

When Women Take All: Direct Election and Female Leadership*

Davide Cipullo[†]

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Abstract

This paper investigates how direct election regimes (*à la* presidential democracy) affect the selection of women into political offices compared to indirect appointment (*à la* parliamentary). Exploiting the staggered phase-in of a voting system reform in Italian municipalities, I find that the introduction of direct elections increased substantially the fraction of female mayors. The results are stronger in cities with a high pre-reform share of female politicians and driven by newly elected female officials replacing undereducated incumbents. The results of this paper inform that voters are more open to electing female leaders than party representatives.

JEL Classification: C24, D02, D72, J16

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[†]Department of Economics and Finance, Catholic University of the Sacred Heart in Milan; CESifo; Uppsala Centre for Fiscal Studies; CIFREL. Address: Largo A. Gemelli 1, 20123 Milan (Italy). E-mail: davide.cipullo@unicatt.it.

1 Introduction

The share of women sitting in the national Parliament or in the national government has increased in the last years but was is still around 25 percent in 2020 (Union, 2020). Several countries have introduced active policies to encourage women’s representation, including gender quotas in national and local Parliament and incentives to cast a preference vote in support of a woman.¹ Gender quotas have been shown to impact both the gender composition and the quality of politicians since newly-elected female representatives tend to replace loyal yeat low-quality male politicians (Besley et al., 2017). Moreover, electoral institutions may shape the gender composition of legislative bodies. Specifically, proportional representation (PR) systems are associated with a larger share of elected women than majoritarian (MA) rules (Profeta and Woodhouse, 2021).²

Gender gaps are even wider among political leaders. According to the August 2022 issue of the REIGN database on political leaders, only 12 of 193 leaders worldwide are women. Moreover, 140 countries never experienced a government run by a woman. Active policies are unfeasible to increase the proportion of female leaders since choice limitations based on gender would arguably be unethical when only one individual at a time is selected. Still, some selection regimes may be more likely to encourage the selection of women than others, possibly at the expense of low-competence leaders.

In this paper, I investigate the impact of introducing a direct election scheme for political leaders on the probability of selecting a female candidate. The empirical analysis exploits a reform to the election regime of mayors in Italian municipalities, appointed by the municipality council before 1993 and directly elected by voters since 1993. I take advantage of the staggered phase-in of the reform – due to municipalities historically holding elections in different years – to employ a Difference-in-Differences design and compare early-treated municipalities with not-yet-treated municipalities.

Before the reform, Italian municipalities were alike small parliamentary democracies. At the time of an election, voters used to elect members of the municipality council who, in turn, appointed one of them as the mayor. Since 1993, mayors are directly elected by voters: in small municipalities, the most voted candidate is elected and the party in her support is secured a stable majority in the municipality council; in large municipalities, if none of the candidates surpasses 50 percent of valid votes, the mayor is elected in a runoff taking place two weeks later. Parties supporting the elected mayor secure a stable majority in the municipality council in this case too.

¹See e.g. Besley et al. (2017) and Baltrunaite et al. (2014) on the effects of gender quotas and Baltrunaite et al. (2019) on the effect of double preference voting conditional on gender.

²Under PR systems, the vote is usually over party lists rather than on individual candidates; districts are larger than under majoritarian rules and multi-members; parties are more likely to make candidacy decisions at the central level. In turn, the personal characteristics of candidates matter less under PR than under MA and parties can assign safe seats to women (Gonzalez-Eiras and Sanz, 2021; Le Barbanchon and Sauvagnat, 2021). See Profeta and Woodhouse (2021) for a comprehensive literature review.

I find that the introduction of a direct election scheme to select mayors increased substantially the proportion of municipalities in which a woman was selected as the new mayor. Specifically, the reform increased the proportion of female mayors by 2.5 percentage points. Taking into account that only 3.5 percent of incumbent mayors before the introduction of the reform were women, the results imply that direct election caused a 40 percent increase in the share of female mayors in Italy.

The average effect hides several dimensions of heterogeneity. First, I document that the results are stronger in municipalities where relatively more women were serving in the municipality council before the reform – and hence, parties had a relatively large number of female prospect candidates to choose from. Conversely, in municipalities where relatively fewer women were serving in the municipality council, I find that the reform had a significantly smaller impact on the probability of selecting a female mayor. Disentangling further this heterogeneity based on the share of female councilors that belonged to the majority or minority parties, respectively, I present suggestive evidence that the reform increased the proportion of female mayors through a combination of two forces: on the one hand, pre-reform majority parties reacted to the reform by selecting a female candidate also when the pool of female councilors to choose from was limited to keep high chances of winning the election. On the other hand, pre-reform majority parties which did not select a female candidate – because of a limited pool of prospective candidates to choose from – were more likely unseated by voters in the election.

Second, I document that the newly elected female mayors after the reform mostly replaced incumbents lacking higher education. Introducing a direct election scheme had a small and insignificant impact on the probability of selecting a female leader in municipalities where the pre-reform mayor held a college degree. On the contrary, the reform increased the probability of selecting a female mayor by 3 percentage points in municipalities where the pre-reform mayor held a high-school diploma and by 5 percentage points in municipalities where the pre-reform mayor had not completed high school. Indeed, I also find that the voting system reform increased the overall quality of elected mayors, as measured by their educational attainment. A back-of-the-envelope calculation strongly indicates that improved quality comes as a result of both high-quality female candidates replacing low-quality male incumbents and high-quality male incumbents being more likely to survive in office than their low-quality colleagues.

The results of this paper contribute to several areas of research. First, this paper provides novel evidence on how the voting system can influence the gender of elected officials. While existing research focuses on the impact of voting systems designed for the selection of members of legislative bodies ([Gonzalez-Eiras and Sanz, 2021](#); [Le Barbanchon and Sauvagnat, 2021](#); [Profeta and Woodhouse, 2021](#)), this paper is the first to provide evidence on how the election scheme to select political leaders affects the probability of selecting a female candidate. Second, the analysis conducted in this paper can be inter-

puted as a reduced-form test of voter bias versus party bias against female candidates. Several studies provided evidence on the existence of both (see, e.g., [Gonzalez-Eiras and Sanz \(2021\)](#), [Le Barbanchon and Sauvagnat \(2021\)](#), and [Cipullo \(2021\)](#) on the former and [Bagues et al. \(2020\)](#) on the latter) but, to date, a comparison of the magnitude of the two in the very same empirical context is lacking. Third, by documenting that increasing the proportion of female elected officials improves the overall quality of politicians, this paper corroborates the evidence in [Besley et al. \(2017\)](#) and [Baltrunaite et al. \(2014\)](#), who document gender quotas in politics improve the quality of politicians.³

2 Background

Italy has been a parliamentary Republic since the end of WWII. The territory is divided into three subnational administrative levels (Regions, Provinces, and Municipalities), which were exposed to parliamentary forms of government and proportional voting systems until the early nineties. Then, a set of reforms implemented between 1993 and 1995 modified the voting rule for the national Parliament from a proportional system to a prevalently majoritarian system and introduced the direct election of executive officers at all sub-national levels.

The focus of this paper is on the reform of the municipalities' voting regime. Before the reform, voters used to elect the members of the municipality council who, in turn, elected the mayor among its members. At any time, the council had the power to unseat the incumbent mayor via a vote of no confidence and try to form a new majority for the remaining part of the term. Ordinary terms lasted five years and mayors were not term-limited. Regular terms lasted five years, although early terminations were admitted by the law and were relatively common.

