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Strategic Bankruptcies.

Do Smart Politicians Do It Better?

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Strategic Bankruptcies.
Do Smart Politicians Do It Better?[*]

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Abstract

We study the reaction of low vs. high-skilled politicians to a reform, approved in Italy in 2011, that introduces stringent individual financial and career sanctions to local administrators who are judged responsible for their municipality's bankruptcy. To this aim, we leverage exogenous variation induced by close elections between a mayoral candidate who holds a college degree and a mayoral candidate who does not. After the introduction of sanctions, skilled politicians tend to declare bankruptcy with a higher probability than low-skilled politicians. The effect is concentrated in municipalities in which the financial state of distress was not advocating for a bankruptcy. Our findings document that individual sanctions against politicians may backfire if strategic considerations are not taken into account properly.

JEL Classification: H63, H72, H74
Keywords: Soft Budget Constraint, Bankruptcy, Municipalities, Intergovernmental Relations, Mayors, Political Selection

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1 Introduction

When establishing an institutional structure for sub-national levels of government, a well-known challenge lies in designing mechanisms that provide appropriate incentives to local governments to maintain their budgets in sound financial conditions. Cities, counties, provinces, and regions are largely funded by intergovernmental transfers because their revenues are often insufficient to finance local services. At the same time, sub-national bodies typically provide mandatory services that must be delivered regardless of the financial situation of the local government. This situation may lead to a well-known phenomenon in intergovernmental fiscal relationships, commonly referred to in the literature as the "soft budget constraint syndrome" (e.g., Bellofatto and Besfamille, 2018; Kornai, 1986; Kornai et al., 2003; Qian and Roland, 1998). Expecting to be rescued by the central government in times of financial difficulty, local governments may engage in overly risky financial behavior that ultimately proves unsustainable, thereby forcing the central government to intervene with financial assistance. If such practices become widespread, they could threaten the general sustainability of public finances (e.g., Bordignon, 2000; Guo et al., 2022).

Several fiscal rules, such as balance-budget requirements or strict limits om borrowing, are ultimately justified by the perceived risk that local governments may pursue unsustainable fiscal behavior. However, these institutional constraints are often insufficient (e.g., Goodspeed et al., 2017; Rodden et al., 2003). Additional strategies involve imposing costs on local governments that request financial assistance from the central government. These potential costs are often embedded in specific "bankruptcy procedures" for local governments that typically restrict the fiscal autonomy of local administrators and require citizens of a distressed locality to pay higher local taxes, and/or to forgo nonessential services. These procedures serve both a "preventive" and a "corrective" function. The preventive function lies in curbing bailout expectations by signaling that the central government will not provide costless rescue in the event of financial distress. The corrective function, on the other hand, concerns the orderly resolution of sub-national debt crises, avoiding chaotic negotiations and enabling local governments to start afresh.[1].

In designing bankruptcy procedures for local governments, national legislators face fundamental trade-offs. In terms of *severity*, if sanctions are too stringent, local politicians may have the incentive to postpone declaring bankruptcy as long as possible, potentially deferring this decision to future administrations, thus risking a further deterioration of the community's financial condition or a decline in service delivery. Conversely, too lenient procedures may lead to an over-reliance on bankruptcy as local administrators attempt to shift the costs of the local distress onto the national community. A second crucial issue concerns *who* should be subject to sanctions in the event of a bailout. Stricter

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[1]Liu and Waibel (2008) and Herold (2018) provide comprehensive surveys of national experiences.

penalties for the local community come at the cost of penalizing all citizens for the risky or inefficient actions undertaken by their administrators (politicians or bureaucrats), who may not necessarily have acted in their constituency's interest. As an alternative, national legislators could instead consider imposing *individual penalties* on administrators to increase the stringency of punitive measures without increasing the welfare costs borne by the local community.

In this work, we study the effectiveness of individual penalties on local administrators, exploiting a reform of bankruptcy procedures for municipalities introduced in Italy in 2011. The reform imposed monetary and (most important) career penalties on local administrators. In particular, politicians deemed responsible for bankruptcy must pay a sizable fine, up to twenty times their gross monthly wage, and are banned from running for any political office for ten years at any level of government (i.e., municipal, provincial, regional, national, and the EU Parliament).[2] After a municipality declares bankruptcy, the Court of Auditors investigates to assess individual responsibility. The investigation extends to the five years preceding the bankruptcy, which means that previous administrators are also at risk of being sanctioned.

As discussed in detail below, we argue that individual sanctions should affect the behavior of high-skilled incumbent politicians differentially compared to low-skilled ones. To test the hypothesis, we employ a Regression Discontinuity Design (RDD) that leverages the plausibly exogenous variation arising from close mayoral elections between candidates with and without a college degree. As is common in the literature (see, e.g., Gamalerio and Trombetta, 2025, for a discussion), we proxy the level of skills with educational attainment: previous evidence, confirmed in our own analysis, shows that college-educated mayors tend to manage their municipalities more efficiently (Meriläinen, 2022; Mitra, 2025).[3] The RDD enables us to control for both observable and unobservable municipal characteristics that might simultaneously influence the likelihood of financial distress and the probability that voters elect a college-educated mayor. This approach approximates the ideal experiment in which newly elected mayors who inherit a preexisting financial situation that is independent of their skill level need to decide whether (and when) to declare bankruptcy during their term in office.

In the Italian context, declaring bankruptcy is a decision of the incumbent governing majority. Bankruptcy comes with a combination of costs and benefits for the local community. On the cost side, declaring bankruptcy entails a partial loss of sovereignty.

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[2]These penalties are notably severe–particularly the latter, which effectively amounts to a *de facto* suspension of passive electoral rights–a measure that is quite uncommon in mature democracies and typically reserved for citizens with criminal records.

[3]Mitra (2025) finds, in the context of Italian municipalities, that college-graduate mayors boost public investments while not reducing fiscal stability. Our empirical analysis confirms that college-educated mayors tend to implement more responsible fiscal policies: see section 7 for details. We also show that before the 2011–2012 reforms, bankruptcy declarations–ceteris paribus–were equally likely among college-educated and other incumbents.

Following the declaration, a commissioner appointed by the central government assumes the responsibility of managing all existing municipal debts. All local taxes and tariffs are raised to their maximum level for five years, thereby harming citizens and potentially eroding public support for the local administration. Furthermore, non-essential municipal services may be suspended, and municipal hiring frozen, further disadvantaging the local population. On the benefit side, bankruptcy stops the accumulation of local debts, since interest payments are legally frozen, and the commissioner addresses these debts by enforcing agreements with creditors, liquidating municipal assets, and, if necessary, drawing on additional funds from the national government. However, we show that bankruptcies improve the long-run financial sustainability only if the municipality was in a serious state of distress.

We find an economically substantial effect of the education of a mayor on the probability of filing for bankruptcy after the reform. Specifically, mayors holding a college degree are more than twice as likely to declare bankruptcy compared to their counterparts. The result may appear counterintuitive—our analysis shows that high-skilled mayors are generally better equipped to deal with financial difficulties—but strategic considerations also matter. The reform altered the way incumbent politicians evaluate the costs and benefits associated with declaring bankruptcy. Newly elected politicians might respond by declaring bankruptcy shortly after taking office to prevent being held responsible for the municipality's preexisting financial difficulties. The latter option may be particularly appealing to politicians who stand to lose more under the imposition of sanctions. High-skilled politicians experience higher costs than low-skilled politicians if deemed responsible for bankruptcy. These costs come in terms of both forgone political career and potential repercussions on the private sector (Alpino et al., 2022; Bertoni et al., 2023).[4]

We provide strong empirical evidence in support of this mechanism. First, we exploit heterogeneity in the financial conditions of the municipality inherited by the incumbent administrator (i.e., at the time of the previous election). Our main result is concentrated among municipalities in which the decision on whether to declare bankruptcy was not needed and not beneficial for the financial sustainability of the local government. On the contrary, we do not find any statistically significant difference in the behavior of high- vs. low-skilled mayors in situations that require a bankruptcy decision to be submitted promptly. Second, we leverage heterogeneity by i) whether the mayor was already in power in the previous term; ii) whether the mayor was facing term-limits; iii) the time distance between the bankruptcy declaration and the previous election; and iv) a pop-

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[4]Alpino et al. (2022) find that, in Italian municipalities, university-graduate mayors, compared to other mayors, are more likely to keep in touch with the available policy options and are more likely to be reelected. Our empirical analysis confirms the latter result in the context of a close-election regression-discontinuity design. Bertoni et al. (2023) document higher long-run earning returns from having served as a mayor for college-holders than for other individuals combining earnings in the political profession with earnings in the private labor market or the public administration.

ulation threshold that increases the mayor's wage by more than 30 percent. Intuitively, incumbent mayors are more likely to be deemed responsible for the mismanagement of municipal finances if they have been in office for a longer fraction of the five-year window before the bankruptcy event and if they are allowed to participate in the next election. Moreover, they are exposed to harder penalties (both in terms of their monetary impact and foregone potential future wages) if the wage level is higher. In line with our expectations, we find that the RDD effect of college vs. non-college mayors is i) stronger when the current mayor was not in office during the previous term, ii) when the incumbent mayor is not term-limited; iii) at the beginning of the term or around the middle of the term, and iv) for higher levels of wage.

Together, our results support the idea that the reform had limited success in fulfilling its intended objective of reducing the occurrence of unnecessary bankruptcies.[5] Individual sanctions may "backfire" as they may induce smarter politicians to pursue their interests (i.e., declare unnecessary bankruptcy before being at the risk of sanctions) rather than the interest of their voters (i.e., declare bankruptcy only when it is necessary). On the positive side, our results speak against the possibility that sanctions delay necessary bankruptcies in very distressed municipalities.

This work contributes to at least two strands of literature. First, we add to the literature on the soft budget constraint syndrome (e.g., Bellofatto and Besfamille, 2018; Besfamille and Lockwood, 2008; Guo et al., 2022; Kornai, 1986; Kornai et al., 2003; Rodden et al., 2003). This literature discusses several mechanisms to curb bailout expectations and induce fiscal discipline on sub-national governments. They include increasing the fiscal autonomy of sub-national governments by expanding the role of local taxes (e.g., Bordignon and Turati, 2009; Eyraud and Lusinyan, 2013; Qian and Roland, 1998), imposing fiscal and accounting rules (e.g., Alesina and Perotti, 1996; Grembi et al., 2016), and limiting their borrowing capacity (e.g., Bordignon et al., 2015). We add to this literature by discussing the impact of financial and career penalties on politicians judged responsible for the financial troubles of their municipalities.

Second, we contribute to the large literature on the selection of politicians (e.g., Besley, 2005, 2007; Persson and Tabellini, 2000). Several articles in this literature exploited the reforms and institutions of Italian municipalities (e.g., Baltrunaite et al., 2014, 2019; Bordignon et al., 2020, 2016; Bracco et al., 2019; Cipullo, 2021; Gagliarducci and Nannicini, 2013; Gamalerio and Trombetta, 2025; Grembi et al., 2016). In particular, Bordignon et al. (2020) show that having a professional politician instead of a manager as an elected mayor could be better for municipalities whose funding is primarily made up of grants from the national government. In line with this work, our findings suggest that electing

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[5]Although we do not exclude this possibility, our empirical results do not necessarily imply that high-skilled mayors are more likely to utilize early bankruptcies during their first term in office as a political weapon to impose penalties on their predecessors (Abad et al., 2023).

a better-educated, high-skilled politician is not necessarily beneficial to voters (in this sense, see also Carnes and Lupu, 2016) as this politician might be more willing to declare unnecessary bankruptcies to avoid personal financial and career penalties.

2   Institutional background

As in many other countries, municipalities play a key role in the Italian system of government. They are responsible for a wide range of services, from general administrative functions to the provision of local public services (including transportation, waste collection and management, and social services), and account for the largest share of public investments among all levels of government.

Until the late 1980s, Italian municipalities were primarily financed through grants from the national budget. In an effort to enhance their fiscal accountability, new municipal taxes—such as a property tax on the cadastral value of dwellings and a surcharge on the personal income tax (PIT)—were introduced during the 1990s. Together with a tariff for waste collection and management, these taxes constitute the main sources of municipal revenues. Today, grants from the national government contribute only to less than 20 percent of the revenues (Bordignon et al., 2024). Since the late 1990s, municipalities are also subject to fiscal rules (Gamalerio and Trombetta, 2025; Grembi et al., 2016).

The head of political power in a municipality is the mayor, elected directly every five years. The mayor represents the municipality and is responsible for its administration; in addition, mayors have the authority to appoint/dismiss members of the municipal executive committee. Mayors are subject to term limits, with the maximum number of consecutive terms varying depending on the municipality's population. Since 1993, municipalities with at least 15,000 inhabitants have been subject to a two-round runoff system to elect the mayor, while a simple majority voting system (that is, "first-past-the-post") applies to municipalities below this threshold. The municipal council is elected concurrently with the mayor and the coalition of parties that support the elected candidate obtains additional seats that secure a stable (super-)majority.

