment rate, in percent	2001	Ministry of Interior
Surname frequency	Surname frequency at the province level (in thousands of individuals per surname)	2001	Ministry of Interior
Trust	Level of trust as measured by the "Trust" question in the World Value Survey	1990s	Nannicini et al. (2013)
Total expenditures	Total expenditures per capita	1998–2012	Ministry of Interior
Current expenditures	Current expenditures per capita	1998–2012	Ministry of Interior
Capital expenditures	Capital expenditures per capita	1998–2012	Ministry of Interior
Tax revenues	Collected taxes per capita	1998–2012	Ministry of Interior
Collected taxes	Collected taxes per capita	1998–2012	Ministry of Interior
Contracted loans	Contracted loans per capita	1998–2012	Ministry of Interior
Capital transfers	Capital transfers fromthe government or the region, per capita	1998–2012	Ministry of Interior
Margin (Dynasty)	Margin of the best dynastic candidate	1993–2012	Ministry of Interior
Margin (Candidate)	Difference in vote shares between the candidate and his best challenger	1993–2012	Ministry of Interior
Number of candidates	Number of candidates in the election	1993–2012	Ministry of Interior
Incumbent	Whether the candidate was elected mayor during the previous term	1993–2012	Ministry of Interior
Term Limit	Whether the mayor is eligible for re-election	1993–2012	Ministry of Interior
Reelection	Whether the mayor is re-elected	1993–2012	Ministry of Interior
Term duration	Number of years the mayor remained in office during the term after his election	1993–2012	Ministry of Interior
Ability of revenue collection	Ratio between actual and expected revenues	1998–2012	Ministry of Interior
Speed of payment	Share of due expenditures paid during the term	1998–2012	Ministry of Interior
Growth of private tax base	Yearly growth of private tax base, in percent	2000–2011	Ministry of Interior

* Calculated by the authors based on the name of the job, using the official socio-professional categories of the Italian government