Since 1993, mayors are directly elected under majoritarian rules, and a large majority premium of seats in the council is assigned to the elected mayor's coalition to improve the stability of local governments.⁴ The voting system reform also introduced gender quotas in all municipalities having less than 15,000 residents. More specifically, each party was required to have at least one-third of women candidates in its list of candidates for the municipality council. Italy's supreme court later abolished this portion of the reform in

³[Baltrunaite et al. \(2021\)](#) find that gender quotas in board composition improve enterprises' performance.

⁴The reform also assigned to mayors the faculty of dismissing members of the executive office, required the anticipated end of the term and new elections for the council and the mayor in the cases of the resignation of the mayor or a vote of no confidence against her; reduced the length of the term from five to four years; introduced a term limit of two consecutive terms for mayors, not applying backward. The introduction of the term limit did not prevent mayors who have been in office before the reform to run. Consider the example of a mayor elected in 1983, and confirmed in 1988. According to the law, she had the right to run for office in 1993 and 1997 but, in the case of two victories, not in 2002. The term length has been subsequently restored to five years starting from elections held in 1999.

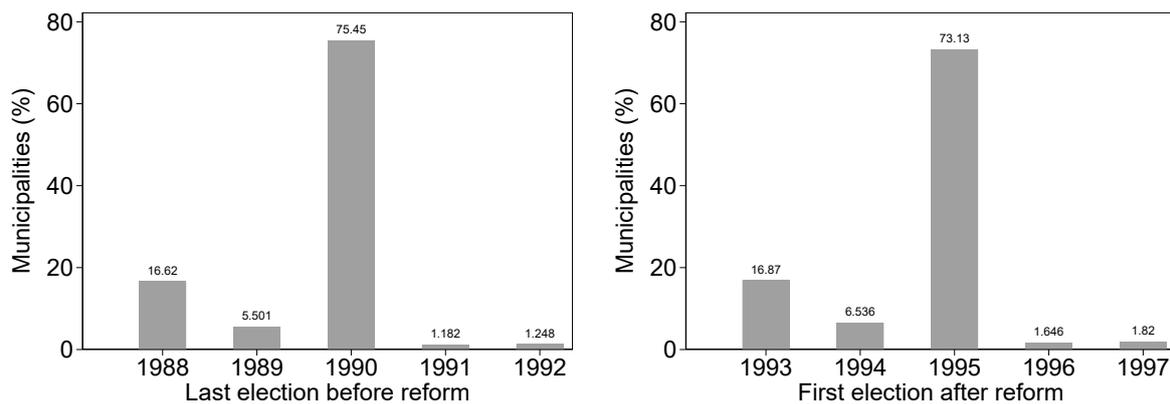


Figure 1: Distribution of elections around the reform and 5 years prior to the reform

Notes: This figure reports the distribution of elections held in each year during the 1988–1992 cycle (panel (a)) and during the 1993–1997 cycle (panel (b)).

1995 due to constitutional concerns.⁵

Municipalities vote on different dates for a combination of historical and political reasons. First, on the occasion of the first municipal elections after the end of WWII in 1946, several areas of the country were still devastated at the time of the vote, and the central government allowed municipalities to vote on different dates between March and late autumn. The majority of municipalities voted on five different dates during spring 1946, and more than 1,000 voted on eight dates during the autumn (Ballini, 2010). Second, during the post-war decades, successful votes of no confidence or other causes of anticipated end of term were relatively common. The combination of these two factors lead to a large variation in the timing of elections: as shown in Figure 1, only 17% of municipalities voted in the same year as the implementation of the 1993 voting reform, while the first vote under the new regime took place in subsequent years in the remaining municipalities.

3 Data and Empirical Strategy

The main data source is the individual-level register of the universe of politicians holding any office at the municipality level, compiled yearly since 1986 by the Italian Ministry for Internal Affairs (*Anagrafe degli Amministratori Locali*). The dataset reports politicians' characteristics as gender, education, employment status and category, date, and place of birth, as well as the description of the office, the party affiliation, and the election and nomination dates.

I restrict the sample to politicians who serve as the mayor in municipalities belonging

⁵Baltrunaite et al. (2014) exploit the unexpected abolition of gender quotas to estimate that quotas increased the quality of elected politicians.

to the fifteen ordinary regions, as the so-called *special regions* (*Friuli-Venezia Giulia*, *Sardegna*, *Sicilia*, *Trentino-Alto Adige* and *Valle d'Aosta*) are guaranteed the autonomy to determine a different electoral system for their municipalities. Overall, I have information from 21,806 unique mayors serving in 6,325 municipalities between 1986 and 2008 for a total of approximately 137,000 observations.

The staggered phase-in of the reform around its implementation in 1993 generates a plausibly exogenous variation in the timing of exposition across municipalities. Consider, as an example, a municipality holding elections in 1992 and 1997, and a municipality holding elections in 1993 and 1998. In the former municipality, the incumbent mayor was subject to the old voting system until 1996, while in the latter municipality, the mayor in power in 1993 was already elected based on the new regime.

Under the assumption that municipalities exposed to the reform in different years would have evolved following parallel trends in its absence, a difference-in-differences model of the form

$$FemaleMayor_{i,t} = \eta_i + \delta_t + \beta PostReform_{i,t} + u_{i,t}, \quad (1)$$

identifies the causal effect of the voting reform on the probability that the elected mayor is a woman.

In equation (1), the dependent variable is an indicator equal to 1 if the mayor in power in municipality i during the year t is a woman and 0 otherwise, η_i represents the municipality fixed effects, δ_t represents the year fixed effect and $PostReform_{i,t}$ is an indicator equal to 1 if the latest election in municipality i took place after the implementation of the 1993 reform.

The setup is intuitively appealing but deserves a careful discussion on the threats to the validity of the parallel trends assumption and the empirical design.

First, the timing of elections is potentially endogenous to the voting system (Carozzi et al., 2021) and the selection of candidates (Gagliarducci and Paserman, 2011).⁶ For instance, incumbent mayors elected under the old rule might have advocated for early elections under the new system to secure a stable majority. Conversely, members of the municipality council might have unseated the incumbent mayor just before the phase-in of the reform to secure another term subject to the old system.

I use an instrumental variables approach to deal with the potential endogeneity in the timing of elections. As documented in Figure 1, the year of the previous election is a very strong predictor of the year in which the subsequent election is going to take

⁶Carozzi et al. (2021) find in Spanish municipalities that, in the presence of indirect election of mayors, an increase in the number of parties entering the municipality council reduces the stability of incumbent governments while Bordignon et al. (2016) document that the number of parties admitted to the municipality council is endogenous to the voting system. Gagliarducci and Paserman (2011) find in Italian municipalities that, under a direct election scheme, female mayors are more likely to be unseated via a vote of no-confidence than male mayors.

place. For instance, a municipality voting in 1987 or 1989 has a significantly lower probability of holding the next election in 1993 than a municipality voting in 1988. Formally, I instrument $PostReform_{i,t}$ with its five years, or one term, lagged counterpart $\mathbb{1}(Elyear_{i,t-5} \geq 1988)$, determined before the reform and the beginning of the parliamentary discussion about it. In turn, the compliers in year t are the municipalities subject to the reform in year t in which the previous election took place in year $t - 5$.

I estimate the following Difference-in-Differences regression using 2SLS:

$$FemaleMayor_{i,t} = \eta_i + \delta_t + \beta \widehat{PostReform}_{i,t} + v_{i,t}, \quad (2)$$

where

$$PostReform_{i,t} = \eta_i + \delta_t + \phi \mathbb{1}(Elyear_{i,t-5} \geq 1988) + \epsilon_{i,t}. \quad (3)$$

The coefficient of interest is β , which identifies the causal effect of the voting reform on the probability that the mayor holding office in municipality i during the year t is a woman.