Formal bankruptcy procedures for Italian municipalities were introduced in the late 1980s amid a severe financial crisis affecting local governments.[6] Bankruptcy procedures were designed to assist municipalities that were both unable to provide essential services to citizens and incapable of repaying their debts. The process requires the municipal council to irrevocably adopt a formal bankruptcy declaration by majority vote. The declaration must be accompanied by a report that analyzes the causes of the financial

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[6]The first bankruptcy procedures were ruled according to *Decreto Legge* No. 66/1989. This early legislation was subsequently amended at the beginning of the XXI century and incorporated into the *Testo Unico Enti Locali* (TUEL), Legislative Decree 267/2000—a comprehensive collection of regulations governing local governments.

crisis. Following the declaration, the central government appoints a liquidation commissioner (in Italian, *Organo straordinario di liquidazione*). This mechanism creates a sharp separation between past and current municipal accounts and debt: the commissioner is responsible for managing prior duties, while the mayor and the municipal council remain accountable for the current budget. The law imposes strict financial consequences for a municipality that declares bankruptcy: i) new mortgage contracts cannot be signed, reducing the ability to realize new investments; ii) current spending is limited; iii) rates of municipal taxes and tariffs (except for the waste collection tariff) must be set at the maximum rate for five consecutive years. The main advantages are that the bankruptcy declaration stops the enforcement of executive legal actions on municipal debts (e.g., foreclosures), and interest accumulation is halted.

The legislation on municipal bankruptcies underwent significant amendments during the sovereign debt crisis experienced by Italy in 2011-2012 (just after the Great Recession). In response to the crisis, the central government launched an extensive fiscal adjustment program which featured increases in taxes and cuts to public spending. Local governments were required to contribute to stabilizing Italy's public finances. Specifically, they faced more restrictive budget allocation constraints, a hiring freeze, and a reform of accounting rules. Anticipating that these measures might deteriorate the financial stability of the most vulnerable municipalities, the national government reformed the existing bankruptcy framework accordingly.

First, Legislative Decree n. 149/2011 introduced significant innovations regarding the political responsibility of local administrators. The reform stipulates that politicians (the mayor and/or members of the executive committee) deemed responsible for a municipality's financial distress (because of "actions taken or omitted" in the five years preceding the declaration of bankruptcy) are subject to both career and financial sanctions. To this end, the Court of Auditors (*Corte dei Conti*) performs an investigation on any case of bankruptcy and decides whether the incumbent mayor and/or the predecessor should be punished. The politicians judged responsible for the distress are banned from participating as a candidate in any election at the municipal, provincial, regional, national, or EU Parliament level for a period of ten years. In addition, they face a pecuniary sanction ranging from a minimum of five to a maximum of twenty times their gross monthly income as a local administrator.[7] It is important to stress that these sanctions are not imposed for illicit behavior; rather, the legislation was designed just to penalize the inability to manage municipal finances properly. To our knowledge, this combination of political and monetary sanctions for local administrators appears to be unique to Italy (Coordes et al., 2023).[8]

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[7] Politicians judged responsible may appeal the decision.

[8] Legislative Decree n. 149/2011 also introduced a new bankruptcy procedure known as "guided bankruptcy" (*dissesto guidato*). This procedure was designed to force municipalities to declare bankruptcy if the Court of Auditors identifies a state of financial distress that the municipality council

To assess how often politicians are sanctioned, we conducted a manual search of the investigations conducted by the Court of Auditors. Our textual analysis reveals that administrators were sanctioned for being responsible for the distress of their municipality in at least 6 percent of bankruptcies.[9] In all these cases, the mayor deemed responsible was subject to a pecuniary fine (between 2,000 euros and 46,000 euros depending on the municipality's population, which determines the administrators' wage and the seriousness of the asserted responsibility) and to a 10-year ban on candidacy for any political office.

Second, Law Decree n. 174/2012 introduced a multi-annual financial recovery procedure (*riequilibrio finanziario pluriennale*) for municipalities with structural deficits that might eventually lead to default in the future if not properly addressed. This procedure, commonly referred to as the "pre-bankruptcy" (*pre-dissesto*), allows the mayor and the municipal council to retain full management responsibilities, albeit under strict supervision by the Court of Auditors. The municipality must submit a multi-annual recovery plan and document that it is complying with it over time.[10] Often, municipalities fail to comply with their recovery plan and subsequently submit a formal bankruptcy declaration. Specifically, as of August 2023, only 78 municipalities had complied successfully with the recovery plan and are now stabilized, while 167 declared bankruptcy at a later date.[11]

3 Data

We construct a novel database that covers all bankruptcies filed by Italian municipalities since 1989 by combining data collected by the University of Venice with original textual analyses of municipality's council declarations featuring information on the main underlying causes of the financial distress (since 2000) and Court of Auditors decisions on politicians that are judged responsible for the bankruptcy (since the introduction of individual sanctions in 2011). In total, we observe 747 episodes of bankruptcy involving 680 unique municipalities. We combine these data with administrative data released by the Italian Ministry of Internal Affairs and the Sicily Region containing the results of

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is not addressing. Although guided bankruptcy was intended to limit the discretion of politicians in initiating bankruptcy, this procedure has never been applied so that the bankruptcy decision remains, in practice, a discretionary choice of local politicians.

[9]This percentage is a lower bound since we cannot assert that our manual search has successfully identified all decisions.

[10]Under this framework, the municipality is required to present a multi-annual recovery plan, the duration of which ranges from 4 to 20 years, depending on the ratio of debts to current spending and the size of the municipality's population. For example, if debts amount to up to 20% of current spending, the plan may last 4 years; conversely, if debts exceed 60% of current spending and the population is greater than 60,000, the plan can extend up to 20 years. The plan must identify the underlying causes of structural deficits, specify the actions to restore financial stability, and detail the allocation of financial resources.

[11]286 municipalities were still undergoing the recovery procedure as of August 2023.
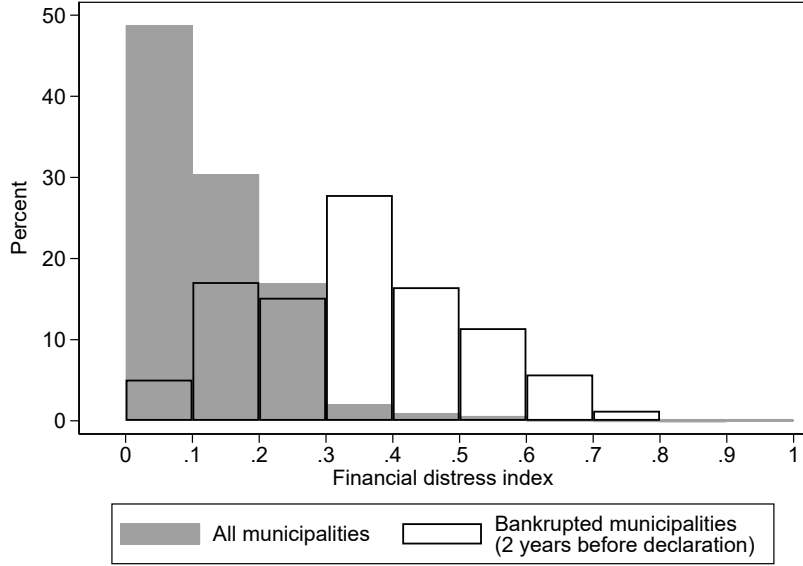
Figure 1: Distribution of the Financial Distress Index

Notes: The gray histogram reports the distribution of the Financial Distress Index for all municipalities over the period 2000—2021. The white histogram reports the distribution of the Financial Distress Index for municipalities that declared bankruptcy during the period. For municipalities that declared bankruptcy during the period, the Financial Distress Index is calculated two years before the declaration.

municipality elections (since 1993), with individual-level data published by the Ministry of Internal Affairs on all politicians who have served as a member of local governments, and with municipal budget data from the Bureau van Dijk's AIDA PA and the Italian Ministry of Internal Affairs (since 2000).[12]

As anticipated in Section 2, the decision about whether and, if so, when to declare bankruptcy is made by the local governing majority. Although bankruptcies are grounded on an "objective" state of financial distress, local politicians maintain a degree of discretion. In Figure 1, we provide evidence about this claim by showing the distribution of a comprehensive measure of the long-term sustainability of the municipality's finances among municipalities that will eventually declare bankruptcy within two years *vis-à-vis* the universe of municipalities. We aggregate all financial indicators used by the national government to identify municipalities in structural distress to construct the variable *Financial Distress Index*.[13] Such indicators include, among others, the amount of uncollected revenues, the level of debt, the level of deficit, the presence of legal disputes, the level of interest payment, the ratio between own revenues and current spending, and the

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[12]We also add additional variables from the 1991, 2001, and 2011 censuses, the Italian Institute of Statistics (ISTAT), and the Ministry of Internal Affairs.

[13]Article 242 of the Legislative Decree 267/2000 states that the Ministry of Internal Affairs should decide parameters of financial distress that municipalities should report on their balance sheets. Furthermore, Article 242 states that municipalities that surpass more than 50 percent of the thresholds should be *considered as in a state of structural distress that shows heavy and incontrovertible conditions of unbalancing.*

level of delayed payments. For each category, the municipality must disclose whether its balance sheet reflects values above or below the required threshold.[14] We define the *Financial Distress Index* as the percentage of indicators that each municipality flagged each year.

As reported in Figure 1, the index is a strong predictor of whether a municipality will eventually go bankrupt in the next two years. The evidence presented in Figure 1 highlights three regions: a region in which bankruptcies (almost) never occur, a region in which bankruptcies are (very) frequent, and a region in which the bankruptcy decision appears largely discretionary. Specifically, the index is below 0.2 in 80 percent of municipalities, while it exceeds 0.3 in 80 percent of municipalities that will declare bankruptcy in the next two years. An index value between 0.2 and 0.3 is equally common among municipalities that will eventually declare bankruptcy and other municipalities.

Figure 2 summarizes the evolution of bankruptcies since the introduction of the procedure. Panel (a) documents that bankruptcies were relatively common until the end of the XX century. Then, Italy experienced a period of financial stability eased by the decision to join the Euro and low interest rates. Municipality bankruptcies were almost nonexistent until the beginning of the Great Recession. Since then, bankruptcy decisions have become more frequent. Panel (b) of Figure 2 shows that bankruptcies declarations are more common in later months of the year than at the beginning and tend to be frequent around the deadline to approve the yearly preliminary budget or ex-post balance sheets.[15] Political incentives may also play a role. Indeed, panel (c) indicates that the election schedule seems to matter: municipal governments are more likely to file for bankruptcy at the beginning of the term than in the middle or its final period.

Panel (d) of Figure 2 provides a snapshot of the geographical distribution of bankruptcies on the Italian territory. Bankruptcies are mainly concentrated in municipalities in the South of Italy (about 80 percent of the cases occurred in the Southern regions, particularly in Campania, Calabria, and Sicily). These are the poorest Italian regions; they experience a level of income that is about 50 percent lower than the richest regions of the north and significantly lower revenue capacity (Bordignon et al., 2024). It is not surprising that municipalities in these territories face more problems in adequately funding services and may end up in financial difficulties.

Exploiting textual analysis covering the universe of bankruptcy declarations approved by municipality councils during the period 2000-2023, Figure A.1 in the Appendix presents the main causes of distress self-identified by municipalities that filed for bankruptcy.

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[14]For instance, the municipality must report an excessive deficit if its deficit is more than 5 percent of the spending, while it must report an excessive interest payment level if the expenditure for passive interests exceeds 12 percent of current revenues. Appendix B summarizes information on all criteria, the required thresholds, and the years of application.

[15]The spike in July reflects the requirement to municipalities to verify the balancing of their budget at mid-year not after July 31$^{\text{th}}$ according to articles 175 and 193 of the TUEL.

(a) By year

(b) By month

(c) By electoral cycle
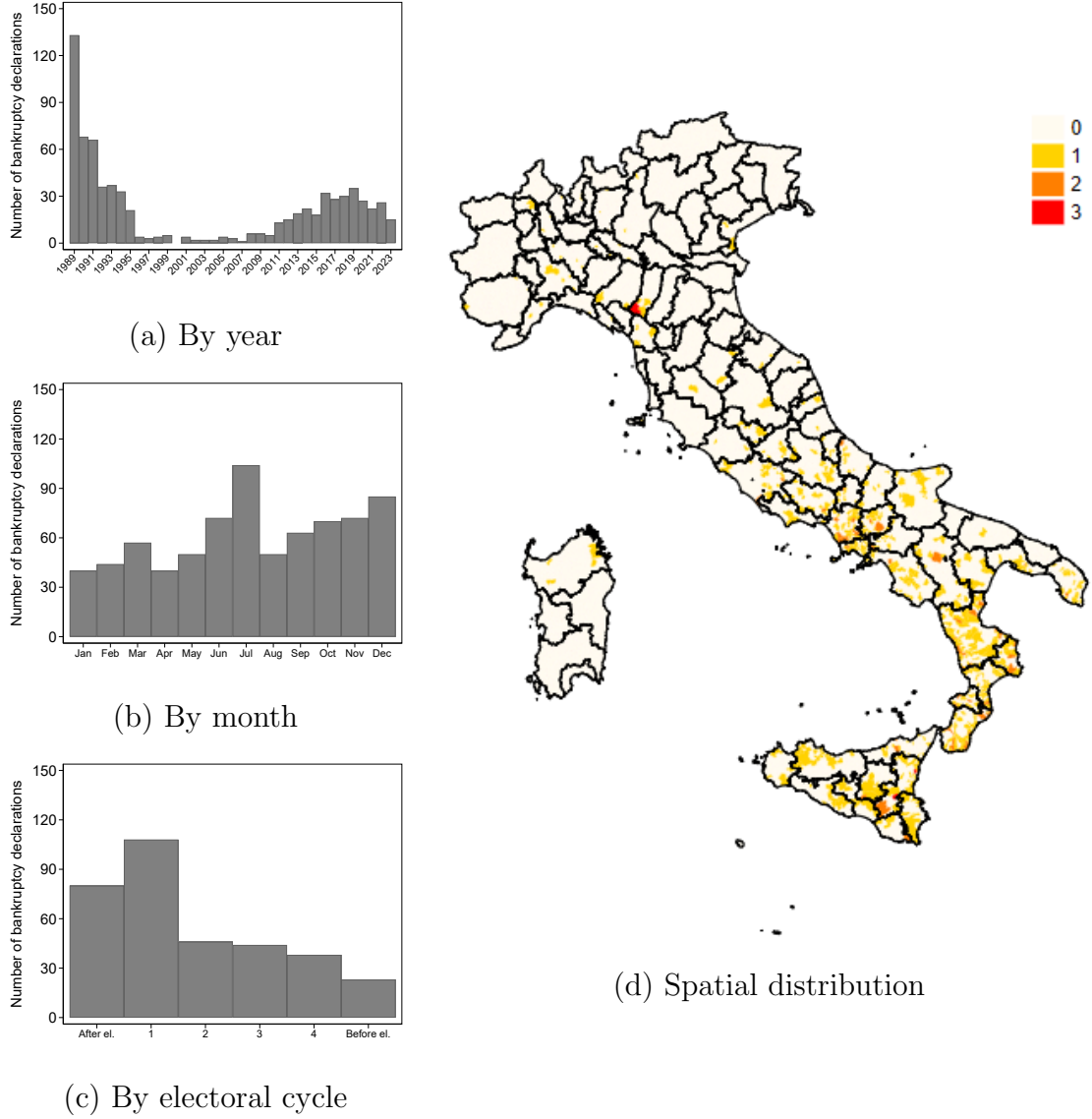

(d) Spatial distribution

Figure 2: Distribution of bankruptcy declarations, 1989—2023

Notes: All bankruptcy declarations approved by municipal governments between 1989 and 2023. Panel (c) restricts the sample to municipality elections held between 1993 and 2021.

