Developers or Disruptors?
Politicians' Occupations and Municipal Performance

Andrea Tugnoli*

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Abstract

The quality of elected governments is a key determinant of long-term economic growth. This paper studies, theoretically and empirically, how politicians with occupations closely linked (*proximate*) to public expenditures influence municipal economic performance. Although such politicians may be more effective due to their expertise, they may also be better positioned to extract illegal rents. To explore these dynamics, I develop a theoretical framework where candidate occupation and the prosecution system play central roles in elections. The model generates two predictions, tested using Italian municipal data. Consistently with the theoretical model, I find that proximate mayors negatively affect municipal economic performance and are associated with more non-transparent practices. I also show that stricter anti-corruption policies reduce illegal rent extraction and improve municipal outcomes. These findings underscore the importance of legal and institutional frameworks in aligning political incentives with the public interest.

Keywords: professional background, municipal expenditures, political selection, anti-corruption law

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*University of Geneva, GSEM. Email: andrea.tugnoli@unige.ch

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1 Introduction

In modern democracies, the competence of the political elite is crucial for economic prosperity. Yet, being a politician is an unusual job. For most locally elected officials, it is part-time and temporary, with much of their expertise coming from non-political occupations. They are typically white-collar or self-employed, with regulated professionals especially over-represented (architects, lawyers, surveyors) [1]. This imbalance may arise because occupations tied to public expenditures provide knowledge useful for political office. Such expertise helps officials deliver public goods and boosts private productivity by familiarizing them with local bureaucracy. However, it also creates more opportunities for corruption. [2] This raises two important questions: does a candidate's private-sector expertise improve public good provision and local development, or does it instead open channels for extraction? Do anti-corruption laws influence the selection of competent politicians?

In this new study, I am the first to show whether politicians whose professional backgrounds are proximate to public expenditures affect municipal economic performance, and how anti-corruption policies influence the selection of qualified candidates and, in turn, shape municipal outcomes. In the rest of this work, by "proximity" I refer to how closely an occupation is tied to public spending within the elected official's administrative jurisdiction.

To address these questions, I develop a simple theoretical model of mayoral elections. The central feature of the model is the proximity of a candidate's occupation to public expenditures. Proximity determines the expected payoff from being elected. Consequently, it also shapes voters' beliefs about a candidate's ability and likelihood of extracting illegal rents. The prosecution system also plays a role by investigating politicians, imposing a cost on them regardless of whether they are honest or not at the end of the trial. I assume that

[1] Elected officials are generally more competent, and their occupational backgrounds differ sharply from those of the electorate (Merlo et al. (2008), Galasso and Nannicini (2011), Dal Bó et al. (2017)). Appendix A reports more details on Italian municipalities.

[2] Consider the case of an architect that is elected as mayor. Construction is one of the largest municipal expenditures in most countries. An architect is well-suited to oversee such projects, but the same expertise can also make it easier to exploit the system—for example, by manipulating zoning rules or taking bribes to steer contracts to favored firms.

prosecutors focus more heavily on proximate candidates, as they are more able to extract illegal rents.

From the model, I derive two testable predictions regarding the effects of occupational proximity to public expenditures and the role of anti-corruption policies. First, mayors with closer proximity to public expenditures may negatively affect municipal economic performance: although they produce more public goods in equilibrium, they are also better able to extract illegal rents. If illegal rents are high relative to the expected cost of conviction, the combined effects may reduce the municipality's economic efficiency. Second, stricter anti-corruption policies may improve municipal economic performance. This result stems from a reduction in the share of dishonest proximate candidates, who in turn receive more voting preferences as they produce more public goods in equilibrium.

I then leverage the Italian municipal electoral system to empirically test the model's predictions. To define how proximate a candidate is to municipal expenditures, I introduce a new index measuring the distance between an occupation and public expenditures. To the best of my knowledge, no prior research has constructed such an index that quantifies the connection between an occupation and public expenditures[3]. To construct the index, I use novel data from the Italian Territorial Public Accounts Database (CPT), which classifies public expenditures into 29 sectors. Using a regression discontinuity design in close elections, I find that electing a proximate [4] reduces an index measuring municipal economic performance of 0.04 points from a value of 102.2 and an average positive variation over the analyzed period of 0.011 points. It also increases the use of non-transparent practices in public procurement contracts. These results are robust to other specifications of the index measuring municipal economic performance and they suggest that more proximate mayors use more opaque procedures that are normally associated with a higher risk of illegal

[3]My index is inspired by the standard *Government Dependence Index*. This index uses input-output matrices in national accounting to measure the share of an industry's output that is demanded by public sector.

[4]With the term "proximate mayor", I define a mayor with an occupation that is close to municipal public expenditures.

activities.

Afterwards, I am the first to exploit the approval in December 2012 by the Italian Parliament of a stricter anti-corruption law known as the Severino Law (*Legge 6/11/2012, n. 190*). A provision of this law is that elected officials are suspended from their positions during corruption trials and removed after a final conviction. Using the same RD design, I show that the negative effect of having mayors in a proximate occupation on municipal economic performance disappears after the passage of the Severino Law. In addition, employing a fixed-effects model—controlling for municipal fixed effects, time trends, and individual characteristics—I find that municipalities with mayors elected after the law's enactment experience a 0.5% increase in economic performance. These results aligns with previous literature showing that a stricter anti-corruption law improves administrative quality. However, I am the first one to investigate whether the mechanism behind this finding could be a change in the proximity of politicians. My analysis reveals that, following the implementation of the Severino Law, the average proximity of candidates deciding to run decreases by 25%. Interestingly, on the demand side, proximity increases by 30%, as voters expect more proximate candidates become more effective and less corrupt on average after the passage of the new anti-corruption law.

These results suggest that the law reduced the supply of more proximate candidates and increases the demand for them. I also show that these results are robust to different definitions of the index and that for politicians that are certainly not "proximate" the demand and supply effects go in the opposite direction. According to the theory, the mechanism driving these results is that Severino Law has improved municipal economic performance by increasing the share of honest and proximate officials. In equilibrium, this shift leads to greater provision of public goods.

Finally, I consider other mechanisms that help explain my results, but that fail to account for the paper's main findings. These include considering other occupations with traits similar to occupations tied to public expenditures (i.e., education level, managerial skills, knowledge

of the local regulatory framework) but without proximity and other laws that constrained municipal expenditures without directly targeting corruption.

This paper contributes to the literature on the effects of elected officials' traits on public administration and governance outcomes. Existing studies have explored the effects of innate characteristics (e.g., age in Alesina, Cassidy, and Troiano (2019), gender in Chattopadhyay and Duflo (2004), Ferreira and Gyourko (2014), Brollo and Troiano (2016)), education (Gagliarducci and Nannicini (2013), Besley, Montalvo, and Reynal-Querol (2011)), and social background (Meyersson (2014), Dal Bó et al. (2017)) on public goods provision and policy decisions. Closer to my work are studies examining the effect of political leaders' occupations (Gagliarducci and Nannicini (2013), Kirkland (2021), Szakonyi (2021), Martinez (2024)). These studies find that the election of entrepreneurs and executives as mayors improves public administration efficiency by reducing expenditures without reducing the quantity of public goods. In a similar setting, Hessami, Häcker, and Thomas (2025) investigate the effect of mayors with a background in public administration, finding on average no effect on grant receipts. By contrast, my work focuses on individuals whose occupations are closely linked to public goods production, as opposed to those with prior experience in managing complex organizations or in the public administration.

I also contribute to the theoretical and empirical literature on moonlighting [5] (Caselli and Morelli (2004), Gagliarducci, Nannicini, and Naticchioni (2010), Geys and Mause (2013), Szakonyi (2018), Akcigit, Baslandze, and Lotti (2023), Bertoni et al. (2023)). Existing studies highlight a trade-off between allowing politicians to maintain their private business post-election and ensuring the quality of governance. Allowing politicians to keep private jobs attracts competent individuals with high opportunity costs. Yet it may also cause them to neglect public duties or use office to boost private earnings. My work demonstrates that, in the context of Italian municipal elections, high-opportunity cost individuals tied

[5] In the jargon of this literature, *moonlighting* refers to the possibility that politicians can continue their private job once elected. Allowing this possibility increases the likelihood of attracting into politics individuals with high opportunity costs, but also raises the risk of negligence in the elected position or engagement in illegal practices.

to public expenditures tend to reduce governance efficiency and quality. Additionally, by examining how the mayor's occupation affects public procurement practices, my research contributes to the broader literature on procurement (Coviello and Gagliarducci (2017), Kotakorpi, Poutvaara, and Terviö (2017), Coviello, Guglielmo, and Spagnolo (2018), Woon and Kanthak (2019), Decarolis, Fisman, et al. (2020), Decarolis and Giorgiantonio (2022), Szucs (2023)).

Finally, I contribute to the literature on the effects of the regulatory and legal framework on government performance. Studies examining electoral rules (Torsten Persson, Tabellini, and Trebbi (2003)), budget rules (Bordignon, Gamalerio, and Turati (2020), Gamalerio and Trombetta (2025)), social norms (Nannicini et al. (2013)), and legal norms against organized crime (E. D. Bó, P. D. Bó, and Tella (2006), Daniele and Geys (2015), Pinotti (2015), Fregoni, Leonardi, and Mocetti (2020), Di Cataldo and Mastrorocco (2021), Baraldi, Immordino, and Stimolo (2022)) find heterogeneous effects of stricter rules on the quality of politicians and public goods provision. My results suggest that heterogeneity arises because different laws may alter the supply and demand of politicians with occupations proximate to public expenditures.

The rest of the paper is organized as follows. Section 2 develops the theoretical framework, where the occupation of candidates and the prosecution system play a central role, and presents the two main predictions tested in the empirical section. Section 3 describes the main characteristics of Italian municipalities, the municipal voting rule, and the Severino Law. Section 4 outlines the different data sources and explains how I construct the proximity index. Section 5 discusses the empirical results and shows that they align with theoretical predictions, and Section 6 concludes.

2 Theory

In this section, I provide an intuitive overview of the model and its hypothesis before presenting the formal description. It is a Downsian model of electoral competition (Downs (1957)). There are two types of players: candidates and voters. This model departs from the standard Downsian framework by assuming that candidates are endowed with a private "type" -honest or dishonest- while voters only observe candidates' occupations. Occupations are defined by their closeness to local public expenditures which is called *proximity*. Here, a *proximate occupation* refers to one closely related to municipal public expenditures. For example, consider an architect: in many countries, construction is among the largest municipal expenditures, making an architect's occupation proximate. Such a candidate may increase public goods provision through higher efficiency as she knows better rules of construction and how to bargain better deals. She can also gain productivity in her private work by learning local bureaucratic practices if elected. However, her proximity to public expenditures could also facilitate exploitation, such as manipulating zoning regulations or accepting bribes to award contracts. Consequently, occupation is a key feature in voting decisions, as candidates with proximate occupations are assumed to be able to extract higher legal and illegal rents if elected.

Another departure from the standard model is the inclusion of a prosecution system, which has two important characteristics. First, I assume prosecutors focus on candidates with more proximate occupations, as they are more capable of extracting illegal rents. The investigation itself imposes a cost on politicians, since accusations become public before a final verdict. Second, the system is not perfect and the prosecution may investigate honest politicians and not investigate dishonest ones. The costs associated with prosecution can be conceptualized as reputational costs. Such costs are borne by politicians irrespective of the final judicial outcome, as the mere fact of being investigated may cast a lasting stigma. Even in cases where politicians are acquitted, some voters may attribute the outcome not to their integrity but rather to the effectiveness of their legal defense or to perceived deficiencies and

corruption within the judicial system. To have a simpler set-up, this model does not consider ideology as in Persson and Tabellini (2000) and it assumes it is orthogonal to occupation proximity. Appendix A provides empirical support for this assumption.

2.1 Setup and Timing

This is a mayoral electoral competition framework as outlined by Downs (1957). There are two groups of players: potential candidates and voters. The number of potential candidates C and the number of voters N are strictly positive integer numbers. The set of potential candidates and their profession is determined *ex-ante*. The timeline of the game is as follows:

Stage 0: Nature assigns a profession to potential candidates. For example, candidate j may be assigned the occupation "architect" and candidate k the occupation "veterinarian". Each occupation has a different degree of closeness to municipal public expenditures. I refer to the closeness to these expenditures as proximity $\delta_i > 0$, with a higher δ_i being more proximate. Following the example above, the proximity of the architect, δ_j, is greater than that of the veterinarian, δ_k. Each occupation also has associated foregone wages ζ_i, which approximate the opportunity cost of the time dedicated to politics. I assume that there is no correlation between occupation proximity δ_i and the foregone wage ζ_i. Nature determines whether potential candidates are honest or dishonest. A candidate is of the honest type if $\theta_i = 0$ and of the dishonest type if $\theta_i = 1$. A dishonest candidate extracts a corruption rent R, whereas an honest candidate never extracts a corruption rent ($R = 0$). The probability that a candidate is honest is given by $u(\theta_i = 0) = h$. Nature also draws the legal rent $\mathcal{E}_i \sim$ iid $U(\mathcal{E}_{i,min}, \mathcal{E}_{i,max})$. At this stage, the occupation of candidates is private information.

Stage 1: Potential candidates set their optimal effort in politics, $0 \leq e_i \leq 1$. This stage is referred to as the "supply-side decision" of candidates. A potential candidate that set an effort in politics $e_i = 0$ does not enter into the race. Therefore, the candidates in the election are the subset of potential candidates in C with $e_i > 0$. The effort in politics is unobservable by voters, as it depends on unobservable variables. Voters only know that the

effort of candidates is strictly positive. At the end of this stage, the occupations of mayoral candidates are revealed to voters.

Stage 2: voters, based on the occupation of the candidates, form a belief on the honesty of each candidate and elect the candidate mayor who maximizes their utility. The candidate with the highest vote share is elected, and in the case of a tie, the winner is determined by a lottery. If there are no mayoral candidates, I assume that the role of mayor is taken by a non-elected official who implements the public goods $G_0 = 0$. This stage is termed the "demand-side decision."

Stage 3: The type of the winning mayor is revealed. The mayor implements their optimal amount of public goods G_i, and the payoffs of the players are realized.

2.2 Payoffs

This subsection introduces the payoff functions for candidates and voters.

CANDIDATE MAYOR: Candidate mayor maximizes the linear utility function [6]:

$$Ui = q_i \cdot \left(\underbrace{e_i \cdot (\mathcal{E}_i \cdot \delta_i - \zeta_i \cdot e_i)}_{\text{Net legal Rent}} + \underbrace{\theta_i R \cdot \delta_i}_{\text{Corruption Rent}} - \underbrace{p(\theta_i R, \delta_i) \cdot \varphi}_{\text{anti-corruption cost}} \right) \geq 0 \tag{1}$$

by choosing the effort level $e_i > 0$.