Second, the increasing proportion over time of women who get elected might in principle result in a higher chance of selecting female candidates in municipalities voting at later dates, even in the absence of any voting reforms. If we consider the intuitive example of a comparison between municipalities voting in 1992 under the old system and those voting in 1993, then equation (1) would compare municipalities that differ not only because of the implementation of the reform but also because of holding elections at different years. To ensure that the empirical results capture the effect of the reform rather than the increasing trends in the proportion of female mayors, I show the empirical results also controlling for linear time trends specific to each cohort of municipalities. I also propose a specification in which I add several time-varying municipality characteristics and pre-reform characteristics interacted with time trends.

To further ensure that the parallel trends assumption is very likely satisfied in this context, I also show the results from estimating dynamic models of the form:

$$FemaleMayor_{i,t} = \eta_i + \delta_t + \sum_{k \in [-5,5], k \neq -1} \alpha_k \mathbb{1}(Elyear_{i,t} - 1993 = k) + \varepsilon_{i,t}. \quad (4)$$

The validity of the empirical design would be reassured if the coefficients α_k are undistinguishable from zero for all $k < 0$.

Lastly, recent research has shown that estimating Difference-in-Differences models with two-way fixed effects as in the equations specified above might result in biased estimates of the average treatment effect on the treated when different units are treated

Table 1: Direct election of leaders and proportion of female elected officials

	OLS			2SLS		
	(1)	(2)	(3)	(4)	(5)	(6)
	Female Mayor					
Post Reform	0.019*** (0.006)	0.015*** (0.005)	0.015*** (0.005)	0.036*** (0.009)	0.025*** (0.007)	0.025*** (0.007)
Observations	137,470	137,470	137,470	137,470	137,470	137,470
R ²	0.346	0.346	0.349	0.000	0.000	0.005
Year Effects	✓	✓	✓	✓	✓	✓
Municipality Fixed Effects	✓	✓	✓	✓	✓	✓
Linear pre-reform trends		✓	✓		✓	✓
Time-varying covs			✓			✓
Pre-determined covs × Year			✓			✓
Control mean	0.0350	0.0350	0.0350	0.0350	0.0350	0.0350
First-stage F				3539	6182	6182

Notes: Standard errors robust to clustering at the municipality level are in parentheses. *, **, *** represent the 10%, 5%, 1% significance levels.

at different points in time (e.g., [Callaway and Sant’Anna, 2021](#); [De Chaisemartin and d’Haultfoeuille, 2020](#); [Goodman-Bacon, 2021](#)). I estimate the empirical model using a set of alternative estimators, which include the one proposed by [Sant’Anna and Zhao \(2020\)](#) and [Callaway and Sant’Anna \(2021\)](#), the one proposed by [De Chaisemartin and d’Haultfoeuille \(2020\)](#), and the stacked-by-event approach implemented in [Cengiz et al. \(2019\)](#).

4 Results

Table 1 reports the main results of this paper. I show the coefficients obtained both using OLS as in equation (1) and 2SLS as in equations (2) and (3). Across all specifications, the results document that the introduction of the direct election of mayors increased the probability of selecting a female candidate by 1.5–3.6 percentage points. The coefficients are sizeable in magnitude and very precisely estimated: taking into consideration that a woman was the mayor only in 3.5 percent of municipalities before the reform, the results imply that the reform increased the proportion of female mayors by 30–50 percent, depending on the specification.

Table 1 also shows that the estimates are highly robust to the introduction of cohort-specific linear time trends and additional covariates interacted with time. Indeed, the coefficients estimated in columns (1), (2), and (3) and the coefficients estimated in columns (4), (5), and (6) lie within each other’s confidence intervals, respectively. Accounting for the possibility that the timing of the election is endogenous to the selection of candi-

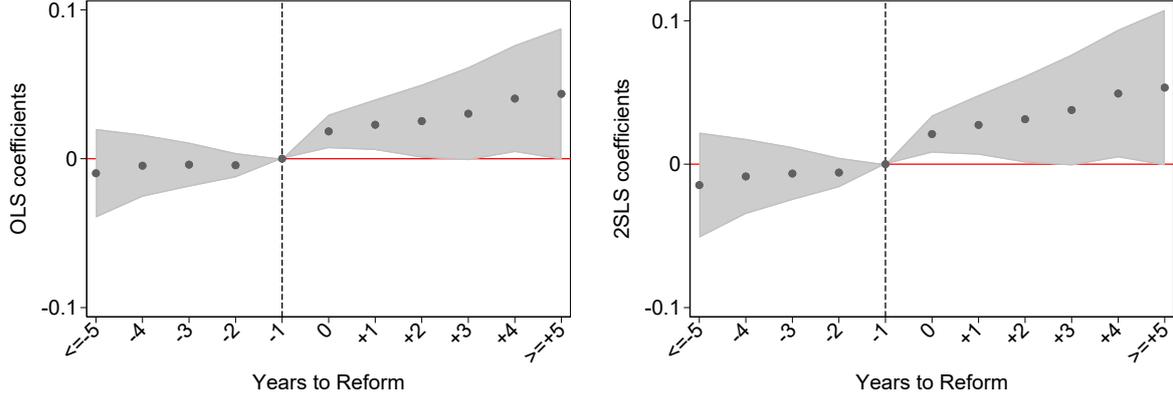


Figure 2: Direct election of leaders and proportion of female elected officials

Notes: 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

dates using 2SLS increases the estimates, suggesting that some male incumbent mayors advocated for early elections just before the reform to secure re-election under the new scheme.

Table B.2 in the Online Appendix reports the first-stage and reduced-form relationship associated with columns (4) – (6) of Table 1. The first-stage has a very high statistical power (the F-statistic exceeds 3,000), confirming that the year of the previous election is a very strong, albeit not perfect, predictor of the year in which the subsequent election will occur. Indeed, the first-stage coefficient indicates that being predicted to hold elections after the reform increases the chances of being effectively subject to the reform by approximately 75 percentage points.

Figure 2, in which I estimate equation (4) both using OLS and 2SLS, strongly suggests that, absent the voting system reform, the probability of selecting female mayors in municipalities treated at different points in time would have evolved following parallel trends. All estimated coefficients relative to the years preceding the (predicted) reform introduction are small and not significantly different from zero at conventional levels; on the contrary, coefficients estimated after the introduction of the reform are sizeable and consistently significant at the 5% level.