Among the main determinants, some refer to the mismanagement of the budget, such as excess spending or the accumulation of off-budget debts (i.e., debts that were not anticipated when presenting the provisional budget). Another important self-reported factor is the limited revenue collection capacity.[16] Finally, many municipalities reported that major legal disputes, which generated unexpected financial obligations that the municipality was forced to fulfill, are another key determinant of bankruptcies. In general, panel (b) of Figure A.1 shows that municipalities rarely declare bankruptcy due to a unique issue. In more than 80 percent of cases, a combination of three or more of the common

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[16]This evidence is broadly consistent with the results from recent research on the determinants of bankruptcy, which identify low levels of revenues (Padovani et al., 2024) and debt (Antulov-Fantulin et al., 2021) among the main causes.

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causes specified just above was listed in the formal declaration approved by the municipal council.

4 Consequences of municipal bankruptcy on local finances

As discussed in Section 2, the law imposes that municipalities that declare bankruptcy must raise taxes and cut spending in exchange for a freeze on foreclosures and interest accumulation. In this section, we test empirically that the prescribed consequences are indeed enforced in practice and assess whether declaring bankruptcy stabilizes the long-term sustainability of the municipality's finances. To this end, we estimate a staggered Difference-in-Differences model that allows us to compare, before and after the bankruptcy declaration, the early treated municipalities (i.e., municipalities that declared bankruptcy in year t) with not-yet-treated municipalities (i.e., municipalities that will eventually declare bankruptcy after year t).[17] Consistent with recent research that has formalized the limitations of estimating staggered Difference-in-Differences models using a two-way fixed effects (TWFE) model (e.g., Callaway and Sant'Anna, 2021; De Chaisemartin and d'Haultfoeuille, 2020; Goodman-Bacon, 2021), we adopt a stacked-by-event design (e.g., Cengiz et al., 2019; Wing et al., 2024).

First, Figure A.2 confirms that the consequences prescribed by the law occur in practice. Specifically, municipalities cut both current and capital spending in the year in which they declare bankruptcy and return to pre-bankruptcy levels only after 5-6 years. On the revenue side, municipalities increase the main local taxes such as the PIT surcharge (+0.2 percentage points) and the property tax rate (+0.1 percentage points).[18] Tax increases are more persistent than spending cuts, as our evidence documents a positive and statistically significant effect that lasts up to ten years after bankruptcy declaration.

Figure 3 shows the consequences of declaring bankruptcy on the overall financial sustainability of the municipality's finances by estimating the effect of bankruptcy on the evolution of the Financial Distress Index. The solid black line in Figure 3 documents that, upon declaring bankruptcy, the Financial Distress Index drops immediately and remains for at least a decade below its historical level. We conclude that on average, bankruptcies appear successful in stabilizing the municipality's finances at least in the short and medium run.

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[17]For the sake of this exercise, we only consider the first bankruptcy declaration undertaken by each municipality and we exclude all cases in which the bankruptcy declaration was preceded by a pre-bankruptcy declaration. The sample is restricted to municipalities that declared bankruptcy since 2001 because budget data are only available since the year 2000.

[18]Municipalities can levy a surcharge on the national personal income tax with proportional or progressive rates varying between 0 and 0.8 percent. The maximum rate for the property tax on dwellings (applied to the cadastral value) is 1.14 percent.
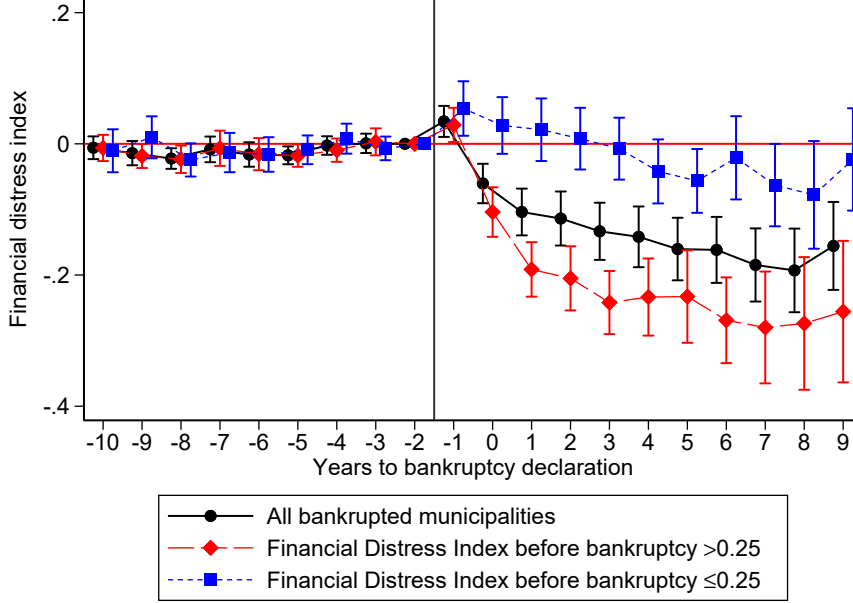
Figure 3: Consequences of bankruptcy declaration on the financial distress of municipal governments

Notes: The figure reports the coefficients obtained by estimating Difference-in-Differences models of the form $y_{i,t} = \sum_{k \in [-10;9], k \neq -2} \beta_k \mathbb{1}(\text{Years to bankruptcy} = k) + \eta_i + \delta_t + \varepsilon_{i,t}$ using a stacked-by-event model. The omitted coefficient is $k = -2$ because the latest balance sheet before the bankruptcy declaration is approved during fiscal year $k = -1$ and refers to the previous fiscal year. The dependent variable is the share of financial distress indicators that are flagged in the municipality's budget. Estimates reported in black refer to all bankrupted municipalities. Estimates reported in red refer to municipalities in which more than 25% of financial distress indicators were flagged in the municipality's balance sheet of fiscal year $k - 2$. Estimates reported in blue refer to municipalities in which less than or equal to 25% of financial distress indicators were flagged in the municipality's balance sheet of fiscal year $k - 2$. 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

However, the figure also documents that the benefits of bankruptcies are very heterogeneous depending on the severity of the distress that municipalities were facing upon declaring bankruptcy. The dashed blue line in Figure 3 reports the evolution of the Financial Distress Index for municipalities that, before declaring bankruptcy, were characterized by a Financial Distress Index smaller than 0.25. For these municipalities, we do not find any financial benefits of declaring bankruptcy. The dashed red line reports instead that municipalities in a serious state of financial distress (i.e., those with a Financial Distress Index above 0.25) address their turmoil effectively thanks to the bankruptcy declaration.[19] We conclude, and we will refer to this difference later in the main empirical analysis, that the declaration of bankruptcy was necessary (i.e., imposing costs on citizens while improving the financial sustainability) for municipalities in a serious state of financial distress while it was unnecessary (i.e., imposing costs on citizens while not

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[19]The 0.25 threshold is chosen arbitrarily but reflects the fact that 80 percent of municipalities that do not go into bankruptcy have a score below 0.2 and that 80 percent of municipalities that do declare bankruptcy have a score above 0.3 (see Figure 1).

improving significantly the state of public finances) for other municipalities.

5   Strategic bankruptcies and individual penalties

The descriptive evidence presented in Section 3 suggests that the decision on whether (and when) to declare bankruptcy is not necessarily based solely on financial considerations. Thus, it is reasonable to expect that *strategic* political considerations may also play an important role. For example, declaring bankruptcy can negatively affect the probability that the incumbent mayor is reelected unless voters blame the predecessor instead (Abad et al., 2023). The introduction of individual financial and career penalties on local politicians may further strengthen these considerations. In this section, we discuss how individual sanctions shape incentives to rely on bankruptcy and provide suggestive evidence that is coherent with our hypothesis, which will then motivate and guide the causal analysis performed in the next sections.

Newly elected mayors inherit from previous administrations the financial conditions of the municipal budget and may decide to declare bankruptcy at any point in time. If these conditions are sufficiently good, the mayor will never declare bankruptcy. On the contrary, if municipal finances are somehow distressed, the mayor needs to decide whether to declare bankruptcy right at the beginning of the term or instead manage the budget and make some policy choices that can potentially affect the probability of future bankruptcy. If there were no individual penalties attached to bankruptcy, then the mayor's strategic considerations would mostly be based on reelection concerns. The trade-off is evident: an early bankruptcy may harm the chances of re-election while waiting may result either in no damage or in greater damage—depending on whether bankruptcy is avoided for the full term or not.[20]

Consider now what happens when we add individual sanctions. Sanctions are levied by the Court of Auditors following an investigation on the financial accounts of the five years preceding the bankruptcy. Since municipal elections occur every five years, this implies that both the incumbent mayor and the predecessor are exposed to scrutiny and to the risk of being sanctioned. The policy was designed as a deterrent against over-reliance on bankruptcies when not necessary (indeed, the milder "pre-bankruptcy" procedure was introduced around the same time to deal with less extreme situations of distress). However, the policy exacerbated the incumbent mayor's strategic incentives: early bankruptcies mitigate both the electoral costs and the exposure to sanctions—the Court of Auditors is more likely to go after the predecessor. At the same time, the costs attached to waiting increase: incumbents will remain exposed to sanctions for five years

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[20]In our data, by comparing municipalities with the same Financial Distress Index, we estimate that declaring bankruptcy reduces the probability of seeking re-election by 25 percentage points and the (unconditional) probability of being re-elected by 19 percentage points (see Table A.1) in the Appendix.

in the future even if they do not declare bankruptcy during the term; plus, declaring a late bankruptcy exposes to both higher electoral costs and higher risk of being sanctioned.

Figure 4 helps clarify this point using data on individual penalties imposed by the Court of Auditors. On the vertical axis, the figure reports the date of the bankruptcy declaration. On the horizontal axis, the figure reports the final day of the term in which the mayor eventually sanctioned by the Court of Auditors was in office. Hence, all points above the forty-five-degree line identify cases in which the mayor judged as the responsible of the distress was the predecessor of the mayor whose council majority chooses to submit the bankruptcy declaration. Conversely, points below the line identify cases in which the mayor who makes the bankruptcy choice is sanctioned by the Court of Auditors. As can be seen in the figure, in 90% of the cases the Court of Auditors sanctioned the *predecessor* of the mayor who was in office when the declaration was submitted.[21]

Reelection concerns and the exposure to sanctions may be more or less stringent depending on the individual characteristics of the incumbent mayor who should cast the choice—for example, a lame-duck incumbent is not much exposed to re-election concerns. The presence of sanctions, instead, shapes the incentives faced by incumbent mayors depending on i) how much the mayor is at risk of being sanctioned if the municipality enters into bankruptcy; ii) how precisely the mayor is capable of anticipating their risk exposure; iii) how costly would the sanction be if the mayor is judged responsible. We argue that along each of these three dimensions, high-skilled mayors and low-skilled mayors face different incentives. First, high-skilled mayors are better equipped to carry out a responsible fiscal policy (Meriläinen, 2022; Mitra, 2025). Thus, we hypothesize that they are less exposed to the risk of being sanctioned conditional on bankruptcy compared to low-skilled mayors. Second, it is likely that high-skilled mayors are more capable of understanding whether the policy choice they make exposes them to the risk of sanctions (Alpino et al., 2022). Thus, the perceived risk of receiving the penalty for them is lower than that of their less-skilled colleagues. Finally, high-skilled mayors have better career prospects (Alpino et al., 2022; Bertoni et al., 2023), which implies that the monetary cost of future wages that are foregone if they are sanctioned by the Court of Auditors is higher for them than for low-skilled mayors.