In this equation, $e_i \cdot (\mathcal{E}_i \cdot \delta_i - \zeta_i \cdot e_i)$ represents the net legal rent of being elected. It increases with the product of the legal rent $\mathcal{E}_i$ and the proximity δ_i of the occupation to public expenditures. This assumes that candidates from closely related occupations will enhance their productivity in their private sector jobs if elected. It also decreases with the product of the effort in politics e_i and the foregone wages ζ_i. This latter assumes that the function is convex in e_i because the opportunity cost to enter in politics is higher for individuals with

[6] Linearity implies that candidates are risk neutral. Assuming risk-aversion would imply that for a given level of parameters optimal effort is smaller and candidate's utility is lower. Then, the only effect would be that the share of potential candidates with an optimal effort $e_i > 0$ reduces. Consequently, the results would remain qualitatively the same if I assumed the candidates are risk-averse.

a higher wage. Dishonest candidate mayors ($\theta_i = 1$) extract the corruption rent $R \cdot \delta_i$. The product of R and δ_i reflects the idea that more proximate candidates can extract a higher corruption rent. The expected cost of anti-corruption policies $p(\theta_i R, \delta_i) \cdot \varphi$ is given by the product of the probability of being prosecuted, $p(\theta_i R, \delta_i)$, and the anti-corruption policies cost φ. I assume that the probability of being prosecuted increases with the corruption rent, $\frac{\partial p(\cdot)}{\partial R} > 0$, and with δ_i ($\frac{\partial p(\cdot)}{\partial \delta_i} > 0$), which reflects the assumption that the prosecution system investigates more candidates with more proximate occupations. The term $\frac{\partial p(\cdot)}{\partial \delta_i} > 0$ reflects the assumption that the prosecution system investigates more candidates with more proximate occupations. Prosecutors know that proximate politicians are more efficient at extracting illegal rents, so they focus more of their efforts on them rather than on distant candidates. I also assume that the probability of investigating honest politicians is non-zero: $p(0, \delta_i) > 0$. The values of $p(0, \delta_i)$ and of $p(1R, \delta_i)$ measure the efficiency of the judicial system [7].

VOTERS: There are J electors with the utility function:

$$U_j = \underbrace{y_j \cdot (1 - \tau)}_{\text{Private}} + \underbrace{\mu_i \cdot E[G_{i0}(e_i, N\bar{y}\tau)] + (1 - \mu_i) \cdot E[G_{i1}(e_i, N\bar{y}\tau, R)]}_{\text{Public}} \tag{2}$$

In the utility function, $\mu_i \in (0, 1)$, represents the posterior probability that a candidate in occupation i is honest. y_j represents exogenous income, and τ is the marginal tax rate. The expected amount of public goods produced if the voted candidate is honest is given by $E[G_{i0}(e_i, N\bar{y}\tau)]$ and if dishonest by $E[G_{i1}(e_i, N\bar{y}\tau, R)]$. Voters do not know the exact amount of public good produced by a candidate, whether honest or dishonest, since it depends on the candidate's political effort if elected e_i, which in turn is determined by unobservable variables[8]. In the public goods production function, $N\bar{y}\tau$ is the municipal fiscal revenue, and $\frac{\partial g}{\partial N\bar{y}\tau} > 0$. The production of the public goods is assumed to be lower if the mayor is

[7] Assuming $R \cdot \delta_i > p(R, \delta_i) \cdot \varphi$, it can be demonstrated that, for a given occupation, the utility function in (1) is never lower for a dishonest candidate than for an honest candidate mayor.

[8] As it can be seen in Section 2.2., optimal effort in politics depend on the ego rent $\mathcal{E}_i$. One of the assumption of the model is that voters known the distribution but the realization of $\mathcal{E}_i$.

dishonest ($\frac{\partial G}{\partial R} < 0$) but higher if the mayor exerts more effort in politics ($\frac{\partial G}{\partial e_i} > 0$). Since taxes τ are exogenous, voters maximize their utility by casting their ballots for the candidate who, in expectation, produces the highest amount of public good. Furthermore, voters have the same information about the occupations of candidates, meaning that expected amount of public goods produced by a candidate $E[G_i]$ is identical for all voters. Therefore, voters prefer a candidate that puts more effort in politics and for a given occupation, they prefer an honest candidate as she consistently produces more public goods than a dishonest one.

2.3 Analysis

Given the structure of the game, the equilibrium is given by Perfect Bayes-Nash (PBE). The game is normally solved by backward induction. In the first stage, candidate mayor i sets the optimal effort in politics and in the second stage, voters determine the posterior probability μ_i that a candidate is honest. In this game, belief of voters do not impact e^* as candidates cannot manipulate their profession (the set C is fixed). Therefore e^* is set without accounting for voters behavior. Consequently, I start the analysis by solving for e^*. A more detailed analysis is provided in Appendix A.

2.3.1 Optimal Effort in Politics

The candidate mayor sets an effort level e_i that maximizes the right-hand side of (1) under the constraint of a strictly positive effort.

Result 1 The optimal effort level e_i is

$$e_i^* = \frac{\mathcal{E}_i}{2\zeta_i} \cdot \delta_i > 0 \tag{3}$$

Optimal effort is increasing in legal rent and proximity. It is decreasing in the foregone wages ζ_i. This latter is a well-known result of the literature on moonlighting. This literature investigates the effect of giving the possibility to elected officials to keep a second job while in

office. Keeping a second job would give to individuals with high opportunity cost - which are expected to perform better the political job- more incentive to enter into politics. However, the cost of that is that those individuals could neglect their political job once elected and devote more time to the other job. This trade-off is captured by the equilibrium value of e_i in this model.Optimal political effort does not depend on the corruption rent R. This is because corruption rent affects the amount of public good produced—entering directly into the production function—rather than the level of political effort.

In equilibrium, the probability of being elected q_i for mayors of candidates is $q_i = 1$ for the mayor candidate for whom (2) is the highest and $q_i = 0$ for all other candidates. If there is more than one candidate in the occupation for which (2) is the highest, then $q_i = \frac{1}{L}$ where L is the number of candidates in occupation i and $q_i = 0$ for all other candidates. Since occupation is the only criterion voters can use to distinguish candidates, they are indifferent between candidates in the same occupation. In Appendix A, I test the hypothesis that the margin of victory decreases when the candidates share the same occupation, and the results support this claim. This finding is significant, as it lends empirical support to a central assumption of the theoretical model: that the occupation of mayoral candidates plays a crucial role in voters' decision-making.

Given the conditions outlined in (1) and the assumption of a uniform distribution of legal rent, within an occupation, there are three possible cases: i) only dishonest candidates, ii) no candidates, iii) a pool of honest and dishonest candidates.

Empirically, the latter appears to be the only relevant case for two reasons. First, in the dataset there is no municipality in which all mayoral candidates have been investigated. While this possibility cannot be ruled out in principle, it does not seem to have empirical relevance. Second, Italian municipal elections without a mayoral candidate are extremely rare. For instance, in 2024, out of more than 3,700 municipal elections, only seven municipalities lacked a mayoral candidate. Furthermore, the latter is the only relevant case in this framework as my focus is on contested elections in which voters face a trade-off between

proximity and honesty[9]. Case iii is verified if $\mathcal{E}_{i,max}$ is high enough to have at least an honest candidate in occupation i. In this case $\mu_i \in (0,1)$.

2.3.2 Anti-corruption policy and proximity of candidates

My focus in this analysis is on the pooling equilibrium (*case iii*).

Result 2 The posterior probability μ_i that a candidate in occupation i is honest.

$$\mu_i = h \cdot \frac{\mathcal{E}_{i,max} - \underline{H_i}}{\mathcal{E}_{i,max} - \underline{D_i}} \in (0,1) \tag{4}$$

where:

$$2 \cdot \delta_i^{-1} \cdot \sqrt{\zeta_i \cdot p(0,\delta_i) \cdot \varphi} \equiv \underline{H_i} \tag{5}$$

and

$$2 \cdot \delta_i^{-1} \cdot \sqrt{\zeta_i \cdot (p(\cdot) \cdot \varphi - R \cdot \delta_i)} \equiv \underline{D_i} \tag{6}$$

are the minimum level of legal rent necessary for a given occupation and anti-corruption policies cost for a potential honest candidate ($\underline{H_i}$) and a potential dishonest candidate ($\underline{D_i}$) to enter in the political arena [10].

Looking at the variation of exogenous parameters on the utility of candidates, it is possible to investigate their effects on the supply-side decision of potential candidates (*decision to enter in politics*).

Result 3 Stricter Anti-corruption policies φ reduces the utility of candidates.

$$\frac{\partial U_i}{\partial \varphi} = -q_i \cdot p(\theta R, \delta_i) < 0 \tag{7}$$

[9]Case i is true if $\mathcal{E}_{i,max} < \underline{H_i}$. By contrast, the discussion of case ii is not interesting in the context of this model as voters don't vote.

[10]It is important to notice that $\underline{D_i} \leq \underline{H_i}$ for the assumption $R \cdot \delta_i > p(1,\delta_i) \cdot \varphi$.

Result 4 More proximate candidates enter more in politics as they can extract higher legal and illegal rents.

$$\frac{\partial U_i}{\partial \delta_i} = q_i \cdot \left(\frac{1}{2\zeta_i} \cdot \delta_i \cdot \mathcal{E}_i^2 + \theta_i R - \frac{\partial p(\theta R, \delta_i)}{\partial \delta_i} \cdot \varphi \right) > 0 \tag{8}$$

Result 5 From the previous result, it follows that the utility increases with proximity more for dishonest relative to honest candidates. This implies that the share of dishonest candidates is bigger among more proximate occupations. This effect is greater if the prosecution system is not very efficient.

$$\frac{\partial^2 U_i}{\partial \delta_i \partial R} = q_i \cdot \left(1 - \frac{\partial^2 p(1R, \delta_i)}{\partial \delta_i \partial R} \right) > 0 \tag{9}$$

Result 6 The effect of stricter anti-corruption policies is stronger for more proximate candidates [11]. Consequently, stricter anti-corruption policies reduce the share of dishonest politicians more among the more proximate occupations relative to the less proximate ones.

$$\frac{\partial U_i}{\partial \varphi \partial \delta_i} = -q_i \cdot \frac{\partial p(\theta R, \delta_i)}{\partial \delta_i} < 0 \tag{10}$$

Result 7 The effect on the overall level of honesty of candidates depends on the exit ratio honest over dishonest. Consequently, if the probability of investigating honest candidates is relatively high compared to dishonest ones, the share of honest candidates decreases, and rational voters adjust their preferences accordingly. Stricter anti-corruption policies increase the share of honest candidates if:

$$\nu \leq \left| \frac{\sum_{i0} q_{i0} \cdot p(0, \delta_{i0})}{\sum_{i1} q_{i1} \cdot p(R, \delta_{i1})} \right| \tag{11}$$

[11] This is true under the sensitive assumption that $p(R, \delta_i) > p(0, \delta_i)$

and decreases the share of honest candidates if:

$$\nu > \left| \frac{\sum_{i0} q_{i0} \cdot p(0, \delta_{i0})}{\sum_{i1} q_{i1} \cdot p(R, \delta_{i1})} \right| \tag{12}$$

where ν is the honest-dishonest ratio before the increase of φ.

2.3.3 Empirically Testable Propositions

From the analysis done above, I can formulate two testable propositions that can be empirically tested. The main outcomes variables are U_i and μ_i, the utility of potential candidates and the posterior probability that a candidate is honest. They cannot be measured and they both can be proxied by the characteristics of elected candidates.

The main variable of interest on candidates is δ_i, the proximity of an occupation to public expenditures. A proxy of this variable can be constructed by developing an index that quantifies the proximity between an occupation and public expenditures.

Proposition I: More proximate candidates have a negative effect on municipal economic performance.

From **Result 1** and **Result 5**, more proximate candidates exert higher political effort but also include a higher share of dishonest individuals. If the effect in **Result 5** dominates the effect in **Result 1**, more proximate mayors have a negative effect on municipal economic performance. This happens because the prosecution system focuses more on proximate politicians and this penalizes relatively more the honest and more proximate candidates. Also, this effect may increase if the probability of investigating honest candidates is relatively high.

I empirically test this proposition using a regression discontinuity design. The treatment group consists of proximate mayors who barely won elections, while the control group comprises proximate candidates who barely lost. I study the effects on municipal economic

performance and on the transparency of public procurement contracts.

Proposition II: A stricter anti-corruption law may improve municipal economic performance.

According to **Results 3**, **6**, and **7**, stricter anti-corruption policies reduce the number of candidates—particularly dishonest and more proximate ones—and may improve municipal economic performance if they increase the ratio of honest candidates overall or among proximate occupations. As more proximate politicians produce more public goods in equilibrium (**Result 1**), this effect alone may suffice alone to improve municipal economic performance without having an overall increase of the share of honest politicians (equation 12 in **Result 7**).

If this latter is true, the implication is that stricter anti-corruption policies have stronger effects for more proximate candidates. Consequently, it should be expected that there is a reduction of the supply of more proximate candidates (*supply-side effect on proximate candidates*). However at the same time, we could expect an increase of demand for them (*demand-side effect on proximate candidates)* as voters are rational and understand the effect of the law.

Empirically, I test the effect of a stricter anti-corruption law (increase of φ) on the municipal economic performance, by exploiting the passage of a new anti-corruption law as a source of a positive exogenous variation of the parameter φ. Furthermore, I can also test the mechanisms driving the results by disentangling supply- and demand-side effects of the law and examining whether these effects differ between more and less proximate politicians.

3 The Institutional Setting

In this section, I briefly describe the Italian municipal electoral system, sources of revenue, and main expenditures of Italian municipalities, focusing on public procurement. Afterwards,

I delve into the specifics of the Severino Law, which was approved by the Italian Parliament at the end of 2012.

3.1 Italian Municipalities

The Italian municipal government consists of a mayor (*Sindaco*), an executive committee (*Giunta*, with each member called *Assessore*), and an elected Municipal Council that oversees the executive; in small municipalities (below 15,000 inhabitants), executive committee members can also serve on the Council. In contrast, in large municipalities, *assessori* cannot serve on the Municipal Council, and since March 1993, mayors are elected directly by citizens through a plurality rule and limited to a maximum of two terms.

Voters do not directly vote for individual candidates for the municipal council but can express up to two preferences for specific candidates within the list.

3.1.1 Revenues and Expenditures of Italian Municipalities

Italian municipalities rely heavily on transfers from central and regional administrations, with fiscal autonomy covering roughly one-quarter of their budget, and the main municipal tax revenues come from the Income Tax Surcharge, Property Tax, and Waste Tax.

Administration expenses account for nearly 50% of total spending, while the remaining non-administrative expenditures primarily cover construction and municipal utilities, such as waste management and water supply.

In 2023, public procurement contracts accounted for around 13% of municipal expenditures, with 50% in construction, and since 2007, municipalities must report all contracts to the Italian Anti-Corruption Authority (ANAC). More details on revenues, expenditures, and public procurement contracts are given in Appendix B.

3.1.2 Severino Law

The Severino Law (*officially known as Law 190/2012*) was approved by the Italian Parliament in November 2012 [12]. Appendix B provides a detailed description of the law, whose relevant provision for this work suspends elected officials accused of corruption or serious crimes from office during their trial. This dramatically changes the previous legal framework where suspension was not possible and removal from the elected position was at the discretion of the judge (accessory penalty of ban on holding public offices).