In the Online Appendix, I address several empirical concerns. First, in Figure A.1, I show the results obtained by using alternative Difference-in-Differences estimators that account for the issues of TWFE regressions discussed in Section 3. The results presented in Figure A.1 indicate that negative weights are not a significant issue in this context since the estimated coefficients are equivalent across a variety of estimators. Second, in Figure A.2, I perform a placebo test in which I assume a reform took place every year between 1990 and 2000. The estimated coefficients are never statistically different from zero for placebo reforms while the only positive and statistically significant coefficient is

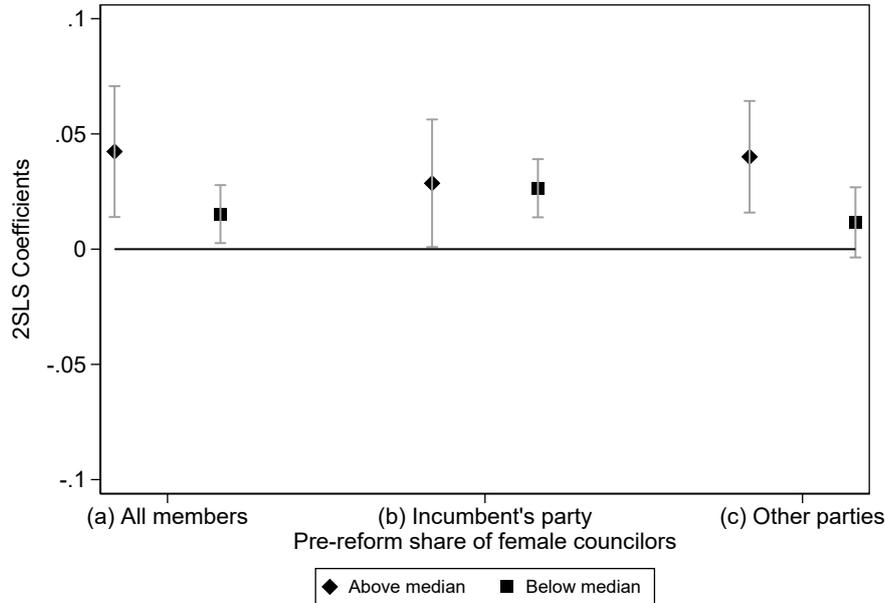


Figure 3: Heterogeneous effects by pre-reform share of women in municipality council

Notes: In panel (a), the sample is divided based on whether the share of female councilors in 1992 was above or below the median share across all municipality councils in Italy. In panel (b), the sample is divided based on whether the share of female councilors that belonged to the mayor's party in 1992 was above or below the median share across all municipality councils in Italy. In panel (c), the sample is divided based on whether the share of female councilors that do not belong to the mayor's party was above or below the median share across all municipality councils in Italy. 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

estimated in connection with the actual reform. Third, in Table B.3, I document that the results are present and, if anything, larger in municipalities having more than 15,000 residents, for whom the voting reform in 1993 did not introduce gender quotas for the election of members of the municipality council. Fourth, in Table B.4, I show that the results are not confounded by the concurrent introduction of a municipal property tax.⁷ Lastly, in Table B.5, I show that the results are not confounded by the quasi-concurrent dissolution of Italy's largest parties.⁸

5 Mechanisms

5.1 Heterogeneity by the pre-reform share of female politicians

First, in Figure 3, I exploit heterogeneity across municipalities in the pre-reform share of women who were serving as a member of the municipality council. Mayors are the apical position of the political administration in Italian municipalities, and the main parties usually select their candidates among the incumbent members of the municipality council. On the one hand, members of the municipality council already received a sizeable number of individual preference votes in the previous elections. On the other hand, incumbent councilors are more experienced than outsider candidates and have had the chance of showing their worth to party colleagues and voters during the term.

In Panel (a) of Figure 3, I compare the impact of the reform in municipalities where the share of female councilors in 1992 was above versus below the median share of female councilors across all municipalities. The results show that the impact of the voting system reform is substantially heterogeneous across this dimension. In municipalities with a high share of female councilors, the reform increased the probability of electing a female mayor by 5 percentage points; on the contrary, in municipalities with a low share of female councilors, the reform had a much smaller impact on the probability of electing a female mayor. The results presented in Panel (a) of Figure 3 indicate that women who were already in the political administration benefitted more than outsider women from the reform.

In Panel (b) of Figure 3, I compare the impact of the reform in municipalities where the share of female councilors belonging to the mayor's party in 1992 was above versus below the median share of female councilors belonging to the mayor's party across all municipalities. I find that the effect of the reform is homogeneous across this dimension, indicating that the heterogeneity documented in Panel (a) is driven by variation in the share of female councilors belonging to other parties. Indeed, In Panel (c), I document substantial heterogeneity with respect to the share of pre-reform female councilors who belong to any other party.

The results presented in Panels (b) and (c) of Figure 3 are consistent with two mechanisms: on the one hand, pre-reform majority parties reacted to the reform by selecting a female candidate also when the pool of female councilors to choose from was limited to keep high chances of winning the election. On the other hand, pre-reform majority

⁷In Table B.4, I augment the specification with controls for predictors of each municipality's exposure to the newly-introduced local property tax used in the literature (Bianchi et al., 2021; Bordignon et al., 2020) interacted with time dummies. Specifically, I add controls for i) the pre-reform transfers received by the municipality, ii) the share of buildings constructed before WWII, iii) the provincial GDP in 1992, and iv) the revenues from a temporary property tax levied in 1992, all interacted with time dummies.

⁸In Table B.5, I interact the model with an indicator equal to 1 if the incumbent mayor in 1992 was a member of the DC, the PCI, or the PSI, respectively.

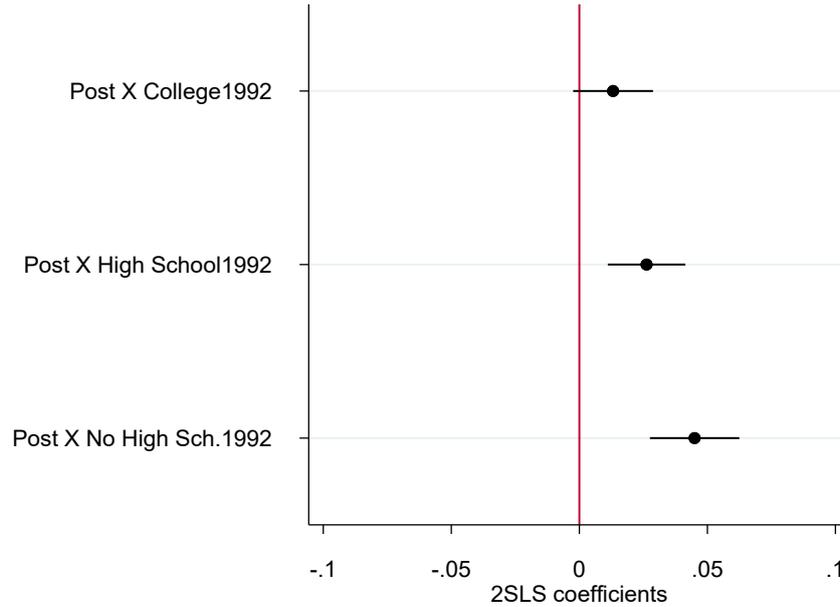


Figure 4: Heterogeneous effects by pre-reform incumbent mayor's education level

Notes: *College1992* is an indicator equal to 1 if the incumbent mayor in 1992 holds a university degree; *HighSchool1992* is an indicator equal to 1 if the incumbent mayor in 1992 holds, as the highest educational achievement, a high school diploma; *NoHighSchool1992* is an indicator equal to 1 if the incumbent mayor in 1992 does not hold a high school diploma. 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

parties which did not select a female candidate – because of a limited pool of prospective candidates to choose from – were more likely to be unseated by voters in the election. In Table B.6 in the Online Appendix, I provide further evidence in support of the concurrent existence of these two channels. First, I show that the treatment effect is reduced but remains positive and statistically significant when controlling for the mayor's party fixed effects. Second, I document that the reform decreased substantially the probability that the mayor in office at time t belongs to the same party as the mayor in office during the previous term.⁹

5.2 Female mayors only replace uneducated incumbents

Second, in Figure 4, I exploit heterogeneity across municipalities in the pre-reform educational levels of mayors. Education level can be interpreted as a proxy for the mayor's productivity in office and of voters' perceptions of her ability.