The question of which mechanism will dominate the others is an empirical one. Assume that mayors anticipate that declaring bankruptcy could be an effective strategy against the risk of being sanctioned in the future. If the cost experienced by the politician if sanctioned (higher for high-skilled mayors) dominates other considerations, high-skilled mayors will declare bankruptcy more often than low-skilled mayors when bankruptcy is not to handle the financial distress—and, arguably, it is not the right choice to take. Conversely, if the probability of being sanctioned (higher and possibly more uncertain

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[21]Our inspection did not disclose any case in which both the current and the previous administrators were deemed responsible for the same municipal bankruptcy.
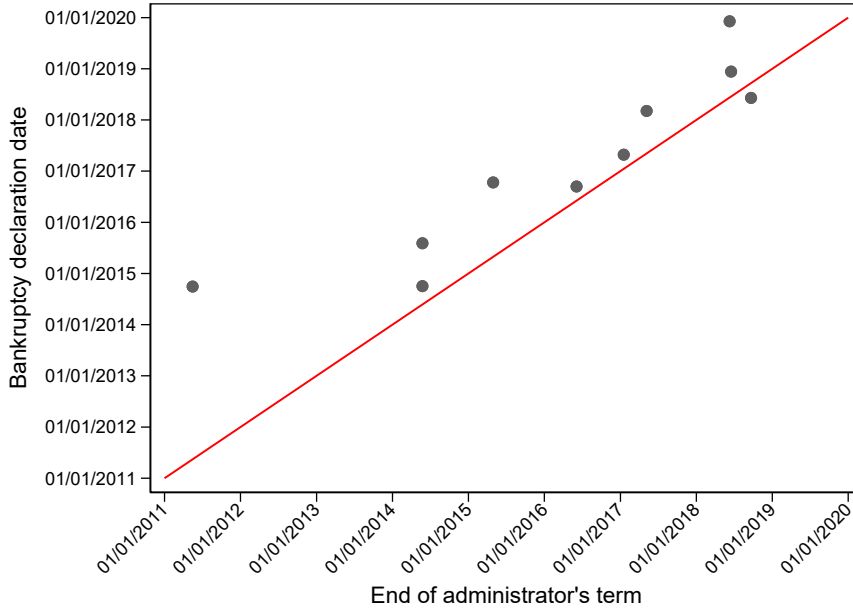
Figure 4: Pecuniary and career sanctions to municipality administrators

Notes: The horizontal axis reports the last date in office of each administrator sanctioned by the Court of Auditors while the vertical axis reports the date in which the municipality council approved the bankruptcy declaration for which the administrator was deemed responsible. The red line represents the 45-degrees line (i.e., data points above (resp., below) the red line indicate that the sanctioned administrator was no longer (resp. was still) in office when the council approved the bankruptcy declaration.)

for low-skilled mayors) is the key factor, low-skilled mayors will *ceteris paribus* declare bankruptcy more often than high-skilled mayors when bankruptcy is not necessary.

Using college attainment as a proxy for the skill level of the incumbent mayor, Figure 5 provides suggestive evidence that high- and low-skilled mayors indeed reacted differently to the introduction of sanctions. The introduction of sanctions (and of the softer alternative to immediate bankruptcy) achieved the intended goal: the Financial Distress Index of municipalities that declared bankruptcy before the reform was significantly lower than the Financial Distress Index of municipalities that went into bankruptcy afterward. Thus, relatively fewer discretionary bankruptcies were declared after the reforms than before. However, the success of reforms in reducing the occurrence of unnecessary bankruptcies appears concentrated among municipalities in which the mayor does not have a college degree (i.e., low-skilled mayors). The Financial Distress Index of these bankrupted municipalities jumped discontinuously by 15 percentage points upon reform. In contrast, the reform did not appear to significantly affect the behavior of high-skilled mayors (that is, mayors who have a college degree).
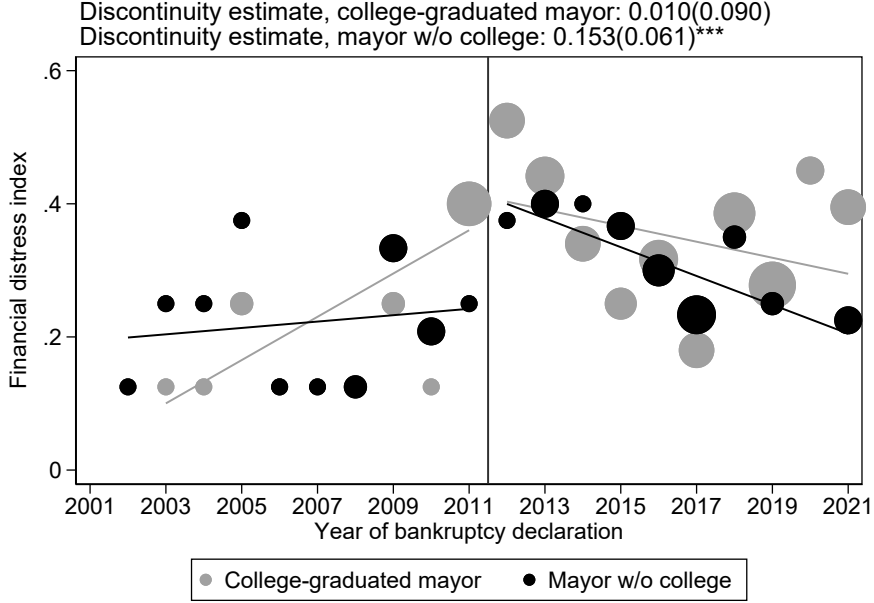
Figure 5: Financial distress of municipal governments at the time of bankruptcy declaration

Notes: All bankruptcy declarations approved by municipality governments between 2000 and 2023. The figure reports the evolution of each municipality's Financial Distress Index as reported in the municipality's balance sheet which refers to the second fiscal year prior to the bankruptcy declaration. The size of each marker represents the number of municipalities that declared bankruptcy each year. Markers in gray represent municipalities in which the incumbent mayor at the time of the bankruptcy declaration holds a college degree, while black markers represent municipalities in which the incumbent mayor at the time of the bankruptcy declaration does not hold a college degree. The gray and black lines are obtained estimating regressions of the form $y_{i,t} = \beta_0 + \beta_2 \text{YearsToReforms}_{i,t} + \beta_3 \text{YearsToReforms}_{i,t} \times \mathbb{1}(PostReforms)_{i,t} + \varepsilon_{i,t}$ in each sub-group of municipalities, defined according to the education level of the incumbent mayor. Standard errors robust to heteroskedasticity are in parentheses. *, **, *** represent the 10%, 5%, 1% significance levels.

6   Empirical strategy

Although intriguing, the evidence presented in Figure 5 should not be interpreted as *prima facie* evidence that the sanctions affected the behavior of mayors based on their level of education. Indeed, municipalities in which voters choose to elect a college graduate and other municipalities might be different in several observable or unobservable characteristics that may contribute to making the two groups hardly comparable.

To investigate whether a causal relationship underscores this suggestive evidence, we use a close-election Regression Discontinuity Design (RDD). The RDD allows us to compare the behavior of college-graduate mayors who barely won the election against a candidate without a college degree with the behavior of mayors without a college education who were elected by a narrow margin of votes when competing against a college-graduate candidate. As we said earlier and consistently with several studies in the literature (e.g., Gagliarducci and Nannicini, 2013)), we interpret the educational achievements of

politicians as a more general proxy for their skills. This empirical strategy allows us to assess whether the new incentives provided by the introduction of individual penalties differentially altered the decisions of high- and low-skilled political officers. To this end, we reconstruct information on individual characteristics of winning and losing mayoral candidates by combining election results and individual registry data at the individual candidate level.[22] Overall, we can retrieve individual-level characteristics for approximately 107,000 mayoral candidates (the universe of mayoral candidates is roughly equal to 110,500) running for office in 46,400 elections held in 8,144 municipalities.[23]

We apply two sample restrictions: first, we restrict the sample to elections in which we can identify at least one candidate holding a college degree and one candidate who does not hold a college degree; second, we restrict the sample to elections held in municipalities with less than 15,000 inhabitants. Larger municipalities are much less likely to declare bankruptcy than smaller ones and are subject to a two-round electoral system (Bordignon et al., 2016; Cipullo, 2021) that would over-complicate the close-election design while not bringing many benefits—less than 10% of municipalities fall into this category. Panel (a) of Figure A.3 in the Appendix shows that these sample restrictions do not alter the geographical composition of municipalities included in our analysis while Table A.2 in the Appendix shows the descriptive statistics of the main variables included in our analysis.

We estimate the following regression model.

$$Bankruptcy_{i,t} = \beta_0 + \beta_1 CollegeMayor_{i,t} + f(CollegeWinningMargin_{i,t}) + \varepsilon_{i,t}, \quad (1)$$

where $CollegeWinningMargin_{i,t} = \frac{VSTopCollege_{i,t} - VSTopNocollege_{i,t}}{2}$ and $VSTopCollege_{i,t}$ and $VSTopNocollege_{i,t}$ are equal to the share of votes of the candidate that receives the largest number of votes among holders of college degrees and candidates without a college degree, respectively. The dependent variable $Bankruptcy_{i,t}$ takes the value 1 if the municipality council of municipality i approves a bankruptcy resolution during the term commenced with the elections held on date t, and 0 otherwise. $CollegeMayor_{i,t}$ takes the value 1 if the elected mayor of the municipality i at time t has a college degree and 0 otherwise.

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[22]This approach is subject to the constraint that, in each term, we can only identify politicians who are members of the local administration bodies. This limitation does not represent a serious concern for our empirical analysis because the law requires that mayoral candidates who are not elected as the new mayor are usually granted a seat in the municipality council provided that the list of prospective councilors attached to their candidacy surpasses the entry threshold for a seat in the council. The formal entry threshold is 3 percent while the effective threshold may be significantly higher in small municipalities, where the number of available seats is limited. For example, the municipality council is limited to 10 members in municipalities with less than 3,000 inhabitants.

[23]It is important to notice that a large part of the mismatches should be attributed to the impossibility to properly identify candidates (e.g., because of incorrect spelling of their name, place of birth, or date of birth in one of the sources) rather than to missing data about candidates that are not elected to the municipality council. For instance, we cannot assign the level of education to 1,000 elected mayors.

Our baseline models are local-linear regressions estimated with triangular kernel within the Calonico et al. (2014) optimal bandwidth. Panel (b) of Figure A.3 in the Appendix identifies the municipalities included in the Calonico et al. (2014) optimal bandwidth. RDD estimates identify the causal effect of electing a mayor holding a college degree (vs. electing a mayor without a college degree) subject to the continuity of potential outcomes assumption. We provide evidence in support of the validity of this assumption in Figure A.4—where we test for manipulation of the running variable $CollegeWinningMargin_{i,t}$ around the threshold applying the Cattaneo et al. (2016) method to perform the McCrary (2008) test—and in Table A.3—in which we assess the balancing of a large number of pre-determined municipality characteristics—in the Appendix. Figure A.4 speaks loudly against the risk of manipulation of the running variable around the threshold while Table A.3 confirms that the municipalities observed on either side are comparable according to a wide range of dimensions. Importantly for the validity of our empirical analysis, the probability that we are not able to identify the education level of at least one candidate, the Financial Distress Index at the time of the election, and the probability that the municipality declared bankruptcy during the previous term are all well balanced at the threshold.[24]

7   Results

We start by confirming that mayors that we assume to be high-skilled (i.e., college graduates) indeed implement, on average, a more responsible fiscal policy than those that we label as low-skilled. In Table A.6 in the Appendix, we estimate equation (1) using as dependent variables the (log of) municipality key expenditure and revenue categories. We document that college-graduated mayors tend to increase both spending (+13%) and revenues (+10%) compared to other mayors, with the extra spending financed through

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[24]It is important to notice that exogenous variation induced by close elections allows to identify the causal effect of electing a mayor with certain individual characteristics but not necessarily the causal effect of that specific individual characteristics on an outcome of interest (Marshall, 2022). The intuition is that the RDD allows to obtain a quasi-randomization of municipality-specific and election-specific characteristics across the two sides of the threshold. However, if some individual politicians' characteristics are more represented among candidates holding also other characteristics in the general population of candidates, this would be true also among the winners and losers of close elections. In Table A.4 in the Appendix, we estimate that mayors holding a college degree are, on average, younger and less experienced than their competitors; are prevalently women and more likely to be part of a prestigious profession. We address this concern by showing that our results are not affected by controlling for other individual characteristics of mayoral candidates which are unbalanced at the threshold. Another channel to bear in mind is that politicians with and without a college degree may appoint individuals with different characteristics as members of the executive body of the municipality (the *Giunta Comunale*). This latter does not appear to be a serious concern in our analysis: in Table A.5, we estimate equation (1) using as dependent variables individual characteristics of the appointed members of the executive body and find very little discrepancies, with members of the executive appointed by a mayor holding a college degree having served, on average, for a slightly shorter number of years in the past in any position in the municipality administration (difference equal to -0.07 terms).

an increase in the ability to attract external resources to the municipality. Specifically, we document that skilled mayors receive more capital transfers (+7%) and more current transfers (+10%). Overall, the deficit decreases when the barely elected mayor is a college graduate compared to when the election is narrowly won by the other candidate (-4%).[25]

The evidence presented in Table A.6 may lead one to expect that mayors holding a college degree would declare bankruptcy less often than other mayors if strategic considerations do not play a role. Our main results, instead, document that strategic considerations have played a role, at least since the introduction of individual career and financial sanctions. Panel (a) of Table 1 presents our main empirical result—for legislatures started in or after 2012. In column (1), we estimate the equation (1) and find that electing a mayor who holds a college degree increases the probability that the municipality applies for bankruptcy during the term by 2 percentage points (control mean equal to 1.5%). In column (2), we add several pre-determined municipality characteristics to the specification as well as controls for other individual characteristics of the elected mayors. The results are very mildly affected and, if anything, they increase both in magnitude and in statistical precision. The results presented in column (2) are important to reassure us that the key driver of our findings is the mayor's skill level and not other personal characteristics.