It is clear that the Severino Law represents an exogenous increase of the cost of anti-corruption policies for elected officials in Italian municipalities.

4 Data

To conduct the empirical analysis, I aggregate data from various sources.

Data on municipal economic performance come from Cerqua et al. (2025), who developed the Municipal Administration Quality Index (MAQI), a composite index covering 7,723 municipalities for 2001-2022. It captures objective information about bureaucratic quality and capacity, local politicians' characteristics, and local governments' economic and fiscal performance. It is based on a unique, newly assembled dataset containing rich information about multiple aspects of Italian municipalities. The index is composed of three main pillars (more information in Appendix C).

For the analysis, I focus on the *MAQI Pillar III Index*, which measures municipal administration economic performance, while robustness checks include other components.

[12] The final approval by the Italian Parliament on 31 October 2012. The President of the Republic promulgated the Law on 6 November 2012. The application of the law is regulated by the subsequent legislative decrees 235/2012, 33/2013, and 39/2013 enacted by the Monti government.

Data on public procurement contracts in infrastructure over the period 2007-2023 are given by ANAC. Overall, the dataset comprises 290,000 public procurement contracts in construction [13] with value above EUR 40,000 [14].

Data on local elected officials are sourced from the Registry of Local Administrators, available annually since 1986. This dataset offers comprehensive information on demographic characteristics, occupation, and party affiliation for each municipal elected official [15].

I have obtained election results from the Eligendo Dataset for all Italian regions, and where not present, from regional electoral results databases [16] The margin of victory in each election is calculated as the difference in vote share between the winner and the runner-up, or in the case of runoffs, the difference between the winner and the runner-up in the second round. The dataset comprises a total of over 154,000 elected officials.

Using data from the Territorial Public Accounts Database (CPT), and given that nearly one-third of municipal expenditures and over 50% of public procurement spending are in construction, I classify elected officials in construction-related occupations (e.g., architect, surveyor, firm owner) as *proximate*. The interested reader may find more information on CPT data and on index construction in Appendix C.

[13] I classify as procurement contracts in construction those with label OG1 and OG3.

[14] Contracts below EUR 40,000 are excluded for two main reasons: firstly, data on those contracts are available only from 2011. Secondly, there is less information available for those contracts and therefore it is not possible to define for them the indicators of transparency and efficiency used for the contracts above the threshold.

[15] For each elected official, the dataset gives name, surname, gender, date and place of birth, education level, occupation, position (Mayor, deputy mayor, executive committee member, president of the Municipal Council, non-winning mayoral candidate, councilor), election date, party affiliation. It also indicates whether a municipality is under prefectural commissioner rule due to municipal council dissolution. While civil servants are mandated to promptly update the record following any changes in local administrators, the manual updates by individual municipalities make the record susceptible to measurement errors.

[16] Election results for Valle D'Aosta region and the autonomous provinces of Trento and Bolzano are excluded because there are different municipal electoral rules.

Additionally, I collected from ISTAT socio-demographic characteristics of Italian municipalities [17], and from the Avviso Pubblico Database information on Municipal council dissolution due to Mafia infiltration.

5 Results

In this section, I present the empirical results for the predictions of the theoretical model. Afterwards, I discuss the findings and their policy implications.

5.1 Results - more proximate mayors are worse politicians

Here I test the first prediction of the model saying that proximate mayors have a negative effect on municipal economic performance.

Ideally, to test this proposition in an empirical setting, I would need random assignation of occupation to candidates and random assignment of mayors with and without a background in construction to municipalities. As it is not possible to run such an experiment, I will look at close elections in an RD setting. In this quasi-experiment, the treatment group is mayors with an occupation in construction that barely win elections, and the control group is candidate mayors in construction that barely lose elections. The first underlying assumption is that in close elections, winner and loser candidates have similar characteristics. The second is that in close elections municipalities in which a mayor in construction wins an election are not different from those where a candidate in construction loses them. While these assumptions cannot be formally tested, in Table 1 I verify whether socio-demographic characteristics differ between mayors and towns with and without a mayor in construction.

Table 1 shows that while almost all covariates are similar, winners are on average more likely to be male, younger, and from smaller municipalities not in south Italy. Consequently,

[17] Examples are resident population, average education level of inhabitants, percentage of individuals who are members of charitable organizations, geographical location of the municipality, average wage, average wage of the occupation of elected officials.

TABLE 1: Balance Test – All Elections

	Loser Construction	Winner Construction	Difference
Education	0.988	0.989	0.001
Male	0.902	0.945	0.0434**
Age	47.9	51.0	3.15***
Same town	0.367	0.382	0.0150
Same province	0.786	0.810	0.0238
Wage	29,728	29,815	87
Time First Degree Trial	373	363	-10
Mafia Mun. Council Diss.	0.0382	0.0206	-0.0176*
Resident Population	4,961	9,389	4,428***
South	0.355	0.301	-0.0536*

Note: Education is education level equal or above high school for the politician. Male is the gender of the politician. Same town and same province is a dummy equal to one if the politician is born in the same town or province in which he is elected. Wage is the average wage in the occupation of the politician in 2011. Time first degree trial is the average number of days of a first degree penal trial by judge in the judicial district to which the municipality belongs. Resident population is the number of people that have their main residence in the municipality. South are dummies for municipalities in regions in south Italy. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

I will control for this covariates to mitigate the concern that the findings might be driven by endogenous factors.

To test proposition I, estimate the following regression using the Calonico, Cattaneo, and Titiunik (2014) `rdrobust` package:

$$y_{ijt} = \boldsymbol{\beta}_0 + \boldsymbol{\beta}_1 \texttt{construction}_{\texttt{ijt}} + \boldsymbol{f}(WinMargin_{ijt}) + \Gamma_{ijt} + \epsilon_{jt} \tag{13}$$

In equation (13) y_{ijt} is the variation of the municipal performance indicator component of the MAQI index over the term of mayor i elected in town j at time t.

construction is a dummy equal to 1 for mayors with an occupation in construction and β_1 measures the effect of this dummy variable on the municipal economic performance.

In the regression, I include controls variable Γ_{ijt} to increase precision and errors are clustered at municipal and year level.

TABLE 2: Municipal Economic Performance

	(1) Mun. Perf.	(2) Mun. Perf.	(3) Loc. Bur. + Mun. Perf.	(4) No reelected Mayors	(5) Below Median Trial Length	(6) Above Median Trial Length
`construction`	-0.627^{***}	-0.720^{***}	-0.241	-0.826^{**}	-0.605^{**}	-0.350
	[3.75]	[2.74]	[-0.823]	[-2.41]	[-2.47]	[-1.07]
Observations	1,016	952	952	292	476	476
Effective Obs.	328	296	255	100	170	162
BW-Left	0.041	0.041	0.040	0.048	0.050	0.045
BW-Right	0.073	0.068	0.059	0.066	0.084	0.070
Bandwidth Type	msetwo	msetwo	msetwo	msetwo	msetwo	msetwo
Controls	No	Yes	Yes	Yes	Yes	Yes

Note: Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Z-statistic reported in []. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

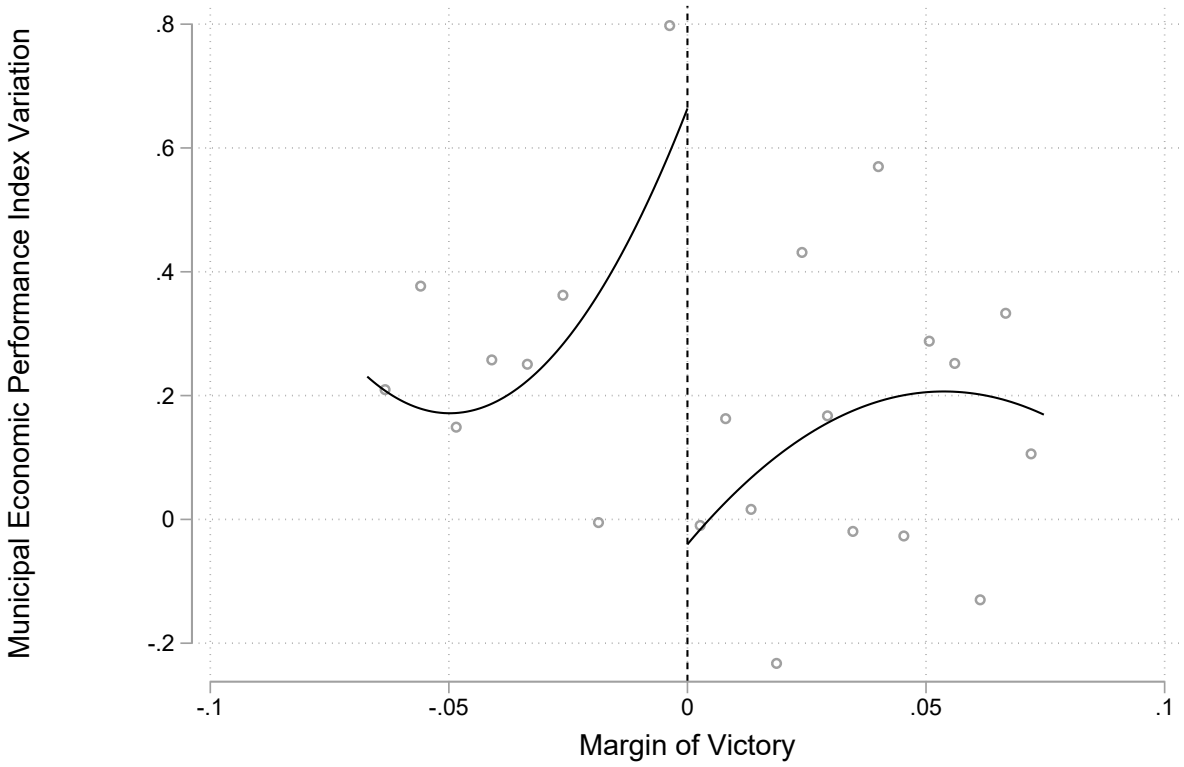
Table 2 reports the estimates: Columns (1)–(2) show the variation of the municipal economic performance index over the mayoral term. In column (1), the election of a mayor in construction decreases municipal economic performance of 0.63 sd -measured as a negative variation of MAQI pillar III index- compared to the election of a mayor not in construction.

Once controls are included, the negative effect increases at 0.72 sd and remains statistically significant at 1%. This corresponds to a negative variation of the index of 0.04 points compared to an average increase over the period of 0.011 points from an initial value of 102.2. In column (3), I add another component of the MAQI index that measures the quality of the local bureaucracy. Once included, the effect of the election of a mayor in construction reduces to -0.24 sd and t is no longer statistically significant. This result is expected, as the mayor has a very limited control on the quality of local bureaucracy and including it only adds noise to the estimate. In column (4), I test whether excluding reelected mayors affects the results. Reelected mayors account for over 60% of all mayors, and it is plausible that these individuals—especially those outside the construction sector—may have become more proximate due to their prior political experience. Once they are excluded in column (4), the effect of electing a proximate mayor slightly increases to 0.83 standard deviations. Therefore, reelection does not appear to have a significant impact on the estimates.

The theoretical model predicts that the negative effect on municipal economic performance is driven by the behavior of the prosecution system that investigates more proximate politicians. The interaction of this together with judicial errors in prosecuting honest politicians generates a greater disutility for honest and proximate candidates. Consequently, if the judicial system exhibits a relatively high error rate in prosecuting honest politicians, I would expect that the negative effect of the election of a mayor in construction is bigger in places with a faster prosecution system. As I don't have data on resources available to the prosecution, I proxy it by using the average length of penal first-degree bench trial that is 337 days. In columns (5) and (6), I split the sample into municipalities in judicial districts with below and above median length trial duration. As expected, the negative effect is significant in places with faster prosecution systems, while in slower ones it is weaker and not statistically significant.

Table 3 shows placebo tests at fake thresholds, and in all cases the effects are statistically not different from zero. This hints in favor of the robustness of the results reported in Table 2.

Figure 1: Variation of Municipal Economic Performance Index over the term of the mayor



Note: Variation of the MAQI Index III for municipalities with mayor in construction (*treatment group*) and municipalities with losing candidate mayor in construction (*control group*)

From the results discussed above, I cannot yet say that the increase of municipal economic performance is driven by the proximity of mayor in construction to the production of public goods. It is still possible that mayors in construction perform differently than others because they have a higher education level, managerial abilities, knowledge of laws, or better knowledge of the local conditions rather than from the proximity of their job to public expenditures. To test this, in Table 4 I repeat the regressions with other occupations that share some features with construction workers (e.g., education, skills, local knowledge) but lack proximity to public expenditures. As it is possible to see in table 3, the effect is non-significant for lawyers and civil servants that have a better knowledge of laws and bureaucratic practices, for entrepreneurs that as elected in construction could have better

TABLE 3: Placebo Thresholds

	(1) +2.5%	(2) −2.5%	(3) +5%	(4) −5%	(5) +7.5%	(6) −7.5%
`construction`	0.238	−0.253	−0.145	0.212	−0.188	0.442
	[1.01]	[0.527]	[-0.798]	[1.11]	[-0.759]	[0.739]
Observations	952	952	952	952	952	952
Effective Obs.	442	187	408	214	449	284
BW-Left	0.080	0.035	0.071	0.058	0.086	0.020
BW-Right	0.079	0.067	0.079	0.094	0.042	0.014
Bandwidth Type	msetwo	msetwo	msetwo	msetwo	msetwo	msetwo
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Note: Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Z-statistics in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

managerial skills and knowledge of the local conditions than others. Also there are non-significant differences for doctors which have a high education level and no connections with municipal expenditures.

To sum up, mayors in construction have a negative effect on municipal economic performance. As predicted by the theoretical model, this effect is stronger in places with a faster prosecution system. This effect seems to be driven only by the proximity of mayors in construction to the political job rather than by other characteristics of their occupations that are common to other professions. According to the theoretical framework, this result arises because more proximate mayors are simultaneously better positioned to extract illegal rents and more effective in delivering public goods. While both channels operate in parallel, the rent-extraction effect dominates, resulting in a net negative impact. This trade-off is ultimately reflected in the municipality's overall deterioration in economic performance.

5.2 Mechanism - The effect on Public Procurement Contracts

I now turn to investigate if corruption increases in municipalities where a mayor in construction wins elections.

TABLE 4: Election of Mayors in non-proximate occupations

	(1) Lawyer	(2) Entrepreneur	(3) Civil Servant	(4) Doctor
Dummy Occupation	−0.112	−0.310	0.131	−0.00357
	[-0.278]	[-0.869]	[0.637]	[0.0373]
Observations	1,449	1,253	402	1,088
Effective Obs.	515	489	132	382
BW-Left	0.074	0.090	0.034	0.087
BW-Right	0.071	0.103	0.075	0.070
Bandwidth Type	msetwo	msetwo	msetwo	msetwo
Controls	Yes	Yes	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Z-statistics in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

A proxy to measure corruption is using indicators derived from public procurement contracts in construction (contracts classified as *OG1 and OG3*). Following the work of Decarolis and Giorgiantonio (2023), I use a set of measures of transparency and efficiency of public procurement contracts. The former are the use of restricted negotiation (that is less transparent than the open procedure), the use of urgency procedures in tenders, the inclusion of quality criterion - that according to the literature are a hidden way to increase the directionality in tenders - and the number of firms participating in the selection process. The latter are time delays and extra-costs.