⁹In Table B.7, I also provide evidence that the impact of the reform positively correlates with the share of votes received in the 1992 national elections by the main opposition parties to the government in power in 1992 and 1993 (Democratic Party of the Left, Northern League, and Refoundation of the Communist Party) while the reform's impact negatively correlates with the share of votes received by the at-the-time dominant Christian Democratic Party.

Besley et al. (2017) document that the introduction of a gender quota in Sweden increased the proportion of female candidates and elected officials, who entered office at the expense of low-quality male politicians. The results in Besley et al. (2017) rely on a form of the trade-off between competence and loyalty (e.g. Egorov and Sonin, 2011; Zakharov, 2016): selecting competent politicians increases the chances of election success at the expenses of loyalty to the party structure. The introduction of direct election should impact this trade-off since it moves the focus of the competition from party labels to individual candidates. In turn, the effect of the direct election on the probability of electing a female mayor should be stronger in localities where the incumbent is of mediocre quality than in localities where parties used to select a high-quality mayor also before the reform.

The results presented in Figure 4 are strongly in line with this conjecture. The voting system reform has a small and statistically insignificant effect on the probability of electing a female mayor in municipalities where the incumbent mayor in 1992 used to hold a college degree. Conversely, the treatment effect of the reform is driven by municipalities in which, before the reform, a mayor without a college degree was in office. More specifically, in municipalities where the pre-reform incumbent used to hold a high-school diploma as the highest educational achievement, direct elections increased the probability of electing a female mayor by 3 percentage points. In municipalities where the pre-reform incumbent had not completed high school, the reform increased the probability of electing a female mayor by 5 percentage points. The estimated coefficients for $PostReform_{i,t} \times HighSchool_{i,1992}$ and $PostReform_{i,t} \times NoHighSchool_{i,1992}$ are significantly different from each other and both significantly different from zero.¹⁰

5.3 Reform improves the quality of elected mayors

Third, as a consequence of the arguments spelled out in the previous subsection, we should expect the introduction of direct election to affect not only the gender of elected mayors but also other quality traits that voters may appreciate more than party leaders and members of the municipality councils. In Table 2, I document how the reform affected other individual characteristics of elected mayors as well as their survival rate in office. In column (1), I document that mayors elected after the reform were not, on average, significantly younger or older than mayors elected before the reform. In column (2), I show that the introduction of a direct election scheme increased the probability of electing a mayor holding a college degree by 10 percentage points. In turn, the reform reduced the proportion of mayors holding a high school diploma and who did not complete high school education by 3.8 and 6.1 percentage points, respectively. Moreover, column (5)

¹⁰The results in Figure 4 do not reflect the educational divide between the Centre-North and the South of Italy. Indeed, Table B.8 in the Online Appendix shows that the voting system reform increased the probability of electing female mayors especially in Northern Italy.

Table 2: Impact of voting reform on the characteristics of elected mayors

	2SLS					
	(1)	(2)	(3)	(4)	(5)	(6)
	Age Mayor	College Mayor	High school Mayor	No High sch. Mayor	High-skill job Mayor	Win next
Post Reform	0.505 (0.309)	0.099*** (0.014)	-0.038** (0.015)	-0.061*** (0.009)	0.054*** (0.011)	0.260*** (0.018)
Observations	137,470	137,470	137,470	137,470	137,470	137,470
R ²	0.000	0.001	0.000	0.000	0.001	0.004
Year Effects	✓	✓	✓	✓	✓	✓
Municipality Fixed Effects	✓	✓	✓	✓	✓	✓
Linear pre-reform trends	✓	✓	✓	✓	✓	✓
Control mean	44.93	0.354	0.428	0.218	0.100	0.398

Notes: In column (1), the dependent variable is the age of the mayor. In column (2), the dependent variable is an indicator equal to 1 if the mayor holds a college degree. In column (3), the dependent variable is an indicator equal to 1 if the mayor holds a high-school degree as the highest educational attainment. In column (4), the dependent variable is an indicator equal to 1 if the mayor did not complete high school education. In column (5), the dependent variable is an indicator equal to 1 if the mayor used to work in a high-skill profession before the appointment. In column (6), the dependent variable is an indicator equal to 1 if the mayor is re-elected after the next election. Standard errors robust to clustering at the municipality level are in parentheses. *, **, *** represent the 10%, 5%, 1% significance levels.

documents that mayors elected after the reform were 5.4 percentage points more likely to work in a high-skill and prestigious profession than those elected before the reform. Lastly, in column (6), I investigate how voters reacted to the change in the pool of mayors by estimating the impact of the voting reform on the probability of re-electing the incumbent for a second term in office. The results show that the reform increases the probability of re-electing the incumbent by 26 percentage points.

Combining the results presented in Figure 4 and Table 2 with the differences between male and female mayors reported in Table B.9 in the Online Appendix suggests that the reform did improve the overall quality of elected mayors through two concurrent channels. On the one hand, newly elected female mayors were on average of better quality than the male incumbents replaced by them. Second, the reform also had a positive impact on the quality of elected male mayors since the effects estimated in Table 2 are larger than gender differences in observable traits between male and female mayors reported in Table B.9.

6 Concluding remarks

This paper exploited the reform of the voting regime to select mayors in Italian municipalities to investigate the impact of direct elections of political leaders on the selection of female appointed officials. The results document that the introduction of a direct

election scheme nearly doubled the proportion of female mayors. The effect is stronger in municipalities where a relatively high share of women was, before the reform, serving in the municipality council. This evidence indicates that the reform increased the proportion of female elected officials mainly in localities where there was a large pool of female potential candidates among which parties and voters could select from.

Newly elected female mayors were more likely to replace undereducated incumbents, while the reform did not have any significant impact in the municipalities in which the pre-reform mayor held a college degree. New mayors entering office after the reform were, on average, better educated than the replaced incumbents and arguably appeared more productive in the eyes of parties and voters since the reform also increased the probability of re-electing the incumbent mayor.

Taken together, the results presented in this paper strongly document that letting voters select political leaders increases the proportion of female elected officials, compared to cases in which political leaders are elected by members of a legislative body as in parliamentary democracy. The results provide reduced-form evidence on the relationship between voter bias ([Cipullo, 2021](#); [Gonzalez-Eiras and Sanz, 2021](#); [Le Barbanchon and Sauvagnat, 2021](#)) and party bias against female candidates ([Bagues et al., 2020](#)). In particular, the results of this paper suggest that party bias against female candidates dominates voter bias.