In columns (3) and (4), we add to the specifications estimated in columns (1) and (2) controls for province-by-election date fixed effects, thus limiting our comparison only to municipalities on the same election cycle and which belong to the same province. This additional control should have no impact on the identification of the coefficient of interest but is presumed to increase the precision of the estimates due to the fact that bankruptcies are both spatially clustered and concentrated in periods of widespread crisis, as documented in Figure 2. Indeed, including such sets of controls in the model increases the estimates slightly while improving statistical precision substantially: our most restrictive specification indicates that electing a mayor who holds a college increases the probability that a municipality files for bankruptcy during the term by four percentage points. The estimated coefficient is statistically significant at the 1 percent level. In panel (b), we replicate the analysis for elections held before the introduction of individual penalties. In line with our argument, we do not find any positive effect of electing a college-graduate mayor on the probability of adopting a bankruptcy declaration. If anything, the coefficients estimated in the most restrictive specifications, presented in columns (3) and (4), suggest a negative effect, consistent with the deficit reduction estimated in Table A.6.

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[25]In Table A.7 in the Appendix, we estimate equation (1) using as dependent variables an indicator equal to 1 if the mayor runs for office at the next election and an indicator variable equal to 1 if the mayor wins the next election respectively. The results document that college-graduated mayors and mayors without a college degree are equally likely to re-contest but the former are 5 percentage points more likely than the latter to be re-elected. We conclude that voters seem to approve the policies implemented by college-graduated mayors more than those implemented by other mayors.

Table 1: Effect of electing a mayor with college education on municipality bankruptcy
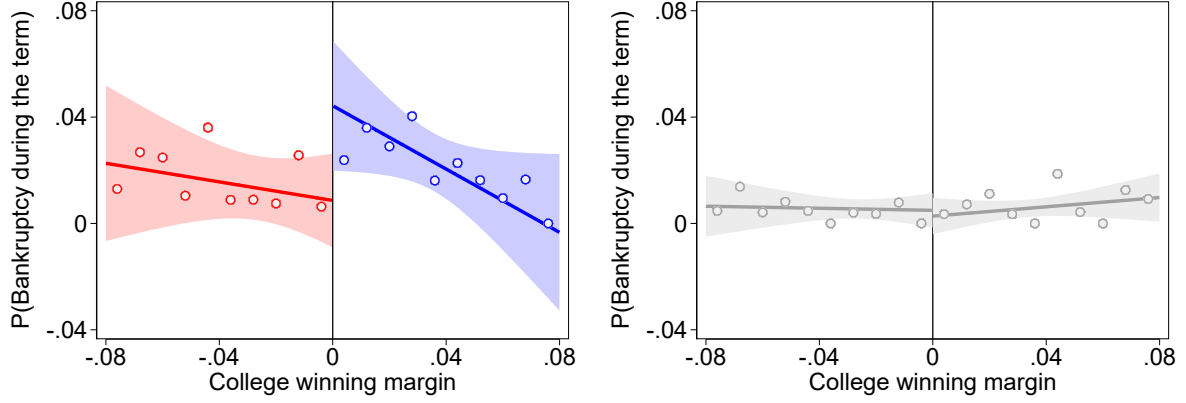
(a) Elections held after 2011/12 reforms

	(1)	(2)	(3)	(4)
Dep. var.:		1 = Bankruptcy during the term		
College Mayor	0.0235*	0.0306**	0.0309***	0.0359***
	(0.0132)	(0.0134)	(0.00637)	(0.00654)
Robust confidence interval	[–0.001;0.057]	[0.005;0.065]	[0.018;0.046]	[0.022;0.052]
Bandwidth	0.0990	0.0870	0.0410	0.0400
Bandidth selection	MSE-optimal	MSE-optimal	MSE-optimal	MSE-optimal
Polynomial fit	Linear	Linear	Linear	Linear
Kernel	Triangular	Triangular	Triangular	Triangular
Eff. observations	2878	2503	1324	1258
Observations	5544	5406	5544	5406
Control mean	0.0150	0.0160	0.0110	0.0110
Controls		✓		✓
Province × Election Date FE			✓	✓

(b) Elections before 2011/12 reforms

	(1)	(2)	(3)	(4)
Dep. var.:		1 = Bankruptcy during the term		
College Mayor	0.00301	0.00360	–0.00563**	–0.00545*
	(0.00355)	(0.00365)	(0.00279)	(0.00287)
Robust confidence interval	[–0.005;0.011]	[–0.004;0.012]	[–0.012;-0.000]	[–0.012;0.000]
Bandwidth	0.0760	0.0750	0.0590	0.0600
Bandidth selection	MSE-optimal	MSE-optimal	MSE-optimal	MSE-optimal
Polynomial fit	Linear	Linear	Linear	Linear
Kernel	Triangular	Triangular	Triangular	Triangular
Eff. observations	4815	4559	3869	3715
Observations	10898	10455	10898	10455
Control mean	0.00500	0.00500	0.00400	0.00400
Controls		✓		✓
Province × Election Date FE			✓	✓

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Panel (a) restrict the sample to elections held in or after 2012. Panel (b) restrict the sample to elections held in or before 2011. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Controls include the official population measured in the last census, density, surface, the share of poor families measured at the last census, and labor force participation rate, as well as an indicator equal to 1 if the mayor is the incumbent, an indicator equal to 1 is a woman, and controls for the political experience of the mayor in any political office and in the municipality council. Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

Figure 6 offers a visual inspection of the discontinuity estimated at the threshold in the probability of declaring bankruptcy. The jump is sizeable and precisely estimated only for the years after the introduction of individual sanctions, while municipalities on either side of the discontinuity used to declare bankruptcy with equal probability before. In the

(a) Elections held after 2011/12 reforms   (b) Elections held before 2011/12 reforms

Figure 6: Effect of electing a mayor with college education on municipality bankruptcy

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Regressions include province-by-election date fixed effects. 95% confidence intervals are based on standard errors robust to clustering at the province level.

Appendix, we perform a battery of robustness checks to assess the validity of our results. Specifically, we provide evidence that our main result does not depend on either the choice of the linear approximation (Table A.8 shows that comparable estimates are obtained when using a local quadratic specification) nor on the bandwidth selection approach (Figure A.5 shows that the estimates are not affected when considering bandwidths away from the Calonico et al. (2014) optimal bandwidth).[26]

7.1 Heterogeneity with respect to the state of municipal finances

The results discussed in Table 1 and Figure 6 show that, after the 2011 reform, college graduates are more likely to declare bankruptcy than their colleagues who do not have a college degree. Do the results imply that mayors that hold a college degree are more likely to declare bankruptcy than other mayors when such a decision is necessary—and, as shown in Figure 3, bankruptcy addresses the financial turmoil—or, conversely, that college-graduated mayors are induced to declare bankruptcy more than their colleagues when the financial situation of the municipality does not necessarily require such a bold decision? Answering this question is important for drawing normative conclusions and, in particular, to evaluate the unintended consequences of individual career and financial penalties imposed on local politicians. In Figure 7, we provide evidence that college-

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[26]The negative coefficient obtained for the pre-reform period, instead, is less robust (Figure A.5 shows that the estimated coefficient is negative and statistically significant only for bandwidth values close to the Calonico et al. 2014 optimal value).
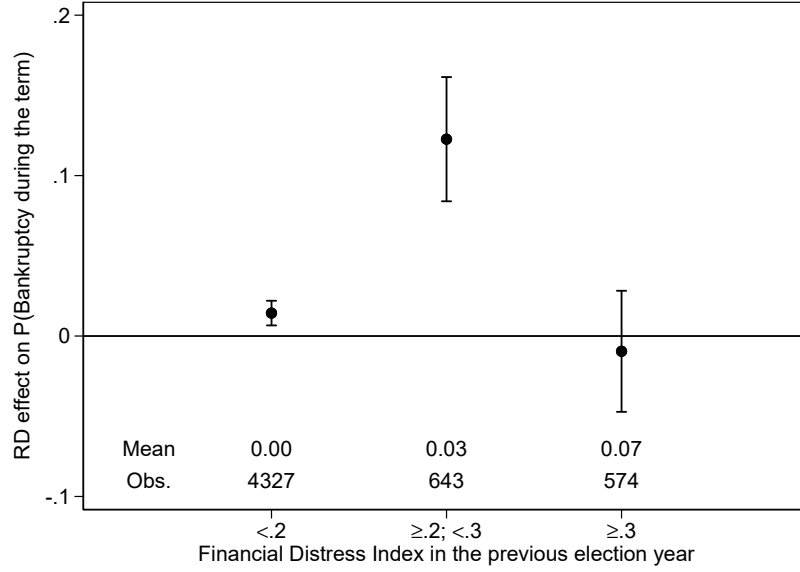
Figure 7: Heterogeneity by Financial Distress Index

Notes: One observation per municipality-term. All elections held between 2012 and 2021 in municipalities subject to a single-ballot plurality system. Each regression is estimated on a subsample of municipalities, defined by the number of indicators of financial distress reported by the municipality in the balance sheet that refers to the previous election year. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Province-by-election year fixed effects are included. Each marker and spike refers to a regression in the subsample specified on the horizontal axis. 95% confidence intervals are based on standard errors robust to clustering at the province level.

graduated mayors, when declaring bankruptcy, do not necessarily act in the interest of their citizens. More specifically, the figure reports the coefficients obtained by estimating equation (1) in three sub-samples of municipalities, characterized by the Financial Distress Index (defined in Section 2) as reported in the previous election year's balance sheet (e.g., we measure the financial distress indicators reported in the 2014 balance sheets for the 2014—2019 term). We disclose an inverted U-shaped relationship. First, virtually no municipality declares bankruptcy if the state of the finances inherited by the incumbent administration is good or very good (i.e., when the Financial Distress Index is below 0.2). In these municipalities, college-graduated mayors and mayors who do not hold a college degree are equally unlikely to declare bankruptcy. Second, we find that all the effect estimated in panel (a) of Table 1 and Figure 7 is concentrated among municipalities whose Financial Distress Index is between 0.2 and 0.3.[27] In these municipalities, we estimate a prominent effect of the mayor's education on the probability of declaring bankruptcy: the RDD coefficient implies an effect of approximately 15 percentage points, which has

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[27]As reported in Figure 1, the distribution of the Financial Distress Index presented in Figure 1 shows that the share of bankrupt municipalities with a value of the Financial Distress Index between 0.2 and 0.3 is equal to the share of all municipalities with a value of the Financial Distress Index in the same interval. This implies that the bankruptcy declaration is rather discretionary within this range.

to be compared with the probability of declaring bankruptcy among mayors that do not hold a college degree, which in this sub-sample is as low as 3 percent. Finally, we do not find any evidence that college-graduated mayors and other mayors are differentially likely to declare bankruptcy in municipalities with values of the Financial Distress Index that exceed 0.3.[28]

These results, combined with the evidence presented in Figure 3, suggest that the effect of the education of the mayor on the probability of declaring bankruptcy is concentrated among municipalities that enjoy limited benefits to their financial stability after declaring bankruptcy. Thus, we conclude that our results do not imply that low-skilled mayors are less likely to declare bankruptcy when bankruptcy is the right action to take; rather, they suggest that high-skilled mayors become more likely to declare unnecessary bankruptcy than other mayors upon the introduction of sanctions.

Taken together, these results confirm the descriptive preliminary evidence discussed in Figure 5: the reform introduced in 2011 reduced the occurrence of unnecessary bankruptcies declared by mayors without a college degree, but failed to achieve the same goal when the mayor was a college graduate.

7.2 The role of sanctions for politicians responsible for the bankruptcy

As anticipated in Section 2, the reforms approved in the years 2011 and 2012 introduced two key changes to the municipal bankruptcy policy. The first one introduced a hard set of penalties for politicians deemed responsible for the bankruptcy of their municipality. The second one introduced a "soft landing" alternative to avoid the bankruptcy procedure (the so called "pre-bankruptcy" procedure). In Table A.9 in the Appendix, we provide empirical evidence against the possibility that the introduction of the soft landing alternative is a driver of our results. Specifically, we estimate equation (1) using as the dependent variable an indicator equal to 1 if the municipality's government approves a declaration of pre-bankruptcy which is not subsequently followed by a formal bankruptcy. The results presented in Table A.9 document that the education level of the mayor does not cause a statistically significant increase in the probability of declaring a (successful) pre-bankruptcy during the term. In light of our main argument, this result is not surprising. Pre-bankruptcies do not impose individual sanctions on local politicians; hence, their introduction should not alter the incentives faced by high-skilled versus low-skilled mayors.

In Figure 8, we provide further evidence on the role of sanctions by taking advantage

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[28]Notice that we pool all cases in which the Financial Distress Index exceeds 0.3 into the same subsample because less than one percent of municipalities have a Financial Distress Index that exceeds 0.4.

of variations in their monetary amount induced by the municipality's population and in the potential exposure of the incumbent mayor or the predecessor to the Court of Auditors's decision.

In panel (b) of Figure 8, we estimate equation (1) in three sub-samples defined by whether the mayor that was in power during the previous term competed for re-election and, if so, whether they won or lost the election.[29] The strongest effect of the education level of the mayor on the probability of declaring bankruptcy is estimated in municipalities in which the previous incumbent did not re-run for office. If the mayor is the reelected incumbent, the effect of the mayor's education is instead limited, which makes sense, as they might then be investigated by the Court of Auditors both for the actions committed during the current term and for the actions committed during the previous term. Finally, the effect of the education of the mayor is limited even if the previous incumbent is not re-elected but holds a seat in the municipality's council (perhaps, they beg the incumbent not to expose them to an investigation by the Court of Auditors).[30]

In panel (c) of Figure 8, we estimate equation (1) in sub-samples defined by whether the current mayor is facing binding term limits.[31] In the period of our study, mayors serving in municipalities above 3,000 inhabitants were subject to a two-term limit while mayors serving in smaller municipalities were subject to a three-term limit since 2014.[32] The rationale for this empirical test is as follows: a key component of sanctions is the ban on any political candidacy over the next ten years. Although it is plausible that some term-limited mayors may compete for upper-tier elections after their mandate expires if not sanctioned, the risk that penalties stop the career path is more evident for incumbents that are not term-limited (in our data, 75 percent of mayors that are not term-limited participate in the next election). In line with these expectations, we find that our main results are concentrated exclusively among mayors who are not term-limited.