To test the effect of a mayor in construction on public procurement practices, I run the regression:

$$\texttt{procurement\_indicator}_{\texttt{ijt}} = \boldsymbol{\beta}_0 + \boldsymbol{\beta}_1 \texttt{construction}_{\texttt{ijt}} + \boldsymbol{f}(WinMargin_{ijt}) + \Gamma_{ijt} + \epsilon_{jt} \quad (14)$$

where procurement indicators are the average over the term of mayor i, elected in town j, in year t of each indicator.

Table 5 shows that mayors in construction use restricted negotiation less (+12.6 p.p.),

TABLE 5: Procurement Practice Measures

	(1) Restricted Negotiation	(2) Urgency Procedure	(3) Quality Criterion	(4) Firms Participating	(5) Time Delays	(6) Extra-Costs
construction	0.126**	0.0552	−0.0247*	1.86	−0.390	0.0713
	[2.00]	[0.384]	[-1.86]	[0.618]	[-0.519]	[0.742]
Observations	1,316	1,316	1,316	1,086	780	1,086
Effective Obs.	456	606	555	406	324	347
BW-Left	0.067	0.070	0.077	0.086	0.083	0.077
BW-Right	0.080	0.116	0.100	0.084	0.096	0.069
Bandwidth Type	msetwo	msetwo	msetwo	msetwo	msetwo	msetwo
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Z-statistics in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

while all other indicators are statistically insignificant (with the exception of a weakly significant effect on the quality indicator). As the restricted negotiation is less transparent than the standard open procedure, it hints to less transparency of mayors in construction.

This result has however important limitations due to the data available. First of all, only procurement contracts with value above EUR 40,000 are used. Contracts below the thresholds has fewer transparency obligations and only limited information on them - which form the large majority – are communicated by municipalities to the Italian anti-corruption Authority. Therefore, it is possible that corruption may be hidden inside these contracts and I cannot detect it with the data available.

Second, the transparency indicators selected here may not be the most effective measures of corruption. As noted in Decarolis and Giorgiantonio (2023), local politicians are aware that these indicators are monitored by prosecutors—and prosecutors, in turn, know that politicians are aware of this. As a result, corrupt politicians are likely to ensure that these indicators do not display suspicious values, thereby reducing their usefulness in detecting corrupt behavior. Decarolis and Giorgiantonio (ibid.) validates other indicators more useful

to detect corruption. However, they are in the call for tenders and they are not publicly available in the ANAC dataset.

Finally, the efficiency indicators I have used may also capture the ability of the mayor to do the job and the actual effort put into the daily administrative activities of the municipality. Therefore, a negative variation of the efficiency indicators may indicate that the mayor is negligent in the job rather than corrupt.

5.3 Results - The effect of stricter anti-corruption policies

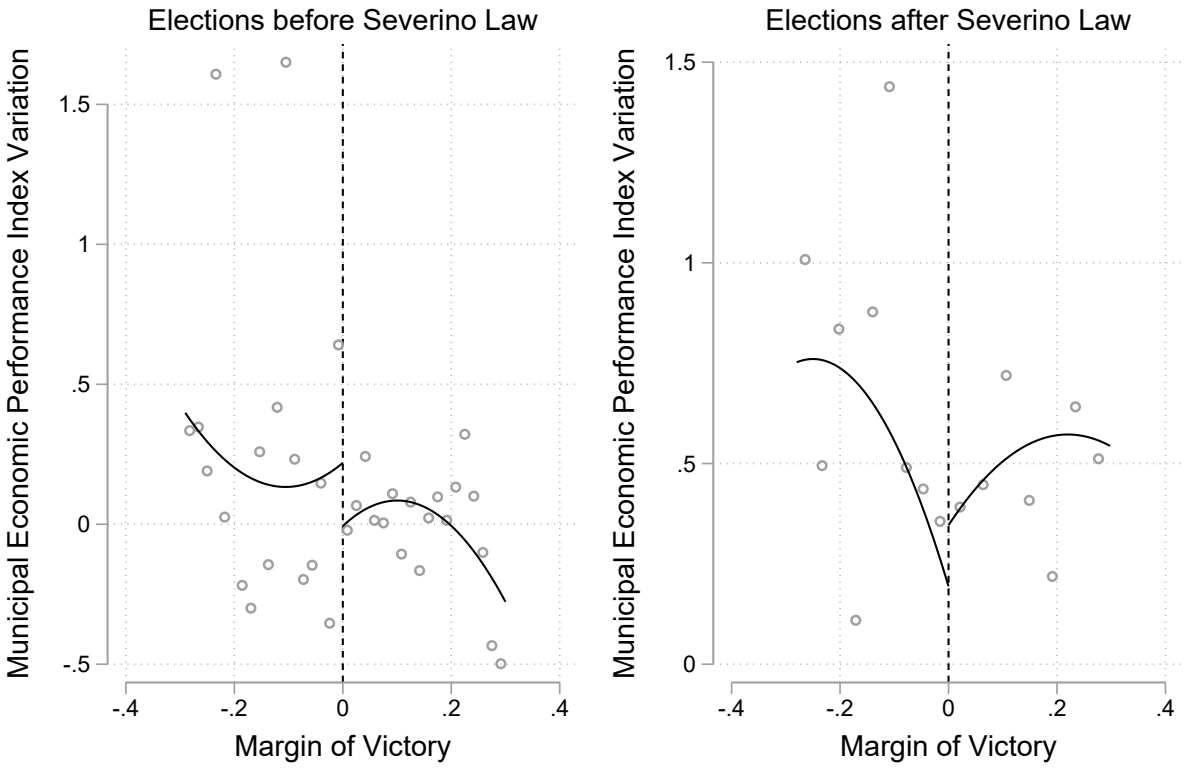
I now move to investigate proposition II which states that a stricter anti-corruption law may improve municipal economic performance. While a stricter anti-corruption policy reduces the supply of all candidates, it has a positive effect on municipal economic performance if i) it increases the ratio of honest candidates or ii) increases the ratio of honest candidates - and thus of elected- among proximate occupations.

TABLE 6: Effect of Severino Law on Municipal Economic Performance of Mayors in Construction

	(1) Mun. Perf. Elections before Severino Law	(2) Mun. Perf. Elections after Severino Law
`construction`	-0.430^{**}	-0.130
	[1.76]	[0.472]
Observations	948	339
Effective Obs.	479	192
BW-Left	0.058	0.115
BW-Right	0.175	0.234
Bandwidth Type	msetwo	msetwo
Controls	Yes	Yes

Note: Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Z-statistic reported in []. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Figure 2: The effect of Severino Law on the Performance of Proimate Mayors



Note: Variation of the MAQI Index III for municipalities with mayor in construction (*treatment group*) and municipalities with losing candidate mayor in construction (*control group*). Severino Law has been implemented at the end of 2012.

The implication of this proposition is that, following the passage of the Severino Law, the performance of mayors in the construction sector improves as they become more honest. To test this hypothesis, I replicate the same RD design from the previous section to examine the effect of electing a mayor in construction on municipal economic performance. This time, however, I divide the sample into elections held before and after the enactment of the Severino Law (end of 2012):

$$y_{ijt} = \boldsymbol{\beta}_0 + \boldsymbol{\beta}_1 \texttt{construction}_{\texttt{ijt}} + \boldsymbol{f}(WinMargin_{ijt}) + \Gamma_{ijt} + \epsilon_{jt} \tag{15}$$

In equation (15) y_{ijt} is the variation of the municipal performance indicator component of

the MAQI index over the term of mayor i elected in town j at time t.

construction is a dummy equal to 1 for mayors with an occupation in construction and β_1 measures the effect of this dummy variable on the municipal economic performance.

The results, reported in Table 6 and Figure 2, confirm this hypothesis. The effect of electing a mayor in the construction sector on municipal economic performance is negative and equal to -0.430 standard deviations (significant at the 5% level) only for elections held before the implementation of the Severino Law. For elections held after the law's passage, the effect becomes smaller in absolute value and statistically insignificant. These findings support the prediction of the theoretical model that stricter anti-corruption policies improve municipal economic performance by increasing the quality of elected officials in proximate occupations. In Appendix C, I show that these results are robust to using a fixed-effects specification.

5.4 Mechanism - The effect on the proximity of politicians

According to the theoretical model, the improvement of municipal performance after stricter anti-corruption policies may have been caused by a change of the supply and demand of more proximate candidates.

- **Supply-side Effect**. From **Result 10**, I know that the share of more proximate candidates reduces after stricter anti-corruption policies as they bear the brunt of stricter anti-corruption policies due to their higher probability of prosecution.

- **Demand side effect** Under some conditions discussed in Section 2, it is possible that the share of honest candidates among more proximate occupations increases. As more proximate occupations produce more public goods in equilibrium, voters' demand for them increases.

To study these two effects, I run the following linear regression:

$$\delta_{ijt} = \beta_0 + \beta_1 \cdot \texttt{Law}_\texttt{t} + \beta_2 \cdot cand\_mayor_{ijt} + \beta_3 \cdot cand\_mayor_{ijt} \cdot \texttt{Law}_\texttt{t} + \Gamma_{it} + \Lambda_{jt} + FE_j + \epsilon_{jt} \quad (16)$$

In (16), δ_{ijt} is the construction proximity index of elected i, in municipality j at time t, $\texttt{Law}_\texttt{t}$ is a dummy variable equal to 1 in all election after the promulgation of Severino Law. The parameter estimates the supply-side effect, meaning the decision to enter in politics. $cand\_mayor_{ijt}$ is a dummy variable equal to 1 for candidate mayors, and $cand\_mayor_{ijt} \cdot \texttt{Law}_\texttt{t}$ is the interaction between the Severino Law dummy and the candidate mayor dummy. This latter parameter estimates the demand-side effect (voters' preference for a candidate). Γ_{it} are individual background characteristics, Λ_{jt} are municipal time trends [18], FE_j are Municipal fixed effects and ϵ_{jt} are standard errors clustered at municipal and year of election level. A negative value for β_1 is consistent with the hypothesis of a negative supply-side effect, because it implies a reduction in the occupational proximity of all candidates following the implementation of the Severino Law. β_3 gauges the differential impact of the Severino Law on mayoral candidates and it captures the demand-side effect as in Italian municipal elections only mayoral candidates are directly voted. In the regression, I include municipal-fixed effects to control for factors that may be influenced by the Severino Law and could affect the proximity of candidates' occupations [19] [20] [21].

[18] I account for time trends as changes in the proximity index may be driven by shifts in the composition of public goods expenditures decided by the Central or Regional Government. Since the implementation of the Severino Law is not staggered, significant coefficients of interest without controlling for time trends may reflect a reallocation of public expenditures across sectors, rather than the actual demand and supply effects on candidates due to the Severino Law.

[19] An example of an effect that could bias the estimates if municipal fixed effects are not included is that the implementation of the Severino Law could have heterogeneous effects on the efficiency of municipal bureaucracy, which, in turn, may influence the decision to run as a candidate. Therefore, omitting municipal fixed effects could introduce unpredictable bias into the parameter estimates.

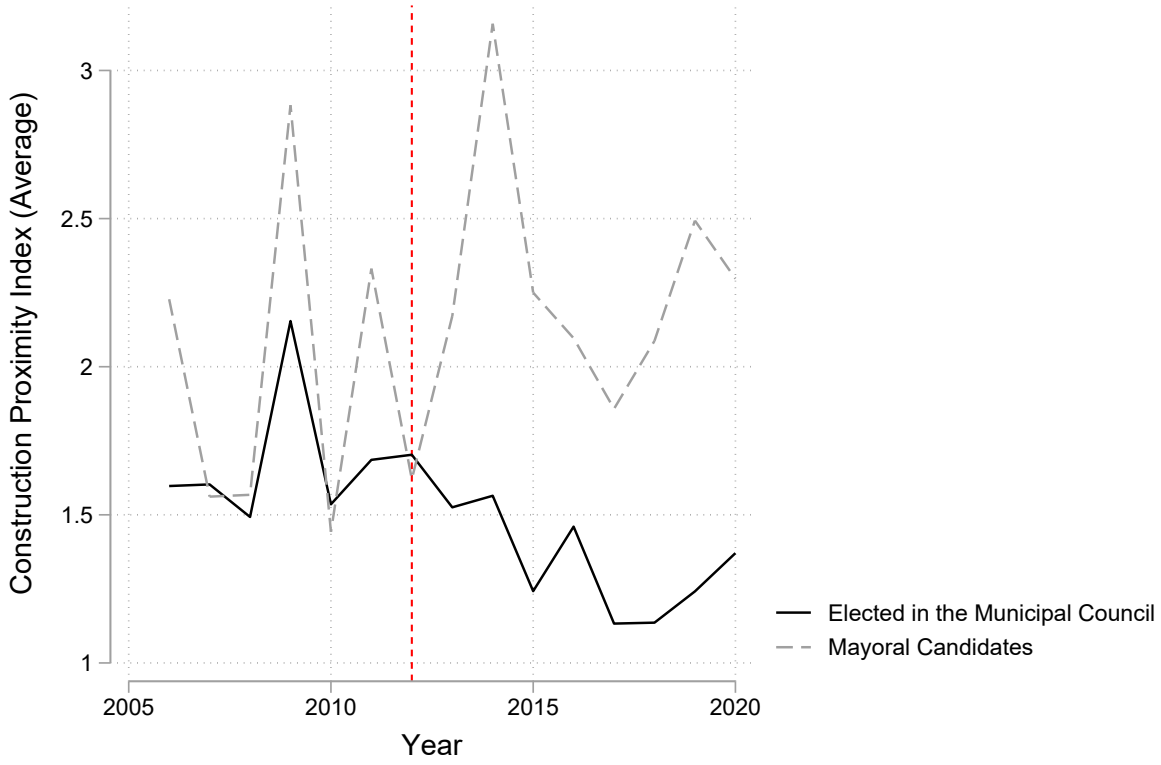
[20] In some regressions, I also control for time-fixed effects. However, It is important to be aware that the inclusion of year of election fixed effects does not allow to estimate β_1. Therefore, the parameter β_1 is discussed in a version of the regression without the inclusion of time fixed effects. By contrast, β_3 can be estimated even if time fixed effects are included because it measures the differential effect of the law for mayoral candidates.

[21] The fixed-effects regression may suffer from reverse causality, potentially leading to biased estimates for both β_1 and β_3. This bias could arise because political effort may be correlated with occupational proximity, and the Severino Law might prompt some potential mayoral candidates to run for municipal council instead of opting out of the elections entirely. To mitigate this bias, I control for individual characteristics such as age, gender, wage, and place of birth in the regression. Additionally, if this bias exists, I can argue that it would likely cause a downward bias in the parameters. From the data, I observe that the proximity of mayoral candidates is consistently higher than that of municipal council candidates. As a result, β_1 may be downward biased as the proximity of the pool of municipal council candidates increases if the bias exists. Similarly, β_3 could be biased toward zero, as the two groups become more similar, thereby reducing the difference between them.