References

- Bagues, M., Campa, P., and Palguta, J. (2020). Gender and Political Coalitions. Working Paper.
- Ballini, P. L. (2010). La rifondazione della democrazia nei Comuni: la legge elettorale amministrativa e le elezioni comunali del 1946. In *Le autonomie locali dalla Resistenza alla I legislatura della Repubblica*, pages 369–432. Rubbettino.
- Baltrunaite, A., Bello, P., Casarico, A., and Profeta, P. (2014). Gender Quotas and the Quality of Politicians. *Journal of Public Economics*, 118:62–74.
- Baltrunaite, A., Cannella, M., Mocetti, S., and Roma, G. (2021). Board Composition and Performance of State-Owned Enterprises: Quasi-Experimental Evidence. *Bank of Italy Temi di Discussione (Working Paper) No*, 1328.
- Baltrunaite, A., Casarico, A., Profeta, P., and Savio, G. (2019). Let the Voters Choose Women. *Journal of Public Economics*, 180:104085.
- Besley, T., Folke, O., Persson, T., and Rickne, J. (2017). Gender Quotas and the Crisis of the Mediocre Man: Theory and Evidence from Sweden. *American Economic Review*, 107(8):2204–42.
- Bianchi, N., Giorcelli, M., and Martino, E. M. (2021). The Effects of Fiscal Decentralization on Publicly Provided Services and Labor Markets. NBER Working Paper No. 29538.
- Bordignon, M., Gamalerio, M., and Turati, G. (2020). Manager or Professional Politician? Local Fiscal Autonomy and the Skills of Elected Officials. *Regional Science and Urban Economics*, 83:103529.
- Bordignon, M., Nannicini, T., and Tabellini, G. (2016). Moderating Political Extremism: Single Round versus Runoff Elections under Plurality Rule. *American Economic Review*, 106(8):2349–2370.
- Callaway, B. and Sant’Anna, P. H. (2021). Difference-in-Differences with Multiple Time Periods. *Journal of Econometrics*, 225(2):200–230.
- Carozzi, F., Cipullo, D., and Repetto, L. (2021). Political Fragmentation and Government Stability. Evidence from Local Governments in Spain. Forthcoming at *American Economic Journal: Applied Economics*.
- Cengiz, D., Dube, A., Lindner, A., and Zipperer, B. (2019). The Effect of Minimum Wages on Low-Wage Jobs. *The Quarterly Journal of Economics*, 134(3):1405–1454.

- Cipullo, D. (2021). Gender Gaps in Political Careers: Evidence from Competitive Elections.
- De Chaisemartin, C. and d’Haultfoeuille, X. (2020). Two-way Fixed Effects Estimators with Heterogeneous Treatment Effects. *American Economic Review*, 110(9):2964–96.
- Egorov, G. and Sonin, K. (2011). Dictators and their Viziers: Endogenizing the Loyalty–Competence Trade-off. *Journal of the European Economic Association*, 9(5):903–930.
- Gagliarducci, S. and Paserman, M. D. (2011). Gender Interactions within Hierarchies: Evidence from the Political Arena. *The Review of Economic Studies*, 79(3):1021–1052.
- Gonzalez-Eiras, M. and Sanz, C. (2021). Women’s Representation in Politics: The Effect of Electoral Systems. *Journal of Public Economics*, 198:104399.
- Goodman-Bacon, A. (2021). Difference-in-Differences with Variation in Treatment Timing. *Journal of Econometrics*, 225(2):254–277.
- Le Barbanchon, T. and Sauvagnat, J. (2021). Electoral Competition, Voter Bias, and Women in Politics. *Journal of the European Economic Association*, jvab028.
- Profeta, P. and Woodhouse, E. F. (2021). Electoral Rules, Women’s Representation and the Qualification of Politicians. *Comparative Political Studies*, 55(9):1471–1500.
- Sant’Anna, P. H. and Zhao, J. (2020). Doubly Robust Difference-in-Differences Estimators. *Journal of Econometrics*, 219(1):101–122.
- Union, I.-P. (2020). Women in Parliament in 2020.
- Zakharov, A. V. (2016). The Loyalty-Competence Trade-off in Dictatorships and Outside Options for Subordinates. *The Journal of Politics*, 78(2):457–466.

Online Appendix

A Figures

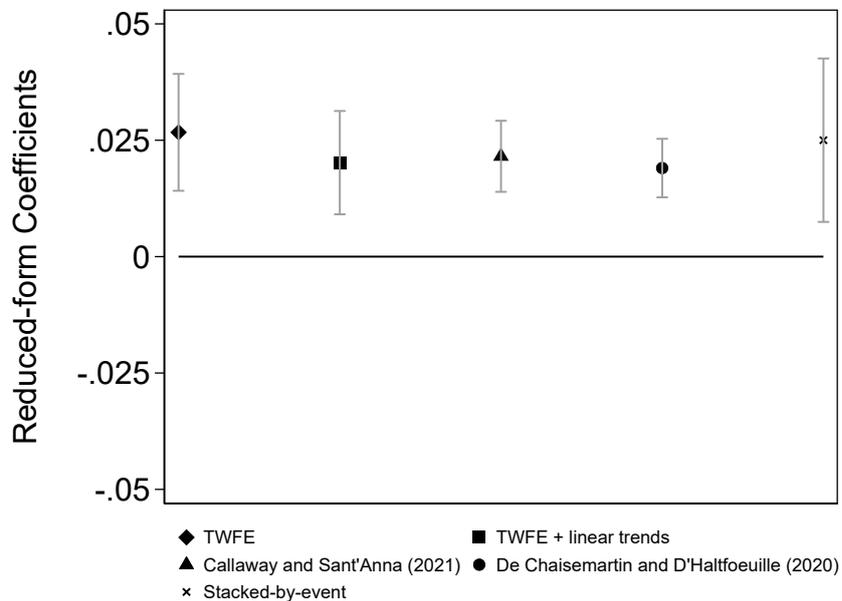


Figure A.1: Alternative estimators

Notes: In panel (c), the model is estimated using the method developed in [Callaway and Sant'Anna \(2021\)](#) and [Sant'Anna and Zhao \(2020\)](#). In panel (d), the model is estimated using the method developed in [De Chaisemartin and d'Haultfoeuille \(2020\)](#). In panel (e), the model is estimated using the stacked-by-event method ([Cengiz et al., 2019](#)). 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

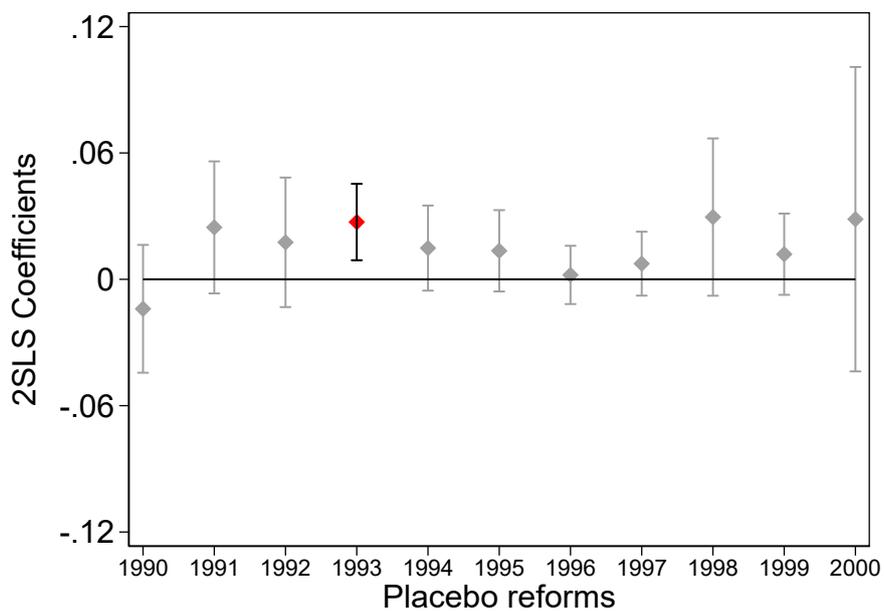


Figure A.2: Placebo coefficients

Notes: Estimation method: 2SLS as in equations (2) and (3) where, at each iteration the treatment indicator $\mathbb{1}(\widehat{EY}ear_{i,t} \geq 1993)$ has been replaced with an indicator $\mathbb{1}(\widehat{EY}ear_{i,t} \geq k)$, where k is specified in the horizontal axis label. Consistently, the instrument $\mathbb{1}(EYear_{i,t-5} \geq 1988)$ has been replaced with an indicator $\mathbb{1}(EYear_{i,t-5} \geq k - 5)$. 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