In panel (d) of Figure 8, we estimate equation (1) across sub-samples defined by a population threshold that assigns a sizable wage increase.[33] Mayors' wages are determined by national legislation and increase with the population of the municipalities, with discontinuous jumps at specific thresholds. In particular, the mayor's wage increases by more than 30 percent crossing the 5,000 residents' threshold (Gagliarducci and Nannicini, 2013). This implies that both the financial penalty and the monetary cost of the ban on future candidacy—i.e., the foregone future wages—increase discontinuously at the threshold. To ensure that municipalities above and below 5,000 residents are sufficiently

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[29]The formal estimates are presented in Table A.10.

[30]Readers may worry that the probability that the incumbent mayor is re-elected jumps discontinuously at the threshold. Table A.4 asserts that incumbency is a balanced individual characteristic.

[31]The formal estimates are reported in Table A.11.

[32]We remark the reader that all cases in which the previous' term incumbent either lost the election or did not participate are part of the sub-sample of observations in which the current mayor is not term-limited

[33]The formal estimates are reported in Table A.12.

comparable, we limit our attention to municipalities with at least 3,000 inhabitants and less than 10,000 inhabitants, respectively.[34] Lower and upper bounds correspond to the two closest thresholds that assign other changes in the mayor's salary. We find that the effect estimated in Table 1 and reproduced in panel (a) of Figure 8 is concentrated among municipalities above 5,000 inhabitants, in which penalties are more stringent compared to slightly smaller municipalities.

Lastly, in panel (e) of Figure 8, we replace the dependent variable with dummies equal to 1 if the municipality declares bankruptcy at the beginning of the term, or in the middle of the term, or toward the end of the term, respectively.[35] The definition of the outcome variables implies that the coefficients estimated in panel (e) represent a decomposition of the main result estimated in panel (a). We estimate that the largest effects are estimated at the beginning or in the middle of the term; that is, when there is a higher probability that the Court of Auditors will investigate and potentially sanction the predecessor of the current mayor. In contrast, we do not find any sizable or statistically significant difference between high-skilled and low-skilled mayors in the probability of declaring bankruptcy at the end of the term, when the probability that the Court of Auditors will penalize the predecessor is low.

8 Concluding remarks

Bankruptcy procedures for local governments typically impose penalties on local communities to reduce the risk of the "soft budget constraint syndrome", curbing expectations of costless bailouts by the central government. However, while these penalties harm the citizens of the affected communities, the responsibility of the decisions that led to the financial crisis lies with local politicians and officials, who might be only partially accountable to voters. Based on this intuition, the Italian reform of bankruptcy procedures approved in 2011 also introduced individual sanctions, both financial and political, on the politicians who were considered (based on an inquiry by the Court of Account) responsible for the financial troubles of the municipality.

In this paper, we study whether the skills of elected officials influenced the outcome of the reform. Using a regression discontinuity design of close elections that takes advantage of the variation in the educational attainment of the mayoral candidates, we document that college graduates (our proxy for high-skilled politicians) were more likely to declare bankruptcy after the reform than mayors without a college degree, despite the fact that the formers are proved to be more competent and more fiscally prudent on average.

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[34]It is important to mention that no other population threshold between 3,000 and 10,000 assigns policy changes. However, the 5,000-resident threshold assigns gender quotas to municipalities and votes with double preference based on gender since 2013 (Baltrunaite et al., 2019). In addition, municipalities with more than 5,000 residents were subject to a balanced budget rule in 2012.

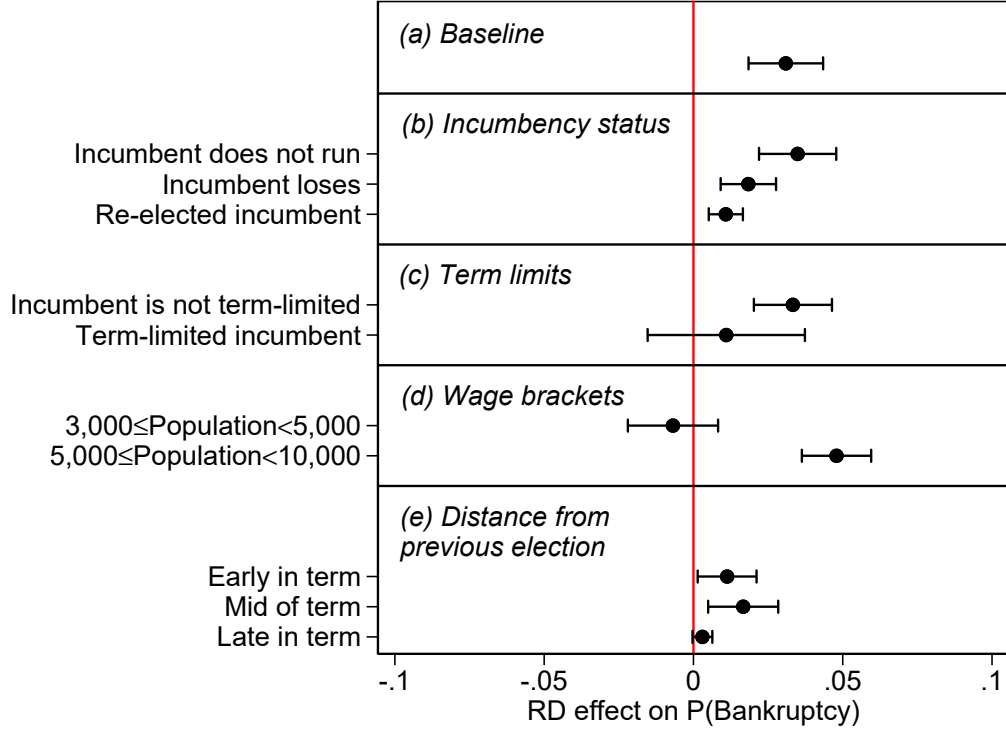[35]The formal estimates are available in Table A.13.

Figure 8: Heterogeneity by exposure to sanctions

Notes: One observation per municipality-term. All elections held between 2012 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. In panel (b), each regression is estimated on a subsample of municipalities, defined by (i) whether the incumbent mayor of term $t-1$ did not run for office in election held for term t; (ii) whether the incument mayor of term $t-1$ lost the election held for term t; (iii) whether the incumbent mayor of term $t-1$ won the election held for term t. In panel (c), each regression is estimated on a subsample of municipalities, defined by (i) whether the municipality's population is between 3,000 and 5,000 inhabitants; (ii) whether the municipality's population is between 5,000 and 10,000 inhabitants. In panel (d), the dependent variables are (i) an indicator equal to 1 if the municipality declares bankruptcy in the same year and after the previous election or in the following year and zero otherwise; (ii) an indicator equal to 1 if the municipality declares bankruptcy during the two central years of the term and zero otherwise; (iii) an indicator equal to 1 if the municipality declares bankruptcy in the last full year before the next election or in the same year and before the next election and zero otherwise. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Province-by-election year fixed effects are included. 95% confidence intervals are based on standard errors robust to clustering at the province level.

Our findings suggest that while penalties reduced the incidence of strategically motivated bankruptcies among low-skilled politicians, they also induced an unintended behavioral shift among high-skilled mayors. These more educated mayors appear to have strategically declared bankruptcy early in their term to insulate themselves from future sanctions, particularly in cases where the decision is mostly discretionary and the financial benefits of bankruptcy less evident.

The response we document can be rationalized by two complementary mechanisms. First, high-skilled mayors face higher opportunity costs from sanctions: they are more

likely to be reelected, to pursue higher office, or to access well-paid positions in the public or private sectors. A 10-year disqualification from political life and a substantial financial penalty thus represents a more serious threat to their career prospects. Second, the most effective strategy for an incumbent to insulate against the risk of sanctions could be to declare bankruptcy sufficiently early in the term.

From a policy perspective, our findings highlight the importance of recognizing strategic behavior when designing sanctioning mechanisms. The effectiveness of reforms targeting fiscal discipline may depend not only on the presence and strictness of penalties, but also on the capacity and incentives of those subject to them. Although more stringent penalties may deter opportunistic behavior in some cases, they may also be gamed by more strategic politicians.

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A   Figures and Tables

A.1   Figures
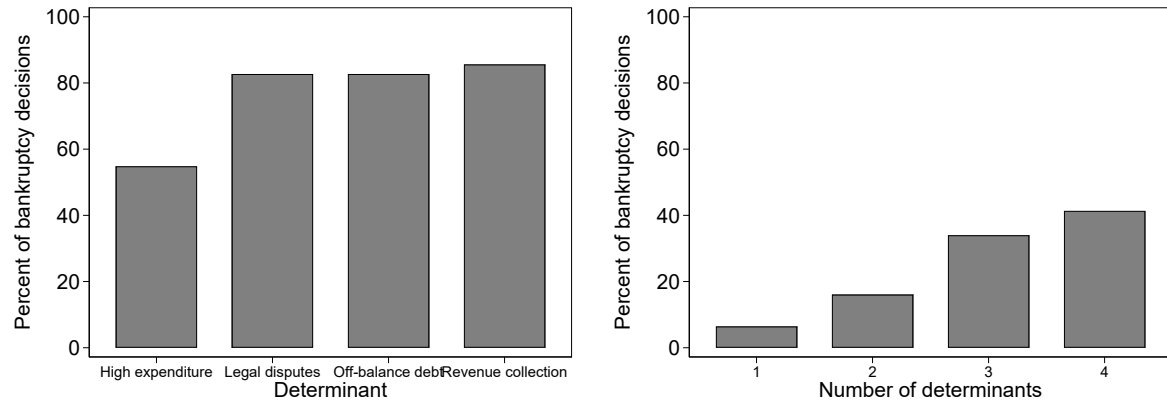
(a) Main determinants of bankruptcy declaration

(b) Number of determinants of bankruptcy declaration

Figure A.1: Self-reported determinants of bankruptcy declarations, 2000—2023

Notes: All bankruptcy declarations approved by municipal governments between 2000 and 2023 for which the *Ca' Foscari University of Venice Foundation* offers documentation (N=312).
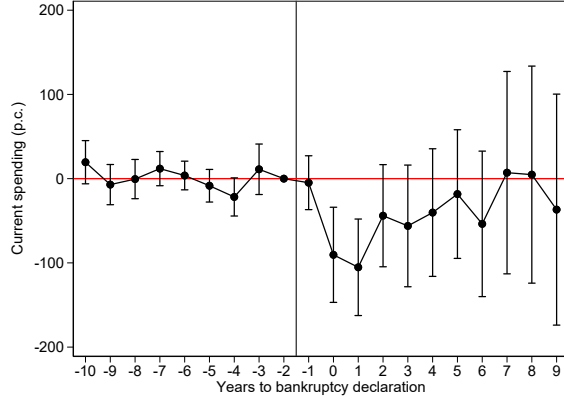
(a) Current spending
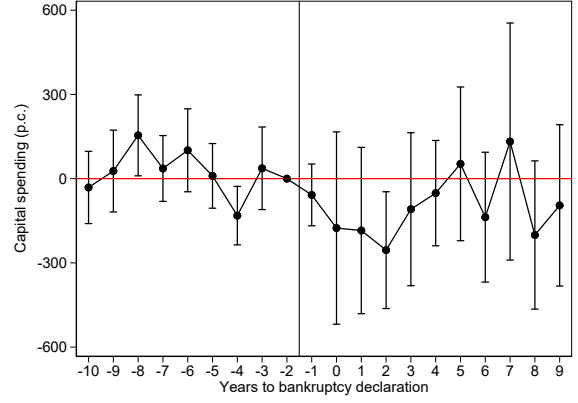
(b) Capital spending
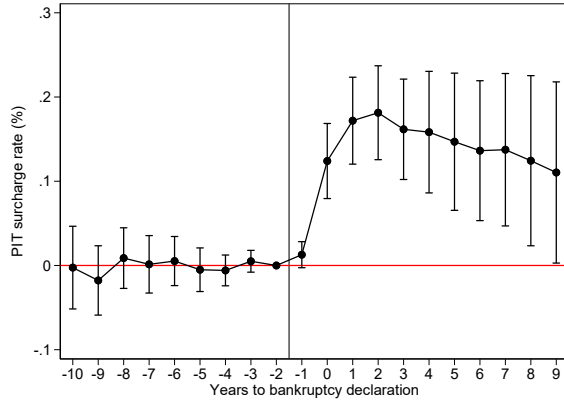
(c) Personal Income Tax Surcharge Rate
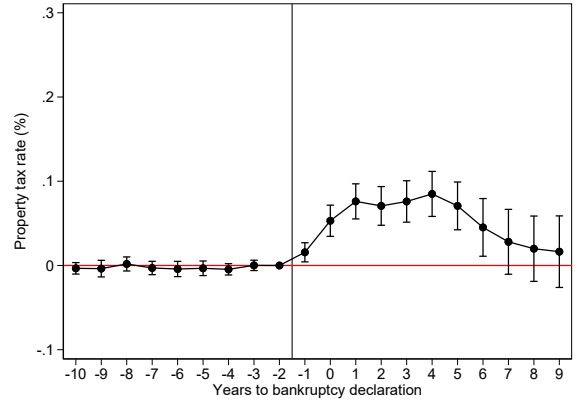
(d) Real Estate Property Tax Rate