In the dataset, I observe both winning and non-winning mayoral candidates. However, information is only available for individuals elected to the municipal council, while data on unelected council candidates are not recorded. Since municipal council candidates are not directly voted on by citizens, I assume that the elected councilors are representative of the broader pool of council candidates [22].

Prior to a formal test of this hypothesis, it is valuable to evaluate the impact of the Severino Law on the proximity of mayoral candidates and members of the municipal council in an event-study setting. In Figure 3 can be seen that between 2006 and 2012, the average prox-

Figure 3: Proximity Occupation Index by Candidate Type



Note: Average proximity occupation index split for candidate type (candidate mayor, candidate to Municipal Council) of new elected.

imity of mayoral candidates was consistently higher than that of municipal council members.

[22]Elected councilors are representative candidate councilors when preferences expressed for councilors within a list are not influenced by specific voter preferences but are instead randomly assigned to candidates. Stated differently, only supply-side decisions guide the election of municipal councilors.

Specifically, the average proximity index for mayoral candidates fluctuated between 1.5 and 2.5, while that of council members remained slightly above 1.5. A clear discontinuity appears after 2012: the average proximity of municipal council candidates drops sharply to below 1.5, whereas the proximity of mayoral candidates increases modestly. This pattern suggests that the Severino Law reduced the supply of proximate candidates for the municipal council—where only supply-side effects are relevant—while simultaneously raising the proximity of mayoral candidates. Since the proximity of mayoral candidates reflects both supply- and demand-side forces, the observed increase indicates that demand-side effects outweigh supply-side effects. Overall, these descriptive trends are consistent with the predictions of the theoretical model that the improvement of municipal economic performance is driven by the effect of the law on proximate politicians.

In Table 7, I conduct a formal assessment of the model to estimate both the supply-side and demand-side effects of the Severino Law on candidates. The main version of the index contains only municipal administration expenditures.

In the baseline specification (column (1)), where no control variables or fixed effects are included both coefficients exhibit statistical significance at the 1% level. The supply-side effect of the Severino Law is -0.417. This corresponds to a reduction of the proximity index of 42% compared to the period before the implementation of the law. By contrast, the demand-side effect is positive and equals 0.406, corresponding to an increase of 30% from the initial value of 1.23. The addition of controls, time trends and municipal fixed effects in column 3 does not change substantially the values: the supply side parameter becomes -0.226, whereas the demand-side effect slightly reduces to 0.34. Both coefficients remain statistically significant at the 1% and 10% levels. Additionally, In column 4, I add time fixed effects. The addition of time fixed effects do not allow me to estimate the supply side effect β_1. However, I can still estimate the demand-side effect, as β_3 measures the differential impact of the Severino Law for mayoral candidates, and it remains stable at 0.34.

To address concerns regarding the possibility that municipal administrators could control

TABLE 7: Municipal Administration Expenditures

Proximity Index	(1)	(2)	(3)	(4)
law	−0.363***	−0.378***	−0.226*	–
	(0.0702)	(0.0745)	(0.129)	
law·candidate_mayor	0.356***	0.365***	0.340***	0.340***
	(0.0968)	(0.0955)	(0.101)	(0.0984)
Observations	154,746	154,711	131,399	131,399
Municipal FE	No	Yes	Yes	Yes
Year FE	No	No	No	Yes
Controls	No	No	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

other local expenditures not directly managed by the municipality, in Table 8, I redo the analysis with another version of the proximity index. This version of the proximity index that includes all local expenditures, on which municipal elected officials could have some degree of control. While this index may potentially overestimate the expenditures controlled by a municipality compared to the main index, the estimates in Table 8 align closely with those in Table 6. In Table 8 column 3, the supply-side effect of the Severino Law stands at -0.505 (significant at 1%). This corresponds to a reduction of the index of 35% compared to the pre-Severino value of 1.41. The demand-side effect is 0.547 (significant at the 5% level). This corresponds to an increase of the proximity of candidates of 26%. Once included also time fixed effects, in column 4, the demand side remains stable at 0.560 (significant at the 5% level). Overall, it can be stated that the inclusion of all local expenditures slightly increases the magnitude of the effects of Severino Law and they remain consistent to the estimates in the main regression.

To assess the robustness of the estimates, Table 9 presents an alternative version, where

TABLE 8: All Local Expenditures

Proximity Index	(1)	(2)	(3)	(4)
law	-0.557^{***}	-0.620^{***}	-0.505^{***}	–
	(0.149)	(0.106)	(0.125)	
law·candidate_mayor	0.570^{***}	0.590^{***}	0.547^{**}	0.560^{**}
	(0.194)	(0.190)	(0.211)	(0.213)
Observations	154,746	154,711	131,399	193,616
Municipal FE	No	Yes	Yes	Yes
Year FE	No	No	No	Yes
Controls	No	No	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

the dependent variable is a dummy equal to one for elected officials in construction instead of the construction proximity index. This alternative version, could alleviate the concern that the results are driven by how the index has been constructed and how I have associated expenditures to elected in construction. In column (3), the supply side effect of Severino Law is a reduction of proximate candidates of 0.8 p.p.(significant at 1%) from an initial share of candidates in proximate occupation of 4.5%. The demand side effect is equal to 1.5 p.p. (significant at 1%), corresponding to an increase of 23% of the share of mayoral candidates in connected occupations.

In Appendix D, further controls are introduced, encompassing all elections, excluding members of the executive committee, and examining the average proximity index at the municipal level rather than the individual proximity index. Overall, the results align with the estimates reported in this section, reinforcing the robustness of the findings.

Finally, it is important to study the effect on non-proximate occupations. Although these occupations are not the primary focus of the analysis, the results discussed above suggest

TABLE 9: Dummy Construction

	(1)	(2)	(3)	(4)
law	−0.0153***	−0.0153***	−0.00805***	–
	(0.00167)	(0.00183)	(0.00241)	
law·candidate_mayor	0.00166***	0.00167***	0.0151***	0.0152***
	(0.00392)	(0.00387)	(0.00434)	(0.00434)
Observations	154,854	154,819	131,498	131,498
Municipal FE	No	Yes	Yes	Yes
Year FE	No	No	No	Yes
Controls	No	No	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

the expectation of a negative or null effect on the supply side and a negative effect on the demand side. Such findings would indicate that occupational proximity—rather than other characteristics of construction workers—is the primary factor driving the earlier results. I consider three possible definitions of non-proximate occupations: a narrow definition that includes only individuals who are unemployed or outside the labor force (such as students and retirees); an intermediate definition that additionally encompasses blue-collar workers whose occupations are generally unrelated to the work of politicians in Italian municipalities; and a broader definition that further includes non-executive white-collar workers in the private sector.

As reported in Table 10, the effect of the Severino Law on the supply of non-proximate candidates is either null or positive, depending on the occupations included in this category, whereas the demand-side effect is consistently negative. These findings reinforce the earlier results concerning proximate politicians, as such patterns are consistent with the hypothesis that occupational proximity is the main underlying driver.

Overall, the results suggest a reduction in the supply of more proximate candidates and

TABLE 10: Non-Proximate Occupations

	(1) No Labor Force	(2) No Labor Force + Blue Collars	(3) No Labor Force + Blue Collars + Non-Exec. White Collars
law	0.00706	0.0374***	0.0698***
	(0.00628)	(0.00730)	(0.00987)
law·candidate_mayor	−0.0212***	−0.0375***	−0.0554***
	(0.00692)	(0.00776)	(0.00807)
Observations	131,498	131,498	131,498
Municipal FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

an increase in the demand for them. In line with the predictions of the theoretical model, this implies that the implementation of the Severino Law has improved municipal economic performance by increasing the share of honest and proximate elected officials, which, in equilibrium, leads to greater provision of public goods.

5.5 Discussion and Policy implications

The findings presented in the previous sections show two key results that can be summarized as follow:

- More proximate politicians have a negative effect on municipal economic performance.
- Stricter anti-corruption policies improve municipal economic performance by reducing illegal rent extraction of more proximate politicians.

As discussed in previous works (among others Gagliarducci, Nannicini, and Naticchioni (2010), Geys and Mause (2013), Fisman et al. (2015), Mattozzi and Merlo (2015)), individuals with high-profile non-political background are in principle more efficient and effective

politician. However, they have a high opportunity cost of entering politics. Therefore, once elected, they may neglect their public duties while devoting time to private work, or use the elected position for illicit gains. Which effect is prevalent is an empirical question that depends largely on the incentives given by the institutional setting. In this work, I have shown that in Italian municipalities, a specific category of competent politicians -those that have an occupation close to the production of public good- are worse politicians and decrease municipal economic performance once elected.

The second main result is that stricter anti-corruption policies have a positive effect on municipal economic performance because they reduce the share of dishonest candidates among proximate occupations, which in turn increases voters' preference for these candidates as they are more able to produce public goods and -after stricter anti-corruption policies- more honest.

Nevertheless, stricter anti-corruption policies have a negative effect on all potential candidates either honest or dishonest. Consequently, this does not represent a first-best solution. A more desirable policy would involve an incentive system that penalizes only dishonest candidates while rewarding honest ones. In practice, this could take the form of increasing the wages of elected officials ($\mathcal{E}_i$) or strengthening the judicial system's capacity to investigate and sanction corrupt politicians, while minimizing errors that might inadvertently punish honest officeholders.

The first channel has been investigated in Italian municipalities by Gagliarducci and Nannicini (2013), who exploits sharp changes in mayor wages at different population thresholds. Their findings indicate evidence that municipal efficiency tends to increase with mayor's salary.

To the best of my knowledge, there is currently no research paper that directly measures the effect of court effectiveness on the quality of elected officials. However, it is plausible to speculate that an ineffective judicial system may contribute to the emergence of organized crime, acting as a substitute for the state in terms of legal capacity (Bandiera (2003),

Acemoglu, DeFeo, and DeLuca (2020), and Braccioli (2025)) as defined in the seminal work of Besley and Torsten Persson (2011). The link between an ineffective judicial system and the rise of organized crime underscores the potential impact on the quality and behavior of elected officials, emphasizing the need for further exploration in this area.

These policy directions align with the theoretical model's predictions, suggesting that addressing the economic incentives for elected officials and bolstering the legal framework's efficacy in distinguishing and penalizing corruption could be effective strategies in fostering a more accountable and non-corrupt political environment.

6 Conclusion

This paper delves into the intricate interplay between an individual's occupation, the inclination to pursue a political career, and voter preferences. Employing a combination of a theoretical model and reduced-form regressions, the study shows that elected officials with an occupation proximate to public expenditures negatively affect municipal economic performance, likely due to higher corruption. Stricter anti-corruption policies, however, improved outcomes.

The explanation of this finding is that the implementation of the Severino Law has improved municipal economic performance by increasing the share of honest and proximate elected officials, which, in equilibrium, leads to greater provision of public goods. This finding also contributes to the broader literature, first by showing how the costs and benefits associated with political involvement impact the quality of elected officials. Afterwards, it contributes to the literature on important traits of political candidates by underscoring the pivotal role of a candidate's occupation influencing the decision to enter politics and voter preferences. Finally, the analysis sheds light on the effects of anti-corruption policies, showing that such legislation operates through both the supply of and demand for proximate candidates.

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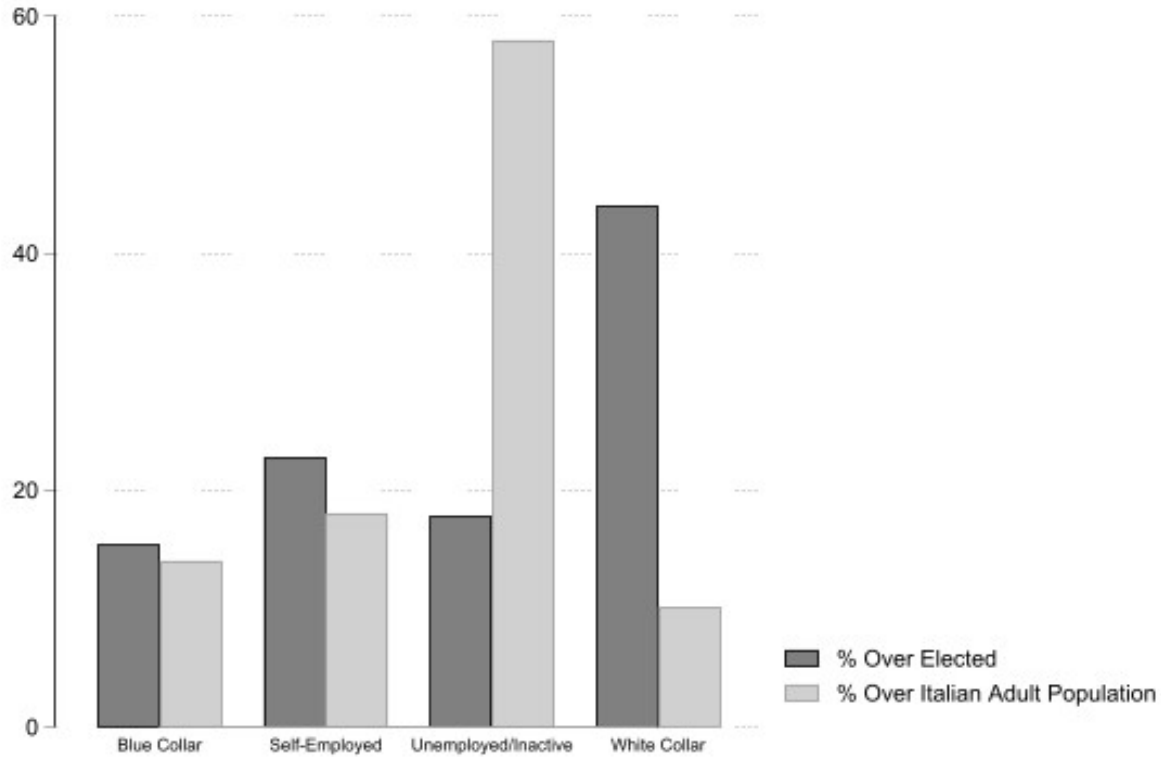
Appendix A

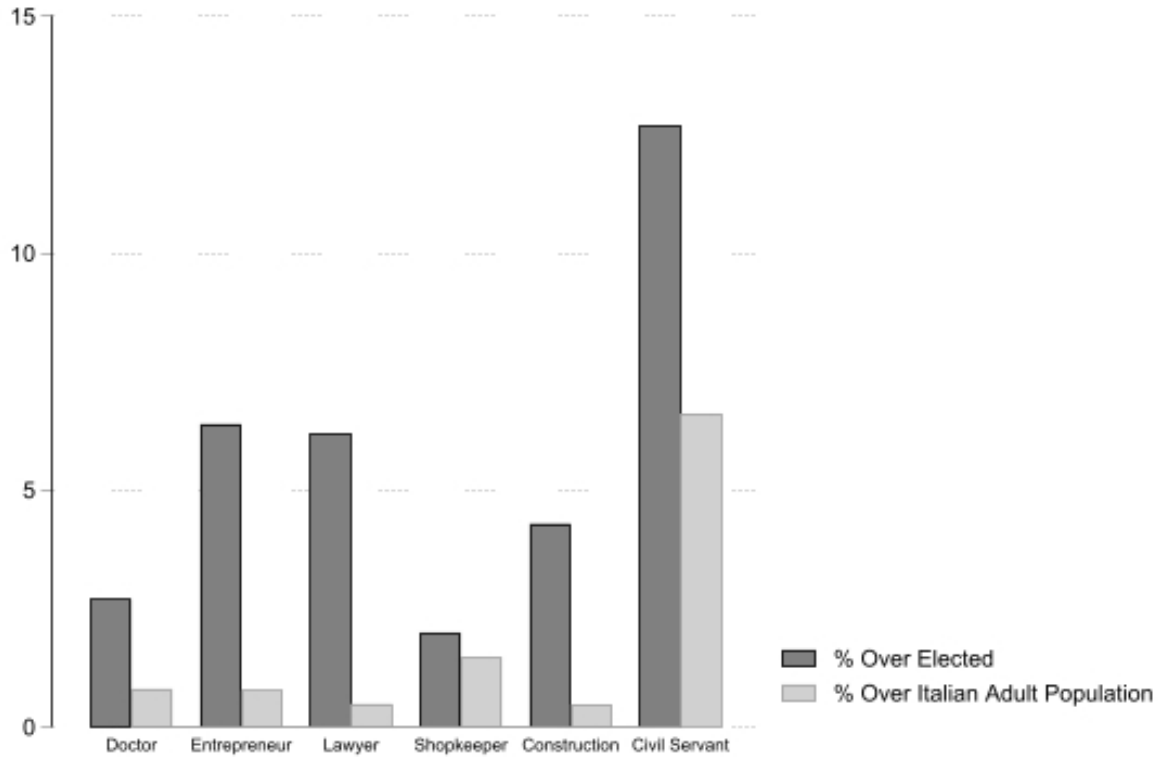
Characteristics of Italian Local Politicians

FIGURE A-1: Occupation of Elected Officials



Note: Broad categories of occupations of elected officials in Italian municipalities from 2008-2017.