B Tables

Table B.1: Descriptive Statistics

Variable	(1) Mean	(2) St. Dev.	(3) Obs.
(a) Mayor and Council characteristics			
Female Mayor	0.064	0.246	137,470
College Mayor	0.407	0.491	137,470
Age Mayor	46.576	9.854	137,470
Female Councilors	0.147	0.112	137,470
High-skill job Mayor	0.138	0.345	137,470
Re-elected Incumbent	0.330	0.470	137,470
Same Party	0.866	0.340	131,330
(b) Election and City characteristics			
Post Reform	0.636	0.481	137,470
Instrument	0.643	0.479	137,470
First year of treatment	1,994.674	0.829	137,470
First year of predicted treatment	1,994.537	1.084	137,470
Year	1,997.196	6.481	137,470
Population	6,610.243	43,237.750	137,470
Surface (km ²)	32.958	45.638	137,470
Population density (inh./km ²)	278.642	629.711	137,470
Gender gaps in educ. attainment	112.110	26.846	137,470
Sex ratio	96.489	6.131	137,470
Female occupation rate	29.556	8.614	137,470
(c) Pre-reform characteristics			
Female Councilors (1992)	0.081	0.065	137,470
Female Councilors in majority party (1992)	0.076	0.098	137,470
Female Councilors in minority parties (1992)	0.083	0.099	137,470
College Mayor (1992)	0.370	0.483	137,470
High School Mayor (1992)	0.436	0.496	137,470
Junior School Mayor (1992)	0.193	0.395	137,470
Vote share of DC (1992)	0.343	0.129	137,470
Vote share of PDS (1992)	0.138	0.102	137,470
Vote share of PSI (1992)	0.137	0.080	137,470
Vote share of LEGA (1992)	0.126	0.113	137,470
Vote share of RC (1992)	0.053	0.037	137,470
Vote share of MSI (1992)	0.040	0.030	137,470

Notes: All mayors serving in municipalities belonging to ordinary regions between 1986 and 2008.

Table B.2: First stage and reduced form

	First-stage			Reduced form		
	(1)	(2)	(3)	(4)	(5)	(6)
	Post Reform	Post Reform	Post Reform	Female Mayor	Female Mayor	Female Mayor
Instrument	0.746*** (0.013)	0.810*** (0.010)	0.810*** (0.010)	0.027*** (0.006)	0.020*** (0.006)	0.020*** (0.006)
Observations	137,470	137,470	137,470	137,470	137,470	137,470
R ²	0.978	0.982	0.982	0.000	0.000	0.005
Year Effects	✓	✓	✓	✓	✓	✓
Municipality Fixed Effects	✓	✓	✓	✓	✓	✓
Linear pre-reform trends		✓	✓		✓	✓
Time-varying covs			✓			✓
Pre-determined covs × Year			✓			✓
Control mean	0.00300	0.00300	0.00300	0.0340	0.0340	0.0340
F-stat	3539	6182	6182			

Notes: In columns (1) – (3), the dependent variable is an indicator equal to 1 if the mayor was elected after the 1993 voting reform and 0 otherwise. In columns (4) – (6), the dependent variable is a dummy equal to 1 if the elected mayor is a woman. Estimation method: First-stage and reduced-form relationships associated with the 2SLS in equations (2) and (3). Standard errors robust to clustering at the municipality level are in parentheses. *, **, *** represent the 10%, 5%, 1% significance levels.

Table B.3: Robustness to introduction of gender quotas

	Full sample		Below 15,000 residents 2SLS		Above 15,000 residents	
	(1)	(2)	(3)	(4)	(5)	(6)
	Female Mayor	Female Coun.	Female Mayor	Female Coun.	Female Mayor	Female Coun.
Post Reform	0.025*** (0.007)	0.099*** (0.003)	0.022*** (0.008)	0.103*** (0.003)	0.038* (0.021)	0.062*** (0.006)
Observations	137,470	137,470	127,700	127,700	9,770	9,770
R ²	0.001	0.032	0.001	0.030	0.006	0.032
Year Effects	✓	✓	✓	✓	✓	✓
Municipality Fixed Effects	✓	✓	✓	✓	✓	✓
Linear pre-reform trends	✓	✓	✓	✓	✓	✓
Control mean	0.0350	0.0820	0.0350	0.0820	0.0340	0.0870

Notes: In columns (1), (3), and (5), the dependent variable is a dummy equal to 1 if the elected mayor is a woman. In columns (2), (4), and (6), the dependent variable is the share of women who serve as members of the municipality council. Estimation method: 2SLS as in equations (2) and (3). In columns (3) and (4), the sample is restricted to municipalities having less than 15,000 residents, while in columns (5) and (6), the sample is restricted to municipalities having more than 15,000 residents. Standard errors robust to clustering at the municipality level are in parentheses. *, **, *** represent the 10%, 5%, 1% significance levels.

Table B.4: Robustness to introduction of local property tax

2SLS						
	(1)	(2)	(3)	(4)	(5)	(6)
	Female Mayor	Female Mayor	Female Mayor	Female Mayor	Female Mayor	Female Mayor
Post Reform	0.024*** (0.007)	0.025*** (0.007)	0.026*** (0.007)	0.023*** (0.007)	0.025*** (0.007)	0.024*** (0.007)
Observations	116,422	116,458	136,817	137,384	134,203	115,943
R ²	0.001	0.001	0.001	0.003	0.001	0.004
Year Effects	✓	✓	✓	✓	✓	✓
Municipality Fixed Effects	✓	✓	✓	✓	✓	✓
Linear pre-reform trends	✓	✓	✓	✓	✓	✓
Transfers ₁₉₉₂ × Year	✓					✓
Yearly Transfers		✓				✓
Share Pre-WW2 Buildings × Year			✓			✓
Province GDP × Year				✓		✓
ISI ₁₉₉₂ × Year					✓	✓
Control mean	0.0350	0.0350	0.0350	0.0350	0.0350	0.0350

Notes: The dependent variable is a dummy equal to 1 if the elected mayor is a woman. Estimation method: 2SLS as in equations (2) and (3). In column (1), the specification is augmented with the interaction between the total amount of transfers received by the municipality in 1992 and year dummies; in column (2), the specification is augmented with controls for the yearly total amount of transfers received by the municipality; in column (3), the specification is augmented with the interaction between the share of housing built before WWII and year dummies; in column (4), the specification is augmented with the interaction between provincial GDP growth and year dummies; in column (5), the specification is augmented with the interaction between the amount of municipality tax revenues from the 1992 version of the property tax. Finally, in column (6), the specification is augmented with all the controls included in columns (1)–(5). Standard errors robust to clustering at the municipality level are in parentheses. *, **, *** represent the 10%, 5%, 1% significance levels.