Figure A.2: Consequences of bankruptcy declaration on municipality spending and tax rates

Notes: All panels report the coefficients obtained from estimating Difference-in-Differences models of the form $y_{i,t} = \sum_{k \in [-10;9], k \neq -2} \beta_k \mathbb{1}(\text{Years to bankruptcy} = k) + \eta_i + \delta_t + \varepsilon_{i,t}$ using a stacked-by-event model. The omitted coefficient is $k = -2$ because the latest balance sheet before the bankruptcy declaration is approved during fiscal year $k = -1$ and refers to the previous fiscal year. In panel (a), the dependent variable is the level of current spending per capita (years 2000—2021); in panel (b), the dependent variable is the level of capital spending per capita (years 2000—2021); in panel (c), the dependent variable is the percentage rate of the average personal income tax municipal surcharge (years 2010—2021); in panel (d), the dependent variable is the percentage rate of the ordinary real estate property tax (years 2002—2021). 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

34

% of elections in full sample

	[0.00,0.00]
	(0.00,0.17]
	(0.17,0.33]
	(0.33,0.50]
	(0.50,0.57]
	(0.57,0.67]
	(0.67,1.00]

% of elections in close elections sample

	[0.00,0.00]
	(0.00,0.14]
	(0.14,0.17]
	(0.17,0.33]
	(0.33,0.40]
	(0.40,0.86]

(a) All mixed-college elections   (b) Close mixed-college elections
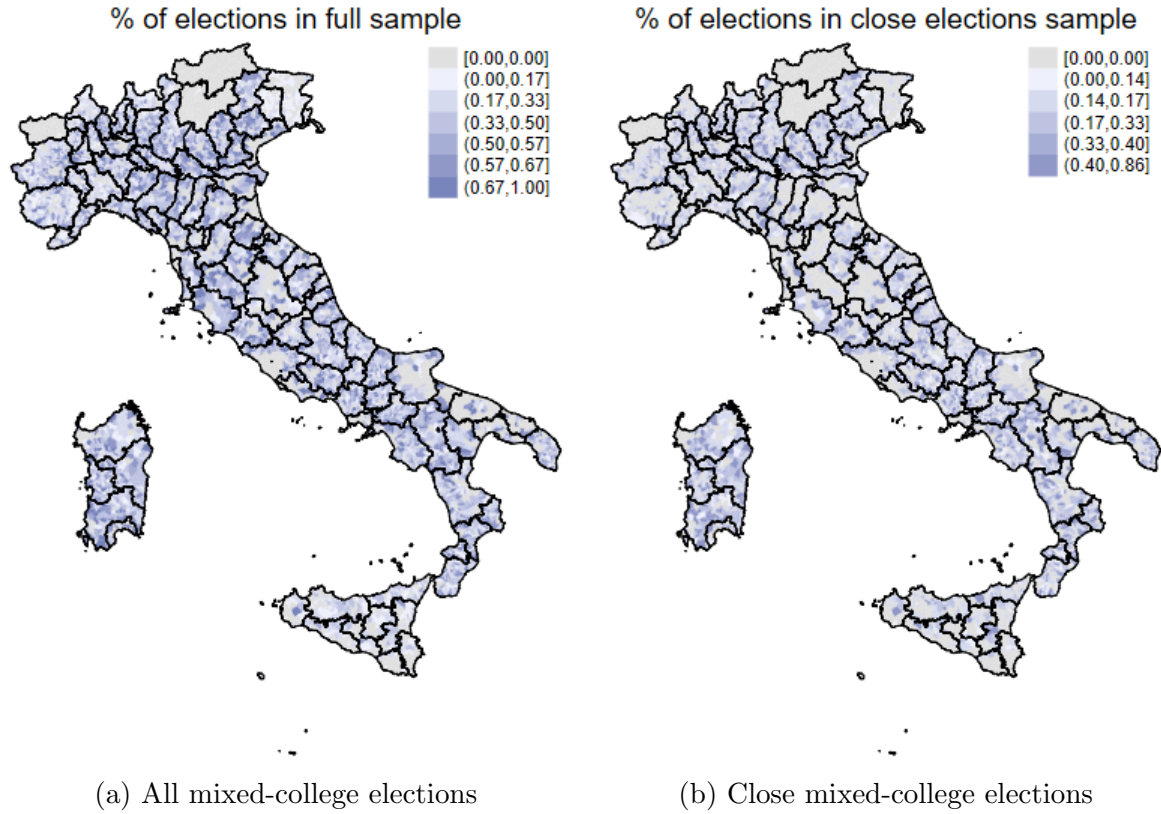
Figure A.3: Municipalities included in estimation sample

Notes: Panel (a) reports the number of elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Panel (b) reports the number of elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system in which the margin of victory of the strongest candidate with a college degree (resp. of the strongest candidate lacking a college degree) falls within the Calonico et al. (2014) optimal bandwidth.

(a) Elections held after 2011/12 reforms   (b) Elections held before 2011/12 reforms
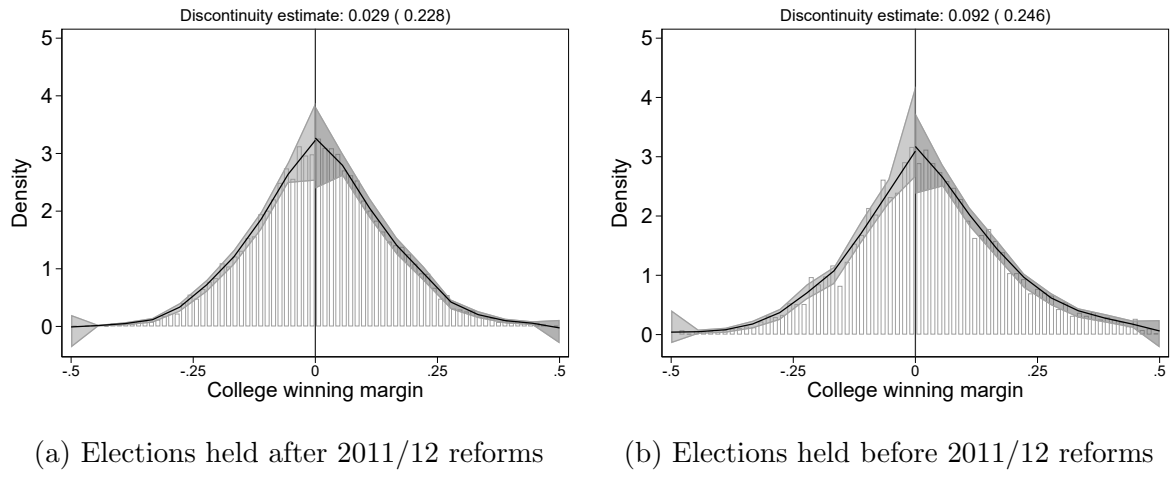
Figure A.4: Test for no manipulation of the running variable around the threshold (Cattaneo et al., 2016)

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree.
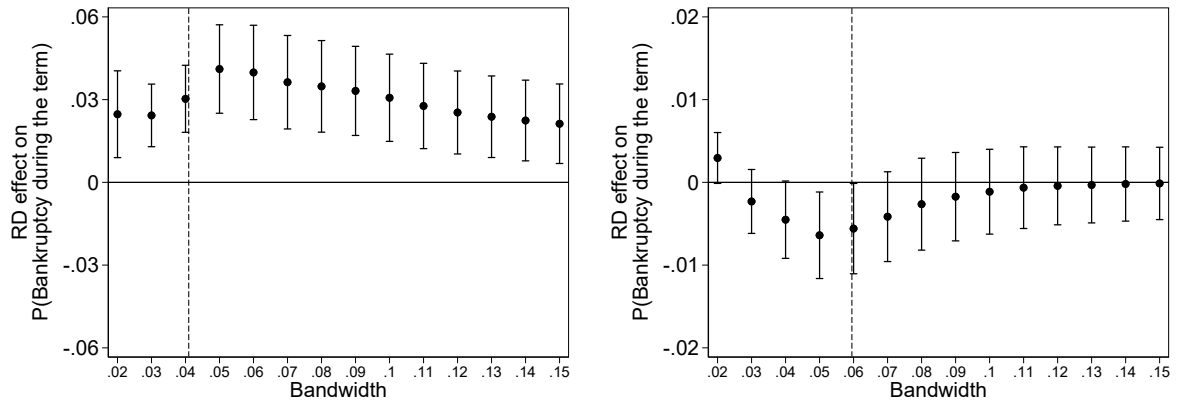
(a) Elections held after 2011/12 reforms   (b) Elections held before 2011/12 reforms

Figure A.5: Bandwidth robustness: Effect of electing a mayor with college education on municipality bankruptcy

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Estimation method: local-linear regression using triangular kernel weights of equation (1). Province-by-election year fixed effects are included. Each marker and spike refers to a regression in which the bandwidth is manually selected to values specified in the horizontal axis. The dashed line reports the Calonico et al. (2014) MSE-optimal bandwidth. 95% confidence intervals are based on standard errors robust to clustering at the province level.

A.2   Tables

Table A.1: Electoral costs of bankruptcy declaration

	(1)	(2)
	1 = Incumbent runs (t+1)	1 = Incumbent re-elected (t+1)
1 = Bankruptcy during the term	−0.215*** (0.0696)	−0.194*** (0.0678)
Control mean	0.760	0.570
Observations	4,088	4,075
R^2	0.026	0.027
Financial Distress Index FE × Election Date FE	✓	✓

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree.

Table A.2: Descriptive Statistics

	(1)	(2)	(3)
Variable	Mean	St. Dev.	Obs.
(a) Politicians' characteristics			
Age at election of the mayor	48.686	10.163	16,379
1 = Mayor holds a college degree	0.511	0.500	16,211
1 = Mayor holds a high school degree	0.386	0.487	16,211
1 = Mayor holds a junior school degree	0.069	0.253	16,211
1 = Mayor does not hold a junior school degree	0.009	0.097	16,211
1 = Mayor holds a high status occupation	0.135	0.342	16,380
1 = Female Mayor	0.111	0.314	16,380
No. terms of previous political experience of the mayor	1.479	1.302	16,380
1 = Mayor is the last term's incumbent	0.384	0.486	16,380
1 = Mayor is term-limited	0.339	0.473	16,442
1 = Incumbent runs	0.619	0.486	16,415
Avg. age of councilors at election	43.546	4.523	16,414
Avg. no. terms of previous political experience of councilors	0.674	0.434	16,414
(b) Election results			
Vote share of top candidate	0.540	0.127	16,442
Incumbent's vote share	0.264	0.286	16,442
No. Candidates holding a college degree	0.828	0.541	16,394
No. eligible to vote	3,695.403	3,103.866	16,442
Turnout	0.753	0.112	16,442
No. blank ballots	53.117	67.081	16,102
Null ballots	62.548	229.651	16,102
Number of mayoral candidates	2.008	1.183	16,442
(c) Municipality characteristics			
1 = Bankruptcy during the term	0.007	0.086	16,442
1 = Bankruptcy early in term	0.004	0.064	16,442
1 = Bankruptcy mid of term	0.002	0.044	16,442
1 = Bankruptcy late in term	0.001	0.037	16,442
1 = Pre-bankruptcy during the term not followed by bankruptcy	0.008	0.091	16,442
Financial distress index in the previous election year	0.089	0.119	8,696
Population	4,155.302	3,524.889	16,442
Density	254.625	413.359	15,882
Surface (km2)	34.333	37.151	15,882
Labor force participation	36.683	7.689	15,882
South	0.348	0.476	16,442

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree.