FIGURE A-2: Occupation of Elected Officials by Specific Occupation



Note: Categories of occupations of elected officials in Italian municipalities from 2008-2017.

Ideology

To measure ideology, I study the party affiliation of politicians, as recorded in the local officials' database and corresponding to the list under which they were elected.
In Italian municipal elections, lists can be affiliated with a national party or classified as civic lists. The latter do not have a clear national affiliation but may belong to a political area close to one or more national parties.
Consequently, I construct four measures of ideology based on the name of the lists:

- **Civic List**: if the name of the list contains the words *lista civica, liste civiche*
- **Center-Left**: if the name of the list contains the words *PARTITO DEMOCRATICO, PD, MARGHERITA, CENTRO, LIBERALI, LIBERALE, UDC, AZIONE, ITALIA VIVA, CRISTIANA, CATTOLICA, ULIVO, CEN-SIN, CENTROSINISTRA, IDV, P.DEM., CENTRO SINISTRA*
- **Center-Right**: if the name of the list contains the words *FORZA ITALIA, PDL, BERLUSCONI, LEGA, FRATELLI, POPOLO DELLE, LIGA, ALLEANZA NAZIONALE, CEN-DES*
- **M5S**: if the name of the list contains the words *MOVIMENTO 5 STELLE, M5S*

TABLE A-1: Margin of Victory in Elections with Same-Occupation Mayoral Candidates

Party Affiliation	(1) Civic List	(2) Center-Left	(3) Center-Right	(4) M5S
Construction	−0.00525	−0.00295*	0.00429	−0.000976
	(0.00366)	(0.00165)	(0.00280)	(0.000596)
Observations	261,328	261,328	261,328	261,328

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A-1 shows little evidence of a correlation between working in construction and political affiliation, supporting the assumption that ideological orientation is generally unrelated to occupational proximity.

Candidates With the Same Occupation

In elections where candidates share the same occupation, the margin of victory decreases, as shown in Table A-2.

TABLE A-2: Margin of Victory in Elections with Same-Occupation Mayoral Candidates

Margin of Victory	(1)	(2)	(3)
same_occupation_d	−0.0388***	−0.0310***	−0.0256**
	(0.00366)	(0.00982)	(0.00977)
Municipal FE	No	Yes	Yes
Controls	No	No	Yes
Observations	12,317	12,316	10,074

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Analysis of the Game

The optimal effort in **Result 1** is derived by maximizing the payoff function of the candidate mayor in (1), under the constraint that $e_i > 0$.

The mathematical definition of the posterior probability μ_i is derived from the assumption of a linear distribution of the legal rent $\mathcal{E}$.
Let $\underline{H}_i$ and $\underline{D}_i$ denote the minimum legal rents required to run for occupation i for honest and dishonest candidates, respectively. These values are obtained by substituting the optimal effort from (1) and determining the minimum value of $\mathcal{E}$ that ensures a positive payoff. For honest candidates, it is equal to:

$$2 \cdot \delta_i^{-1} \cdot \sqrt{\zeta_i \cdot p(0, \delta_i) \cdot \varphi} \equiv \underline{H}_i$$

For dishonest candidates, it is equal to:

$$2 \cdot \delta_i^{-1} \cdot \sqrt{\zeta_i \cdot (p(R, \delta_i) \cdot \varphi - R \cdot \delta_i)} \equiv \underline{D}_i$$

Results 3–7 are all derived by substituting the optimal effort e_i in (1) before taking derivatives.

In Result 7, the honest-dishonest ratio ν is calculated by taking the numerator (7) for honest candidates, $\sum_i q_i \cdot p(0, \delta_i)$, and the denominator (7) for dishonest candidates, $\sum_i q_i \cdot p(R, \delta_i)$.

As discussed in Section 2.3, candidates' supply decisions are independent of voters' demand, as candidates cannot manipulate their occupations. Consequently, Results 3–7 can be derived solely from the supply side. However, rational voters adjust their preferences in response to proximity effects and stricter anti-corruption policies. This adjustment occurs through changes in the posterior probability μ_i, which implies that the same results may also be understood from the perspective of voters' reactions to proximity and policy changes. The interested reader may find the results summarized below.

The effect of an increase in proximity on the posterior probability that a candidate is honest is given by:

$$\frac{\partial \mu_i}{\partial \delta_i} =$$

$$h \cdot \frac{\begin{array}{l} -\zeta_i \delta_i \varphi p'(0,\delta_i)\left(\mathcal{E}_i\sqrt{\zeta_i\varphi p(R,\delta_i) - R\delta_i} + 2R\right) \\ +2\zeta_i\varphi p(R,\delta_i)\left(\zeta_i\varphi p'(0,\delta_i) - \mathcal{E}_i\sqrt{\zeta_i\varphi p(0,\delta_i)}\right) \\ +2\zeta_i\varphi p(0,\delta_i)\left(-\zeta_i\varphi p'(R,\delta_i) + \mathcal{E}_i\sqrt{\zeta_i\varphi p(R,\delta_i) - R\delta_i} + R\right) \\ +\mathcal{E}_i\delta_i\sqrt{\zeta_i\varphi p(0,\delta_i)}\left(\zeta_i\varphi p'(R,\delta_i) + R\right) \end{array}}{\sqrt{\zeta_i\varphi p(0,\delta_i)}\sqrt{\zeta_i\varphi p(R,\delta_i) - R\delta_i}\left(\mathcal{E}_i\delta_i - 2\sqrt{\zeta_i\varphi p(R,\delta_i) - R\delta_i}\right)^2}$$

The effect of stricter anticorruption policies on the posterior probability that a candidate is honest is given by:

$$\frac{\partial \mu_i}{\partial \varphi} =$$

$$h \cdot \frac{\zeta_i\delta_i \cdot \left(\mathcal{E}_i p(R,\delta_i)\sqrt{\zeta_i\varphi p(0,\delta_i)} - p(0,\delta_i)\left(\mathcal{E}_i\sqrt{\zeta_i\varphi p(R,\delta_i) - R\delta_i} + 2R\right)\right)}{\sqrt{\zeta_i\varphi p(0,\delta_i)}\sqrt{\zeta_i\varphi p(R,\delta_i) - R\delta_i}\left(\mathcal{E}_i\delta_i - 2\sqrt{\zeta_i\varphi p(R,\delta_i) - R\delta_i}\right)^2}$$

The effect of stricter anti-corruption policies is stronger for more proximate candidates:

$$\frac{\partial^2 \mu_i}{\partial \varphi \partial \delta_i} =$$

$$h \cdot \left(-\frac{\zeta_i^2 \delta_i \varphi p'(0,\delta_i) \left(\mathcal{E}_i p(R,\delta_i) \sqrt{\zeta_i \varphi p(0,\delta_i)} - p(0,\delta_i) \left(\mathcal{E}_i \sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} + 2R \right) \right)}{2 \left(\zeta_i \varphi p(0,\delta_i) \right)^{3/2} \sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} \left(\mathcal{E}_i \delta_i - 2\sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} \right)^2} \right)$$

$$+$$

$$h \cdot \left(\frac{\zeta_i \delta_i \left(-p'(0,\delta_i) \left(\mathcal{E}_i \sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} + 2R \right) + \frac{\mathcal{E}_i \zeta_i \varphi p(R,\delta_i) p'(0,\delta_i)}{2\sqrt{\zeta_i \varphi p(0,\delta_i)}} - \frac{\mathcal{E}_i p(0,\delta_i) \left(\zeta_i \varphi p'(R,\delta_i) - R \right)}{2\sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i}} + \mathcal{E}_i p'(R,\delta_i) \sqrt{\zeta_i \varphi p(0,\delta_i)} \right)}{\sqrt{\zeta_i \varphi p(0,\delta_i)} \sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} \left(\mathcal{E}_i \delta_i - 2\sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} \right)^2} \right)$$

$$-$$

$$h \cdot \left(\frac{\zeta_i \delta_i \left(\mathcal{E}_i p(R,\delta_i) \sqrt{\zeta_i \varphi p(0,\delta_i)} - p(0,\delta_i) \left(\mathcal{E}_i \sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} + 2R \right) \right) \left(\zeta_i \varphi p'(R,\delta_i) - R \right)}{2\sqrt{\zeta_i \varphi p(0,\delta_i)} \left(\zeta_i \varphi p(R,\delta_i) - R\delta_i \right)^{3/2} \left(\mathcal{E}_i \delta_i - 2\sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} \right)^2} \right)$$

$$-$$

$$h \cdot \left(\frac{2\zeta_i \delta_i \left(\mathcal{E}_i p(R,\delta_i) \sqrt{\zeta_i \varphi p(0,\delta_i)} - p(0,\delta_i) \left(\mathcal{E}_i \sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} + 2R \right) \right) \left(\mathcal{E}_i - \frac{\zeta_i \varphi p'(R,\delta_i) - R}{\sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i}} \right)}{\sqrt{\zeta_i \varphi p(0,\delta_i)} \sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} \left(\mathcal{E}_i \delta_i - 2\sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} \right)^3} \right)$$

$$+$$

$$h \cdot \left(\frac{C \left(\mathcal{E}_i p(R,\delta_i) \sqrt{\zeta_i \varphi p(0,\delta_i)} - p(0,\delta_i) \left(\mathcal{E}_i \sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} + 2R \right) \right)}{\sqrt{\zeta_i \varphi p(0,\delta_i)} \sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} \left(\mathcal{E}_i \delta_i - 2\sqrt{\zeta_i \varphi p(R,\delta_i) - R\delta_i} \right)^2} \right)$$

Appendix B

Italian Municipal Electoral System

Elections in Italian municipalities are regulated by Law 81/1993. The duration of a term was four years before 2000 and five years afterward, with restrictions progressively weakened over time. From 2012, mayors can serve a third term after a five-year hiatus. From 2014, mayors of villages below 3,000 inhabitants could serve a third consecutive term. This threshold increased to 5,000 in 2022, and in 2024, the term limit was removed for towns below 5,000 inhabitants. In towns between 5,000 and 15,000 inhabitants, a third consecutive term is now possible, while for towns above 15,000 inhabitants, a maximum of two consecutive terms remains.

A mayor may be removed through a vote of no confidence by the municipal council. If the majority votes no confidence, or the mayor resigns, the council dissolves and new elections are held. The number of executive committee members and councilors is determined by national law and increases sharply at nine population thresholds. This system applies to all municipalities in ordinary regions and Sardegna, with minor variations in Friuli-Venezia-Giulia and Sicilia. Electoral rules change at the 15,000 inhabitants threshold: below 15,000, a single round is used; above 15,000, a runoff occurs.

For municipalities below 15,000 inhabitants (over 90% of Italian municipalities):

- Each candidate mayor can have only one associated list.
- Electors vote for both the candidate mayor and their list.
- Voters may express up to two preferences for council candidates (only one preference for towns below 5,000 inhabitants).
- The candidate mayor with the most votes is elected; their list receives at least 2/3 of council seats (proportional if the mayor receives more than 2/3 of votes).
- Non-elected candidate mayors join the council if their list secures at least one seat.
- Unless otherwise stated in the Municipal Statute, executive committee members may also be council members.

For towns above 15,000 inhabitants:

- Candidate mayors may have multiple associated lists.
- Electors may vote for a list or solely for a candidate mayor.

- Votes can be split between a candidate mayor and a list of another mayor.
- Up to two preferences may be expressed for council candidates in the selected list.
- The candidate receiving 50% + 1 votes is elected. Otherwise, a runoff occurs between the top two candidates.
- The winning mayor's lists receive at least 60% of council seats (proportional if the mayor receives over 60% in the first round).
- Non-elected candidate mayors are elected if their list secures at least one seat.
- Executive committee appointees cannot hold council seats. If elected, they must resign, and the first non-elected candidate on their list fills the seat.

In uncontested elections, the sole candidate mayor is elected if i) turnout is $\geq 50\%$ (40% from 2023) and ii) they receive $\geq 50\%$ of valid votes.

Data on council candidate preferences are often unavailable at the national level. Typically, most voters do not express preferences for council candidates. Table **??** shows the range of council seats assumed to be randomly assigned.

TABLE B-1: Share of Randomly Elected Candidates

Population	Seats Council	Min. Seats Winning Coalition	Seats Executive Committee	Range Share Councilors Randomly Elected
< 3,000	10	7	2	[0.22; 0.57]
3,000–10,000	12	8	4	[0.18; 0.57]
10,000–15,000	16	11	5	[0.20; 0.60]
15,000–30,000	16	10	5	[0.37; 0.60]
30,000–100,000	24	14	7	[0.30; 0.48]
100,000–250,000	32	19	9	[0.30; 0.48]
250,000–500,000	36	22	10	[0.31; 0.51]
500,000–1,000,000	40	24	11	[0.30; 0.49]
> 1,000,000	48	29	12	[0.29; 0.47]

Note: Council seats, the seat premium, and executive committee members are determined by national law and vary at nine population thresholds. The lower range assumes only one losing mayor and a close election; the upper range assumes all executive committee members are elected and resign.