Table B.5: Robustness to dissolution of major parties

	2SLS			
	(1)	(2)	(3)	(4)
	Female Mayor	Female Mayor	Female Mayor	Female Mayor
Post Reform	0.030*** (0.008)	0.028*** (0.007)	0.025*** (0.007)	0.027*** (0.008)
Post Reform × DC Mayor 1990	-0.005 (0.006)			-0.003 (0.007)
Post Reform × PCI Mayor 1990		-0.016 (0.015)		-0.016 (0.016)
Post Reform × PSI Mayor 1990			0.015** (0.007)	0.013 (0.009)
Observations	136,214	136,214	136,214	136,214
R ²	0.001	0.001	0.001	0.001
Year Effects	✓	✓	✓	✓
Municipality Fixed Effects	✓	✓	✓	✓
Linear pre-reform trends	✓	✓	✓	✓
Control mean	0.0340	0.0340	0.0340	0.0340

Notes: The dependent variable is a dummy equal to 1 if the elected mayor is a woman. Estimation method: 2SLS as in equations (2) and (3). In column (1), the specification is augmented with the interaction between an indicator equal to 1 if the mayor serving during the year 1990 belonged to the Christian Democratic party (DC) and the $PostReform_{i,t}$ dummy; in column (2), the specification is augmented with the interaction between an indicator equal to 1 if the mayor serving during the year 1990 belonged to the Italian Communist Party (PCI) and the $PostReform_{i,t}$ dummy; in column (3), the specification is augmented with the interaction between an indicator equal to 1 if the mayor serving during the year 1990 belonged to the Italian Socialist Party (PSI) and the $PostReform_{i,t}$ dummy. All interaction terms are instrumented as in the main specification. Finally, in column (4), the specification is augmented with all the controls included in columns (1)–(3). Standard errors robust to clustering at the municipality level are in parentheses. *, **, *** represent the 10%, 5%, 1% significance levels.

Table B.6: Impact of the voting system reform conditional on maintaining the same party in office and impact of the voting system reform on the probability of maintaining the same party in office

	Within mayor's party			Change of mayor's party		
	(1)	(2)	(3)	(4)	(5)	(6)
	Female Mayor	Female Mayor	Female Mayor	Same Party	Same Party	Same Party
Post Reform	0.027*** (0.010)	0.016* (0.009)	0.016* (0.009)	-0.493*** (0.010)	-0.551*** (0.010)	-0.551*** (0.010)
Observations	137,460	137,460	137,460	131,330	131,330	131,330
R ²	-0.000	0.001	0.005	0.039	0.046	0.049
Year Effects	✓	✓	✓	✓	✓	✓
Municipality Fixed Effects	✓	✓	✓	✓	✓	✓
Linear pre-reform trends		✓	✓		✓	✓
Time-varying covs			✓			✓
Pre-determined covs × Year			✓			✓
Control mean	0.0349	0.0349	0.0349	0.0357	0.0357	0.0357

Notes: In columns (1) – (3), the dependent variable is a dummy equal to 1 if the elected mayor is a woman. In columns (4) – (6), the dependent variable is a dummy equal to 1 if the mayor in office at time t belongs to the same party as the mayor in office at time $t - 1$. Estimation method: 2SLS as in equations (2) and (3). In columns (1) – (3), a set of control for the incumbent mayor's party fixed effects is added to the specification. Standard errors robust to clustering at the municipality level are in parentheses. *, **, *** represent the 10%, 5%, 1% significance levels.

Table B.7: Heterogeneity by party vote shares in 1992

2SLS								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Female Mayor	Female Mayor	Female Mayor	Female Mayor	Female Mayor	Female Mayor	Female Mayor	Female Mayor
Post Reform	0.025*** (0.007)	0.051*** (0.010)	0.013* (0.008)	0.030*** (0.008)	0.019** (0.007)	0.016** (0.008)	0.030*** (0.008)	-0.019 (0.033)
Reform × Share DC		-0.075*** (0.021)						0.012 (0.039)
Reform × Share PDS			0.083*** (0.032)					0.128** (0.051)
Reform × Share PSI				-0.035 (0.029)				0.029 (0.044)
Reform × Share LEGA					0.048** (0.024)			0.114** (0.051)
Reform × Share RC						0.166** (0.078)		0.070 (0.099)
Reform × Share MSI							-0.116 (0.088)	-0.003 (0.100)
Observations	137,470	137,470	137,470	137,470	137,470	137,470	137,470	137,470
R ²	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001
Year Effects	✓	✓	✓	✓	✓	✓	✓	✓
Municipality Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Linear pre-reform trends	✓	✓	✓	✓	✓	✓	✓	✓
Control mean	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340

Notes: DC refers to *Democrazia Cristiana* (Christian Democratic Party); PDS refers to *Partito Democratico della Sinistra* (Democratic Party of the Left); PSI refers to *Partito Socialista* (Socialist Party); LEGA refers to *Lega Nord* (Northern League); RC refers to *Rifondazione Comunista* (Refoundation of the Communist Party); MSI refers to *Movimento Sociale Italiano* (Italian Social Movement). Standard errors robust to clustering at the municipality level are in parentheses. *, **, *** represent the 10%, 5%, 1% significance levels.

Table B.8: Heterogeneity by macro-region

	North-West	North-East	Central Italy	South
	2SLS			
	(1)	(2)	(3)	(4)
	Female Mayor	Female Mayor	Female Mayor	Female Mayor
Post Reform	0.032*** (0.012)	0.061** (0.024)	0.025 (0.019)	0.005 (0.011)
Observations	62,987	19,833	20,768	33,882
R ²	0.000	0.003	0.007	0.002
Year Effects	✓	✓	✓	✓
Municipality Fixed Effects	✓	✓	✓	✓
Linear pre-reform trends	✓	✓	✓	✓
Control mean	0.0440	0.0460	0.0280	0.0140

Notes: The dependent variable is a dummy equal to 1 if the elected mayor is a woman. Estimation method: 2SLS as in equations (2) and (3). In column (1), the sample is restricted to municipalities belonging to Piedmont, Lombardy, and Liguria regions. In column (2), the sample is restricted to municipalities belonging to Veneto and Emilia-Romagna regions; in column (3), the sample is restricted to municipalities belonging to Tuscany, Umbria, Lazio, Marche, and Abruzzo regions; in column (4), the sample is restricted to municipalities belonging to Molise, Campania, Basilicata, Calabria, and Puglia regions. Standard errors robust to clustering at the municipality level are in parentheses. *, **, *** represent the 10%, 5%, 1% significance levels.

Table B.9: Correlation between gender and other observable characteristics of the elected mayors

	(1)	(2)	(3)	(4)	(5)	(6)
	Age Mayor	College Mayor	High school Mayor	Less than High School Mayor	High-skill job Mayor	Re- elected Incum- bent
Female Mayor	-3.122*** (0.302)	0.131*** (0.016)	-0.041** (0.017)	-0.089*** (0.011)	-0.022** (0.010)	-0.017* (0.010)
Observations	137,470	137,470	137,470	137,470	137,470	137,470
R ²	0.413	0.460	0.417	0.472	0.428	0.257
Year Effects	✓	✓	✓	✓	✓	✓
Municipality Fixed Effects	✓	✓	✓	✓	✓	✓
Mean outcome	46.58	0.407	0.435	0.158	0.138	0.330

Notes: Estimation method: OLS regression of the form $y_{i,t} = \beta \times FemaleMayor_{i,t} + \eta_i + \delta_t + \varepsilon_{i,t}$. In column (1), the dependent variable is the age of the mayor. In column (2), the dependent variable is an indicator equal to 1 if the mayor holds a college degree. In column (3), the dependent variable is an indicator equal to 1 if the mayor holds a high-school degree as the highest educational attainment. In column (4), the dependent variable is an indicator equal to 1 if the mayor did not complete high school education. In column (5), the dependent variable is an indicator equal to 1 if the mayor used to work in a high-skill profession before the appointment. In column (6), the dependent variable is an indicator equal to 1 if the mayor is re-elected after the next election. Standard errors robust to clustering at the municipality level are in parentheses. *, **, *** represent the 10%, 5%, 1% significance levels.