Table A.3: Balancing of pre-determined characteristics

	(1)	(2)	(3)	(4)
Variable	RD effect	Robust c.i.	Bandwidth	Effective obs.
(a) Previous mayor's characteristics				
Age	0.572(0.566)	[−0.526;1.924]	0.097	6899
College	−0.016(0.028)	[−0.081;0.047]	0.096	6696
High school	0.033(0.026)	[−0.023;0.098]	0.091	6442
Junior school	−0.017(0.017)	[−0.058;0.022]	0.105	7153
Less than junior school	−0.004(0.006)	[−0.020;0.009]	0.083	5924
High status	−0.021(0.015)	[−0.060;0.006]	0.104	7283
Female	−0.006(0.019)	[−0.052;0.031]	0.096	6839
Experience	−0.038(0.057)	[−0.167;0.085]	0.103	7203
(b) Councilors characteristics				
Age	0.146(0.310)	[−0.424;0.846]	0.123	10303
College	0.009(0.009)	[−0.010;0.030]	0.099	8836
High school	−0.012(0.010)	[−0.036;0.007]	0.099	8883
Junior school	−0.000(0.010)	[−0.020;0.023]	0.111	9616
Less than junior school	0.004(0.003)	[−0.003;0.012]	0.124	10386
High status	0.012(0.008)	[−0.003;0.029]	0.115	9834
Female	−0.002(0.009)	[−0.019;0.018]	0.126	10460
Experience	−0.034(0.021)	[−0.087;0.005]	0.088	8023
(c) Election results				
Vote share top cand.	0.000(0.005)	[−0.012;0.011]	0.084	7695
Vote share incumb.	0.015(0.011)	[−0.006;0.041]	0.087	7969
No. cand. w/college degree	0.011(0.028)	[−0.046;0.077]	0.101	8989
Missing education info	−0.012(0.009)	[−0.035;0.008]	0.105	9231
Eligible voters	−151.1(229.3)	[−642.1;318.1]	0.114	9818
Turnout	0.000(0.010)	[−0.021;0.023]	0.115	9855
Blank ballots	0.707(4.221)	[−8.150;9.651]	0.096	8423
Invalid votes	−1.438(5.126)	[−12.38;10.46]	0.064	5981
Candidates	−0.067(0.067)	[−0.223;0.070]	0.114	9832
(d) Municipality characteristics				
Population	−223.3(276.0)	[−825.7;316.5]	0.117	10002
Density	−26.58(47.64)	[−130.7;57.89]	0.121	9860
Surface (km2)	−1.811(3.441)	[−8.493;5.023]	0.151	11321
Labor force participation	0.332(0.881)	[−1.353;2.200]	0.136	10652
South	−0.019(0.090)	[−0.186;0.166]	0.143	11404
Financial distress index	−0.002(0.015)	[−0.035;0.025]	0.150	6063
Bankruptcy (t-1)	−0.010(0.007)	[−0.029;0.003]	0.077	5004

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

Table A.4: Effect of electing a mayor with college degree on other mayor's individual characteristics

	(1) Age	(2) High Status	(3) Female	(4) Experience	(5) Incumbent
College Mayor	–2.987***	0.160***	0.059***	–0.382***	–0.020
	(0.501)	(0.018)	(0.015)	(0.059)	(0.018)
Robust confidence interval	[–4.175;-1.959]	[0.119;0.198]	[0.031;0.096]	[–0.525;-0.264]	[–0.061; 0.021]
Bandwidth	0.111	0.0840	0.105	0.122	0.102
Eff. observations	9586	7702	9213	10228	9015
Observations	16379	16380	16380	16380	16,380
Control mean	50.50	0.0470	0.0920	1.541	0.309
Controls					
Province × Election Date FE					

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

Table A.5: Effect of electing a mayor with college degree on member of the executive's individual characteristics

	(1) College	(2) Age	(3) High Status	(4) Female	(5) Experience
College Mayor	0.009	–0.092	0.018*	–0.010	–0.065**
	(0.016)	(0.428)	(0.010)	(0.012)	(0.029)
Robust confidence interval	[–0.022;0.046]	[–0.921;0.868]	[–0.001;0.040]	[–0.036;0.016]	[–0.136; -0.009]
Bandwidth	0.124	0.102	0.105	0.115	0.118
Eff. observations	10241	8991	9194	9798	9806
Observations	16210	16341	16341	16341	15,999
Control mean	0.300	44.48	0.0740	0.238	0.728
Controls					
Province × Election Date FE					

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

Table A.6: Effect of electing a mayor with college degree on municipality finances

Dep. var.:	(1) Expenditures	(2)	(3)	(4) Revenues	(5)	(6)	(7)	(8)	(9)
	Total	Capital	Current	Total	Taxes	Services	Cap. transf.	Curr. transf.	Deficit
College Mayor	0.143***	0.205***	0.0821***	0.145***	0.0326**	0.109***	0.154***	0.0999***	−0.0194**
	(0.0184)	(0.0395)	(0.0119)	(0.0177)	(0.0133)	(0.0245)	(0.0376)	(0.0260)	(0.00971)
Robust confidence interval	[0.109;0.188]	[0.136;0.300]	[0.061;0.112]	[0.114;0.188]	[0.009;0.067]	[0.066;0.172]	[0.086;0.246]	[0.046;0.162]	[−0.045;-0.002]
Bandwidth	0.0260	0.0280	0.0420	0.0280	0.0520	0.0540	0.0340	0.0330	0.0690
Bandidth selection	MSE-optimal	MSE-optimal	MSE-optimal	MSE-optimal	MSE-optimal	MSE-optimal	MSE-optimal	MSE-optimal	MSE-optimal
Polynomial fit	Linear	Linear	Linear	Linear	Linear	Linear	Linear	Linear	Linear
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Eff. observations	2138	2279	3333	2332	4058	4196	2786	2671	5280
Observations	13368	13368	13368	13366	13368	13368	13366	13368	13368
Control mean	0.0780	−1.288	−0.306	0.305	−0.951	−2.021	−1.564	−1.762	−0.289
Controls									
Province × Election Date FE	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes: One observation per municipality-term. All elections held between 2000 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Expenditure items refer to ex-post planned expenses (*impegni*). Revenue items refer to ex-post planned revenues (*accertamenti*) Deficit is defined as the difference between total spending and total revenues. All variables are measured in log per-capita terms (except for Deficit, measured as the per-capita inverse hyperbolic sine to handle negative values). Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

Table A.7: Effect of electing a mayor with college degree on future political carrers

	(1)	(2)
Sample:	Incumbent is not term limited	
Dep. var.:	1 = Incumbent runs (t+1)	1 = Incumbent re-elected (t+1)
College Mayor	0.00144	0.0523**
	(0.0192)	(0.0211)
Robust confidence interval	[–0.042;0.046]	[0.009;0.101]
Bandwidth	0.0580	0.0560
Bandidth selection	MSE-optimal	MSE-optimal
Polynomial fit	Linear	Linear
Kernel	Triangular	Triangular
Eff. observations	3632	3538
Observations	9000	8972
Control mean	0.488	0.485
Controls		
Province × Election Date FE	✓	✓

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. For this exercise, the sample is further restricted to cases in which the mayor is not term-limited Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

Table A.8: Effect of electing a mayor with college education on municipality bankruptcy: Quadratic specifications

(a) Elections held after 2011/12 reforms

	(1)	(2)	(3)	(4)
Dep. var.:	1 = Bankruptcy during the term			
College Mayor	0.0277*	0.0321**	0.0359***	0.0364***
	(0.0154)	(0.0154)	(0.0102)	(0.0107)
Robust confidence interval	[−0.004;0.062]	[0.000;0.066]	[0.016;0.057]	[0.015;0.059]
Bandwidth	0.139	0.135	0.0770	0.0790
Bandidth selection	MSE-optimal	MSE-optimal	MSE-optimal	MSE-optimal
Polynomial fit	Quadratic	Quadratic	Quadratic	Quadratic
Kernel	Triangular	Triangular	Triangular	Triangular
Eff. observations	3611	3484	2323	2320
Observations	5544	5427	5544	5427
Control mean	0.0120	0.0120	0.0170	0.0170
Controls		✓		✓
Province × Election Date FE			✓	✓

(b) Elections before 2011/12 reforms

	(1)	(2)	(3)	(4)
Dep. var.:	1 = Bankruptcy during the term			
College Mayor	0.00195	0.00269	−0.00322	−0.00327
	(0.00379)	(0.00392)	(0.00376)	(0.00386)
Robust confidence interval	[−0.006;0.009]	[−0.006;0.011]	[−0.011;0.004]	[−0.012;0.005]
Bandwidth	0.102	0.103	0.0970	0.0940
Bandidth selection	MSE-optimal	MSE-optimal	MSE-optimal	MSE-optimal
Polynomial fit	Quadratic	Quadratic	Quadratic	Quadratic
Kernel	Triangular	Triangular	Triangular	Triangular
Eff. observations	6096	5920	5889	5514
Observations	10898	10455	10898	10455
Control mean	0.00500	0.00500	0.00500	0.00500
Controls		✓		✓
Province × Election Date FE			✓	✓

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Estimation method: local-quadratic regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Controls include the official population measured in the last census, density, surface, the share of poor families measured at the last census, and labor force participation rate, as well as an indicator equal to 1 if the mayor is the incumbent, an indicator equal to 1 is a woman, and controls for the political experience of the mayor in any political office and in the municipality council. Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

Table A.9: Effect of electing a mayor with college education on municipality pre-bankruptcy

	(1)	(2)	(3)	(4)
Dep. var.:	1 = Pre-bankruptcy during the term not followed by bankruptcy			
College Mayor	0.0122	0.0135	0.0180*	0.0166
	(0.0125)	(0.0121)	(0.0102)	(0.0104)
Robust confidence interval	[−0.013;0.043]	[−0.010;0.045]	[−0.005;0.041]	[−0.005;0.040]
Bandwidth	0.0950	0.0970	0.0580	0.0570
Bandidth selection	MSE-optimal	MSE-optimal	MSE-optimal	MSE-optimal
Polynomial fit	Linear	Linear	Linear	Linear
Kernel	Triangular	Triangular	Triangular	Triangular
Eff. observations	2795	2761	1813	1743
Observations	5544	5406	5544	5406
Control mean	0.0240	0.0240	0.0230	0.0220
Controls		✓		✓
Province × Election Date FE			✓	✓

Notes: One observation per municipality-term. All elections held between 2012 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Controls include the official population measured in the last census, density, surface, the share of poor families measured at the last census, and labor force participation rate, as well as an indicator equal to 1 if the mayor is the incumbent, an indicator equal to 1 is a woman, and controls for the political experience of the mayor in any political office and in the municipality council. Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

Table A.10: Effect of electing a mayor with college education on municipality bankruptcy

	(1)	(2)	(3)
Sample:	Incumbent does not run	Incumbent loses	Re-elected incumbent
Dep. var.:	1 = Bankruptcy during the term		
College Mayor	0.0349***	0.0184***	0.0109***
	(0.00660)	(0.00475)	(0.00295)
Robust confidence interval	[0.022;0.054]	[0.009;0.034]	[0.001;0.015]
Bandwidth	0.0410	0.0410	0.0410
Bandidth selection	MSE-optimal	MSE-optimal	MSE-optimal
Polynomial fit	Linear	Linear	Linear
Kernel	Triangular	Triangular	Triangular
Eff. observations	574	414	332
Observations	2071	1328	2132
Control mean	0.0110	0.0110	0.0110
Controls			
Province × Election Date FE	✓	✓	✓

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

Table A.11: Effect of electing a mayor with college education on municipality bankruptcy

	(1)	(2)
Sample:	Incumbent is not term-limited	Term-limited incumbent
Dep. var.:	1 = Bankruptcy during the term	
College Mayor	0.0333***	0***
	(0.00667)	(0)
Robust confidence interval	[0.020;0.050]	[–0.005;0.004]
Bandwidth	0.0410	0.0410
Bandidth selection	MSE-optimal	MSE-optimal
Polynomial fit	Linear	Linear
Kernel	Triangular	Triangular
Eff. observations	1110	214
Observations	4141	1403
Control mean	0.0110	0.0110
Controls		
Province × Election Date FE	✓	✓

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

Table A.12: Effect of electing a mayor with college education on municipality bankruptcy

	(1)	(2)
Sample:	$3,000 \leq$ Population $< 5,000$	$5,000 \leq$ Population $< 10,000$
Dep. var.:	1 = Bankruptcy during the term	
College Mayor	−0.00686	0.0486***
	(0.00771)	(0.00597)
Robust confidence interval	[−0.033;0.007]	[0.039;0.070]
Bandwidth	0.0410	0.0410
Bandidth selection	MSE-optimal	MSE-optimal
Polynomial fit	Linear	Linear
Kernel	Triangular	Triangular
Eff. observations	259	290
Observations	1015	1258
Control mean	0.0110	0.0110
Controls		
Province × Election Date FE	✓	✓

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

Table A.13: Effect of electing a mayor with college education on municipality bankruptcy

Dep. var.:	(1) 1 = Bankruptcy early in term	(2) 1 = Bankruptcy mid of term	(3) 1 = Bankruptcy late in term
College Mayor	0.0113** (0.00503)	0.0167*** (0.00599)	0.00302* (0.00170)
Robust confidence interval	[0.002;0.024]	[0.004;0.029]	[−0.001;0.006]
Bandwidth	0.0410	0.0410	0.0410
Bandidth selection	MSE-optimal	MSE-optimal	MSE-optimal
Polynomial fit	Linear	Linear	Linear
Kernel	Triangular	Triangular	Triangular
Eff. observations	1324	1327	1327
Observations	5544	5544	5544
Control mean	0.0110	0.0110	0.0110
Controls			
Province × Election Date FE	✓	✓	✓

Notes: One observation per municipality-term. All elections held between 1993 and 2021 in municipalities subject to a single-ballot plurality system. The sample is restricted to elections in which there is at least one mayoral candidate that holds a college degree and at least one mayoral candidate that does not hold a college degree. Estimation method: local-linear regression using triangular kernel weights of equation (1) within the Calonico et al. (2014) MSE-optimal bandwidth. Standard errors robust to clustering at the province level are in parentheses. *,**,*** represent the 10%, 5%, 1% significance levels.

B Financial Distress Index

Financial distress indicators decided by the national government based on D.Lgs. 267/2000, art. 242

Period	Category	Threshold
1999-2008	Deficit / Current spending	5%
	Uncollected revenues/Revenues	15%
	Unpaid liabilities/Current spending	37%
	Foreclosures/Current spending	0%
	Off-balance debt/Current revenues	0%
	Net-of-transfers current revenues/Current revenues	9%
	Personnel spending/Current revenues	45%
	Interest payment/Total revenues	13%
2009-2018	Deficit / Current spending	5%
	New uncollected revenues/Revenues	42%
	Uncollected revenues/Revenues	65%
	Unpaid liabilities/Current spending	40%
	Foreclosures/Current spending	0.5%
	Personnel spending/Current revenues	40% until 5,000 inh. 39% until 30,000 inh. 38% above 30,000 inh.
	Debt/Current revenues	150%
	Off-balance debt/Current revenues	1%
	Negative cash balance/Current revenues	5%
	Assets sales/Current spending	5%
2019-	Personnel + Debt service spending/Current revenues	48%
	Net-of-transfers current revenues/Current revenues	22%
	Negative cash balance/Current revenues	0%
	Interest payment/Total revenues	16%
	Deficit / Total revenues	1.2%
	Financed off-balance debt/Current revenues	1%
	Unfinanced off-balance debt/Current revenues	0.6%
	Collected revenues/Total revenues	47%