Revenues and Expenditures of Italian Municipalities

Italian municipalities have limited fiscal autonomy, relying heavily on transfers from central and regional administrations. Fiscal autonomy accounts for approximately one-quarter of

their budget (CPI-Cattolica (2023b)). The three main tax revenue sources are: a surcharge on income tax (0–0.8%), property tax, and waste tax. Waste tax revenues are entirely earmarked for waste management services.

A redistribution mechanism exists between affluent and less affluent municipalities. A portion of tax revenues is collected by the central administration and redistributed equitably among municipalities. Other non-tax revenues include cemetery fees, building permits, and dividends from companies.

Municipal expenses range between 4% and 4.5% of Italian GDP (CPI-Cattolica (2023a)). From 2008 to 2017, some municipalities were subject to a balanced budget rule (*Patto di Stabilità Interna*): mandatory only for municipalities above 5,000 inhabitants (2008–2012), above 1,000 inhabitants in 2013, and for all municipalities from 2014 onward.

Administration expenses constitute nearly 50% of total expenses. The main non-administrative expenditures relate to construction, municipal utilities, education (primarily pre-primary), and social assistance for the elderly and needy. Occasionally, municipal utilities are formally managed by private or public companies but remain *de facto* controlled by municipalities.

Municipalities are represented in various intermediate local bodies, often by the mayor. These include unions of municipalities, local health districts, provinces (before 2014, directly elected councilors and presidents), port authorities, land reclamation authorities, and others.

Public Procurement

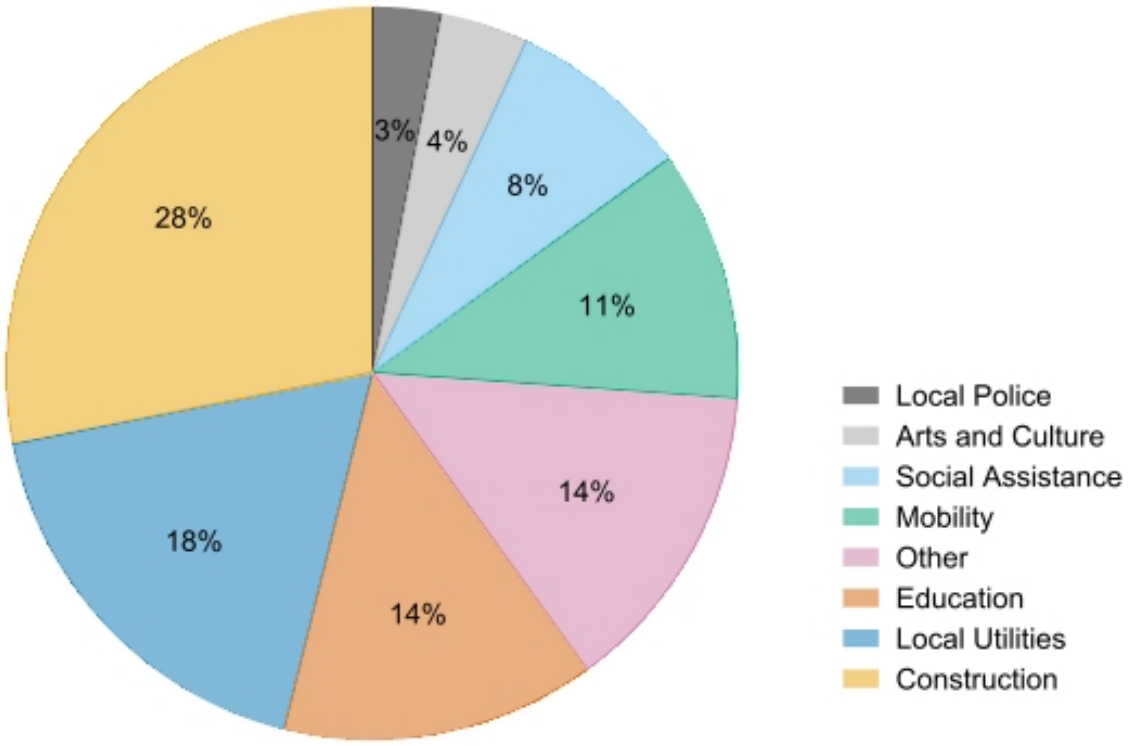
According to ANAC (ANAC (2024)), public procurement contracts accounted for approximately 13% of municipal expenditures in 2023, with 50% in construction activities. Italian municipal public procurement is governed by the Italian Public Procurement Law (*D.lgs. 12/04/2006 n. 163*). This law identifies public entities authorized to sign contracts (all municipalities) and designates the responsible official for each procedure.

Since 2007, municipalities must report all procurement contracts to ANAC. The law differentiates contracts above and below EUR 40,000. For contracts below this threshold, a simplified procedure may be used, requiring less transparency and disclosure to ANAC.

Severino Law

The Severino Law, named after the Justice Minister at the time, is Italian National Law 190/2012, promulgated on 6 November 2012. Initially presented in 2010 by the fourth Berlusconi Government, it faced delays in Parliament. Berlusconi resigned in November 2011, and the Monti Government introduced a revised version in May 2012, ultimately securing approval in November 2012. Its primary aim is to combat corruption among public

FIGURE B-1: Expenditures in Italian Municipalities



Note: Italian local expenditures excluding administration costs, 2000–2020. Data from Conti Pubblici Territoriali Dataset.

officials at all levels. It is *ex-post facto*, applying to both previously elected and future officials.

During this period, corruption and the ethical conduct of elected officials were central public debates (e.g., Berlusconi trials, Five Star Movement's anti-corruption platform). A 2011 study by the Italian Parliament's anti-corruption and Transparency Service (SAeT (2011)) estimated corruption costs at 3.8% of GDP, higher than the EU average of 1%. The 2011 Corruption Perception Index ranked Italy third among OECD members (Transparency-Internation (2011)).

Key innovations of the Severino Law include amendments to procurement, stricter imprisonment terms, regulations on "Sliding Doors," bans from candidacy, removal and suspension rules for elected officials. Between 2009–2018, about 200 officials were suspended (0.2%), with 150 trial histories reconstructed.

Limitations include exclusion of officials with pre-existing sentences, voluntary resignations, and potential mislabeling of caretakers. These biases suggest the 200 figure is

conservative. Costs imposed by the Severino Law are borne by both honest and dishonest officials.

Appendix C

MAQI Index

Data on municipal economic performance comes from Cerqua et al. (2025). The authors develop the Municipal Administration Quality Index (MAQI), a composite index for 7,723 out of 7,901 Italian municipalities covering 2001-2022. MAQI captures objective information on bureaucratic quality and capacity, local politicians' characteristics, and local governments' economic and fiscal performance. It is based on a unique dataset containing detailed information across multiple dimensions of Italian municipalities. The index comprises three main pillars:

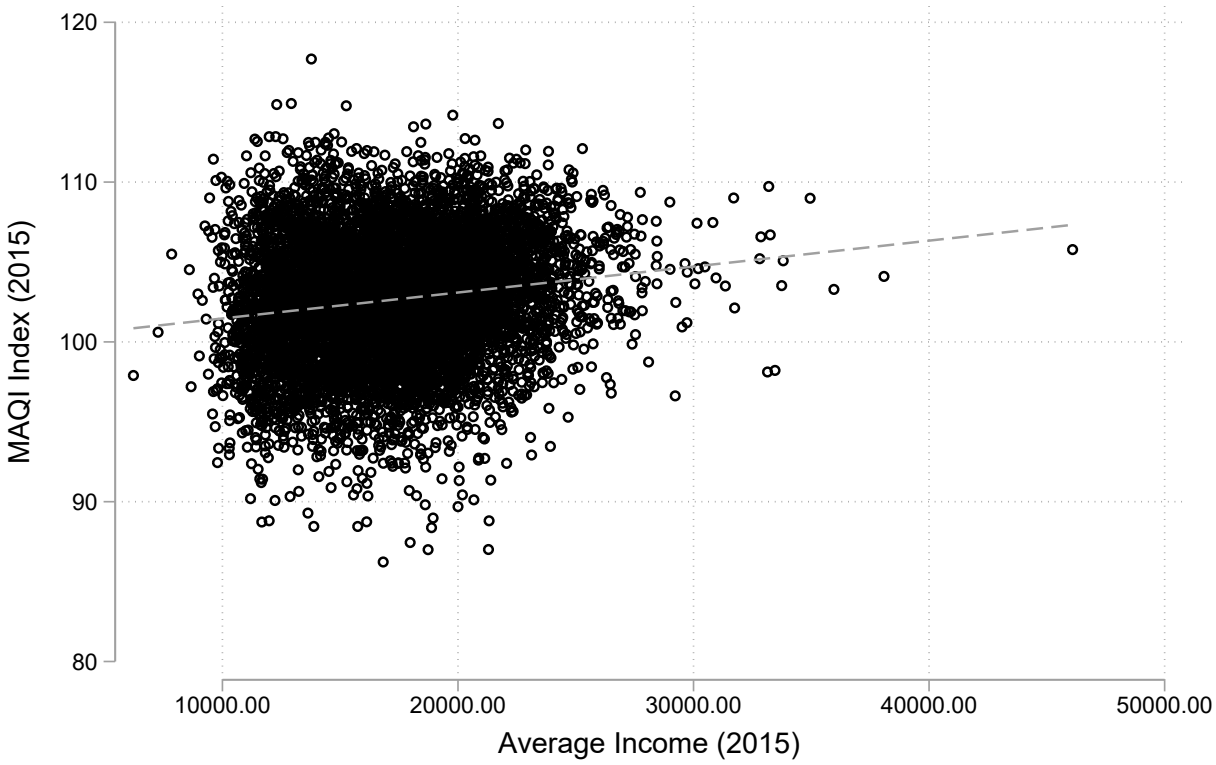
- **Pillar I: Bureaucracy – quality/capacity.** Includes average education level, turnover rate, number of personnel per 1,000 inhabitants, and yearly average absences of municipal civil servants.
- **Pillar II: Local politicians – quality.** Covers information on local political actors, including the mayor (sindaco), deputy mayor (vicesindaco), councillors (assessori), and the president of the local council (presidente del consiglio comunale).
- **Pillar III: Local government – fiscal and economic performance.** Comprises indicators of spending rigidity, spending capacity, collection capacity, and the share of municipal budget allocated for investments.

Not all components are under the mayor's control. Pillar I is largely determined by national law, which specifies employee numbers, education requirements, and turnover rates. Pillar II may be endogenous, as the occupation and education of local politicians are strongly correlated. Pillar III largely depends on the mayor, since spending, collection, and investment decisions are under municipal control.
In the baseline regressions, I focus solely on the third pillar, while robustness checks consider all components. The MAQI Municipal Performance Index—and specifically its third pillar, which measures municipal economic performance—shows a positive correlation with average municipal income. Consequently, the MAQI index tends to be higher in wealthier municipalities. These relationships are illustrated in Figures C-1 and C-2.

Proposition II - Fixed-Effect Regression

To conduct this exercise, I analyze the effect of Severino Law approval on the same municipal economic performance index used before.

Figure C-1: Correlation between MAQI Index and Average Municipal Income (2015)



Note: Average municipal income from Istat.

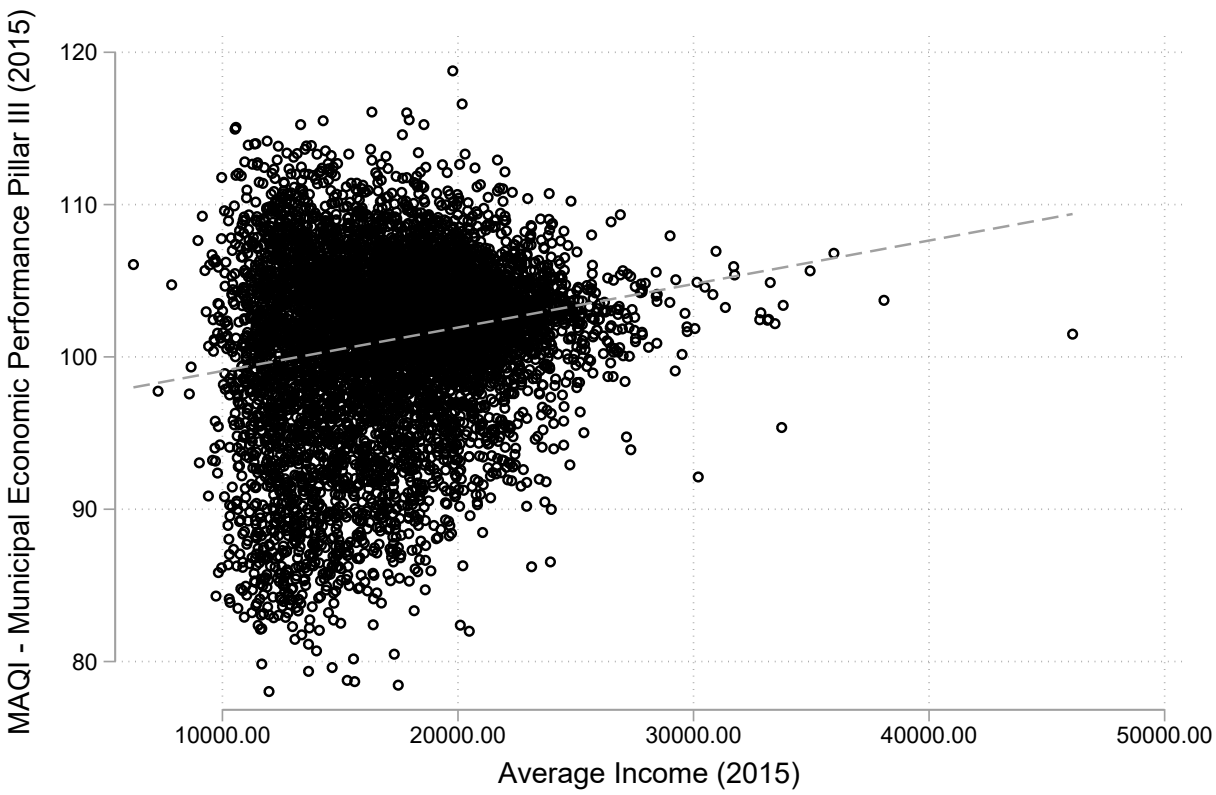
I estimate the following linear regression:

$$y_{ijt} = \boldsymbol{\beta}_0 + \boldsymbol{\beta}_1 law_t + \Gamma_{it} + \Lambda_{jt} + FE_j + \epsilon_{jt} \tag{17}$$

where y_{ijt} is the variation of the municipal economic performance indicator during the term of mayor i in municipality j elected in year t. $\texttt{Law}_\texttt{t}$ is a dummy variable equal to 1 in all elections after the promulgation of Severino Law in November 2012. The parameter β_1 measures the effect of the passage of Severino Law on the measures of our interest. Γ_{it} are individual background characteristics, Λ_{jt} are municipal time trends and municipal time-varying characteristics, FE_j are municipal fixed effects and ϵ_{jt} are standard errors clustered at municipal and year of election level.

Table C-1 presents the effect of the passage of Severino Law on municipal economic performance. In the baseline regression, where no controls and fixed effects are included, the passage of Severino Law increases municipal economic performance of 0.56 sd in places with

Figure C-2: Correlation between MAQI Index Municipal Economic Performance Pillar III and Average Municipal Income (2015)



Note: Average municipal income from Istat.

a mayor elected after the passage of Severino Law compared to ones with a mayor elected before the approval of the new law. Once in columns (2) and (3), I include municipal fixed-effects, time trends and demographic controls -to account local characteristics that may be influenced by the Severino and have an effect on the municipal economic performance- the effect increases to 0.68 sd and 0.56 sd. For column (3), this corresponds to an improvement of 3% of the municipal performance indicator. In column (4), I show that the result is robust to the inclusion of the local bureaucracy quality indicator and the results remain qualitatively the same.

As I cannot control for time-fixed effects, in columns (5) and (6), I test if the results may be driven by other factors other than the approval of Severino Law by using placebo years [23].

[23]As I cannot control for time fixed effects, it is possible that the result is driven by causes other than the approval of Severino Law. In particular one concern could be that the result is driven by Italian municipal balanced budget rule (*Patto di Stabilità Interno PSI*). PSI states that since 2005 municipalites with population above 5,000 inhabitants must have a balanced budget (no accounting losses at the end of the fiscal year). However, from 2013, the rule has been extended to municipality with resident population

TABLE C-1: The Effect of Stricter Anti-Corruption Policies

	(1) Mun. Perf.	(2) Mun. Perf.	(3) Mun. Perf.	(4) Loc. Bur. + Mun. Perf.	(5) Placebo 2006	(6) Placebo 2008
law	0.591***	0.680***	0.560***	0.128***	−0.0148	0.0894***
	(0.0195)	(0.0230)	(0.0322)	(0.0340)	(0.0319)	(0.0317)
Observations	18,522	17,908	16,085	16,085	12,249	12,249
Municipal FE	No	Yes	Yes	Yes	Yes	Yes
Controls	No	No	Yes	Yes	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

In this way, I can test if fiscal rules, national trends or other national laws are driving the results. In column (5), I don't find any effect for the year 2006 [24]. However, in column (6), I verify if the 2008 financial crisis may have induced some changes in municipal economic performance. While, the value for 2008 is positive and statistically significant, it is one order of magnitude smaller than the estimated effect of Severino Law. Consequently, I am reassured that the effects of the regressions reported in columns (1)-(3) are mainly driven by the passage of Severino Law and not by other confounding factors.

The Proximity Occupation Index

An important variable is the proximity between an elected official's occupation and municipal expenditures, denoted as (δ_i).

Since the lion's share of municipal expenditures is in construction (approximately one third of total spending and over 50% of public procurement contracts), I classify as "proximate" all elected officials with occupations in construction (e.g., architect, surveyor, or construction firm owner).

Proximity is defined in two ways: i) a dummy variable; ii) an index. To construct the index, I match each occupation with a relevant sector of local expenditures in construction, using data from the Territorial Public Accounts Database (CPT).

between 1,000 and 4,999 inhabitants, and in 2014 to all municipalities. So it is possible that this law is driving the improvement of municipal economic performance, rather than Severino Law.

[24] 2006 was the first year of PSI, I am reassured that the passage of PSI has no effect on municipal economic performance.

CPT, maintained by the Italian government, provides annual data on public sector and extended public sector expenditures for each region. Expenditures are categorized by administrative level: Central Administration, Regional Administrations, Local Administrations, National public enterprises, Regional public enterprises, and Local public enterprises. Focusing on municipal-level control, the analysis considers only Local Administrations and Local public enterprises, assuming municipal officials can influence these domains while having limited impact on regional and national expenditures.

Step 1: Identify Construction Occupations

Construction-related occupations recorded in the Registry of Local Administration include:

- Architetti or Arch. (Architects)
- Geometri or Geom. (Surveyors)
- Periti Edili (Building Experts)
- Altre professioni assimilabili a geometri e periti edili (Other occupations similar to surveyors or building experts)
- Urbanisti e specialisti della conservazione del territorio (Urban planners and environmental specialists)
- Ingegnere Edile (Construction Engineer)

Step 2: Define Municipal-Controlled Expenditures

Local Administration subtypes considered:

- Ambiti Territoriali Ottimali, Provincial Administrations, Municipal Administrations
- Health Assistance, Port Authorities, Retirement Homes, Chambers of Commerce
- Mountain/Island Unions, Education Assistance, Exhibitions, Forest Conservation Authorities
- Public Heritage Management, Interports, Multi-Utilities, Tourism Promotion
- Economic Development, Industrial Development, Cultural Activities
- Local Public Transport, Universities, Other

Local Public Enterprise subtypes considered:

- Airports, Ambiti Territoriali Ottimali, Health Assistance, Motorways
- Catchment Basin Authorities, Reclamation Authorities, Exhibitions, Pharmacies
- Retirement Homes, Residential Construction, Holding Companies
- Forest Conservation Authorities, Public Heritage Management, Cable Cars
- Municipal Economic Performance Groups, Interports, Multi-Utilities
- Tourism Promotion, Economic Development, Industrial Development
- Cultural Activities, Local Public Transport, Markets, Parking, Sport Activities
- Agricultural Development, Other

CPT classifies expenditures into 29 sectors:

- General Administration Expenses, Energy, Health, Social Assistance, Labour Market
- Police, Defense, Justice, Instruction, Continuous Education
- Culture and Arts, R&D, Telecommunication, Roads, Transports
- Water Service, Waste Management, Environment, Manufacturing, Trade
- Tourism, Agriculture, Fishing and Aquaculture, Housing and Urban Planning
- Public Pension Scheme, Other Interventions, Other Public Works, Non-Divisible Expenditures

General Administration and Non-Divisible Expenditures are excluded as essential for operations. Remaining expenditures are aggregated to derive totals considered potentially proximate to elected officials' occupations.

Step 3: Construct the Proximity Index

Three alternative versions of the index are presented:

1. Municipal expenditures only, reflecting the most direct control.
2. All local expenditures.

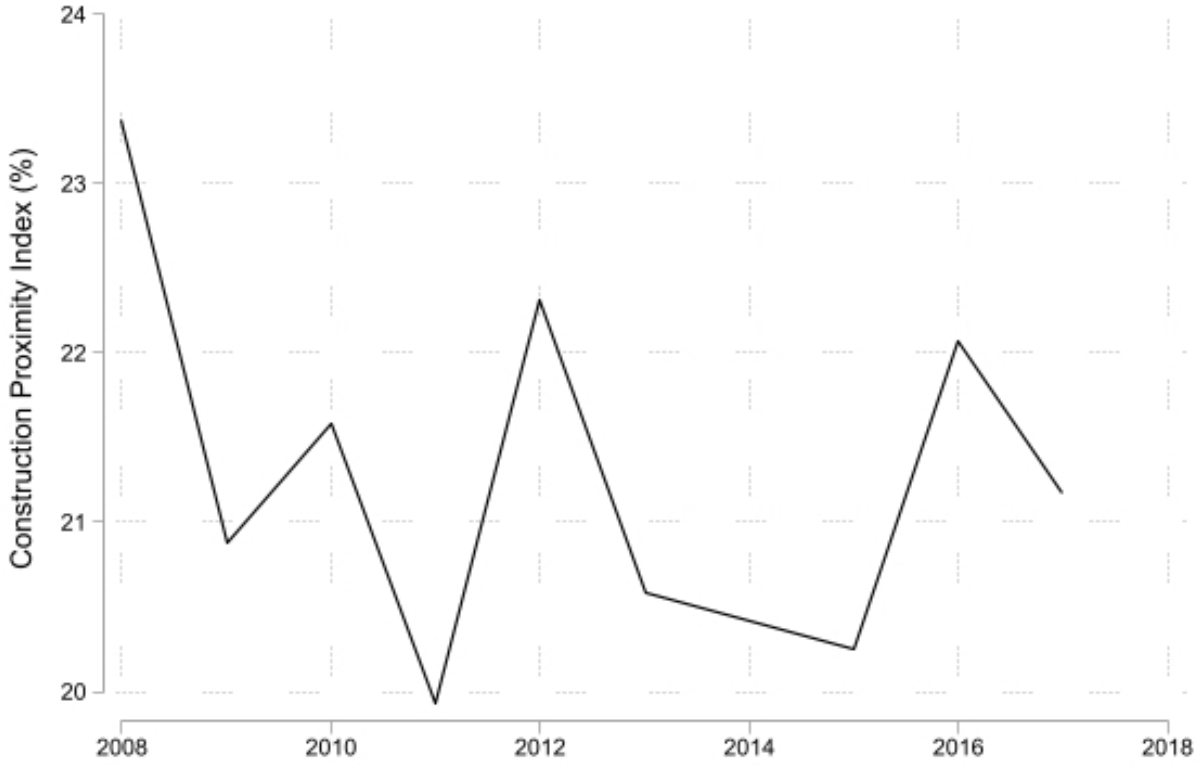
3. All local expenditures excluding provincial expenditures, reflecting post-2014 provincial election changes.

Using CPT data, proximate expenditures include *Energy*, *Roads, Housing and Urban Planning*, and *Other Public Works*. The Construction Proximity Index is defined as:

$$\delta_i = 100 \cdot (\text{sum percentage of proximate expenditures in construction})$$

The index varies by region and year.
Figure C-3 illustrates temporal variation, with an average value of 21%, peaking over 23% in 2007 and fluctuating between $20 - 22\%$ thereafter.

Figure C-3: Construction Proximity Index



Note: Construction proximity defined as all municipal expenditures in construction over 2008-2017. Data aggregated by region and election year.

Appendix D

Further Robustness Analysis

TABLE D-1: Provincial Expenditures Excluded

Proximity Index	(1)	(2)	(3)	(4)
law	−0.208	−0.249***	−0.0751	–
	(0.127)	(0.0871)	(0.107)	
law·candidate_mayor	0.249***	0.249***	0.527***	0.542***
	(0.0636)	(0.0660)	(0.150)	(0.150)
Observations	154,746	154,711	131,399	131,399
Municipal FE	No	Yes	Yes	Yes
Year FE	No	No	No	Yes
Controls	No	No	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

TABLE D-2: Italian Average 2001–2021

Proximity Index	(1)	(2)	(3)	(4)
law	-0.332^{***}	-0.333^{***}	-0.175^{***}	–
	(0.0363)	(0.0839)	(0.0524)	
law·candidate_mayor	0.361^{***}	0.361^{***}	0.327^{***}	0.329^{***}
	(0.0851)	(0.0839)	(0.0942)	(0.0942)
Observations	154,854	154,819	131,498	131,498
Municipal FE	No	Yes	Yes	Yes
Year FE	No	No	No	Yes
Controls	No	No	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

TABLE D-3: Controlling for Regional Average Wage of the Occupation

Proximity Index	(1)	(2)	(3)	(4)
law	-0.306^{***}	–	-0.204	–
	(0.0947)		(0.133)	
law·candidate_mayor	0.350^{***}	0.349^{***}	0.303^{***}	0.302^{***}
	(0.0937)	(0.0896)	(0.105)	(0.102)
Observations	139,861	139,861	131,168	131,168
Municipal FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes
Regional Wages	Yes	Yes	Yes	Yes
National Wages	No	No	Yes	Yes
Controls	No	No	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

TABLE D-4: Elections with Margin of Victory Above 0.8 Included

Proximity Index	(1)	(2)	(3)	(4)
law	−0.354***	−0.366***	−0.206	–
	(0.0773)	(0.0849)	(0.144)	
law·candidate_mayor	0.384***	0.393***	0.371***	0.371***
	(0.108)	(0.107)	(0.111)	(0.104)
Observations	165,255	165,222	140,072	140,072
Municipal FE	No	Yes	Yes	Yes
Year FE	No	No	No	Yes
Controls	No	No	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

TABLE D-5: Executive Committee Members Excluded

Proximity Index	(1)	(2)	(3)	(4)
law	−0.367***	−0.400***	−0.267*	–
	(0.0677)	(0.0744)	(0.108)	
law·candidate_mayor	0.371***	0.378***	0.392***	0.391***
	(0.100)	(0.0972)	(0.107)	(0.103)
Observations	91,628	91,591	77,469	77,469
Municipal FE	No	Yes	Yes	Yes
Year FE	No	No	No	Yes
Controls	No	No	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

TABLE D-6: Differential Effect for Towns with Second Turn Electoral System

Proximity Index	(1)	(2)	(3)	(4)
law	-0.404^{***}	-0.411^{***}	-0.271^{**}	–
	(0.0700)	(0.0722)	(0.123)	
severino·big	0.250^{***}	0.242^{***}	0.315^{***}	0.340^{***}
	(0.0854)	(0.0755)	(0.0885)	(0.0929)
law·candidate_mayor	0.455^{***}	0.460^{***}	0.450^{***}	0.449^{***}
	(0.0899)	(0.0871)	(0.0891)	(0.0874)
law·candidate_mayor·big	-0.650^{***}	-0.675^{***}	-0.784^{***}	-0.775^{***}
	(0.803)	(0.828)	(0.122)	(0.122)
Observations	154,746	154,711	131,399	131,399
Municipal FE	No	Yes	Yes	Yes
Year FE	No	No	No	Yes
Controls	No	No	Yes	Yes

Second Turn Electoral system is present in towns with resident population above 15,000. Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

TABLE D-7: Differential Effect in Different Geographical Locations

Proximity Index	(1)	(2)	(3)	(4)
law	-0.372^{***}	-0.368^{***}	-0.0594	–
	(0.0697)	(0.0761)	(0.108)	
severino·north	0.148	0.00604	0.236^{*}	–
	(0.116)	(0.101)	(0.118)	
law·candidate_mayor	0.205^{**}	0.222^{**}	0.161	0.164
	(0.0906)	(0.0943)	(0.113)	(0.114)
law·candidate_mayor·north	0.300^{**}	0.285^{**}	0.317^{*}	0.311^{*}
	(0.141)	(0.144)	(0.172)	(0.174)
Observations	146,609	146,576	131,399	131,399
Municipal FE	No	Yes	Yes	Yes
Year FE	No	No	No	Yes
Controls	No	No	Yes	Yes

Center municipalities are Toscana, Marche, Umbria, Lazio. South: Abruzzo, Molise, Puglia, Campania, Basilicata, Calabria, Sicilia, Sardegna. Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

TABLE D-8: Aggregation at Municipal Level

	(1)	(2)	(3)	(4)
law	-0.243^{***}	-0.406^{***}	-0.260^{**}	–
	(0.0733)	(0.0629)	(0.0980)	
law·candidate_mayor	0.423^{***}	0.432^{***}	0.393^{***}	0.391^{***}
	(0.0980)	(0.0952)	(0.103)	(0.102)
Observations	56,673	56,638	50,830	50,830
Municipal FE	No	Yes	Yes	Yes
Year FE	No	No	No	Yes
Controls	No	No	Yes	Yes

Controls are resident population, average duration of first degree penal trial without jury, dissolution of the municipal council for mafia infiltration, geographical location (north, center, south) of the municipalities. Individual controls are age, gender, place of birth, wage and education of the mayor. Standardized results are reported. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.