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Let the Voters Choose Women

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Let the Voters Choose Women

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Let the Voters Choose Women

Abstract

Female under-representation in politics can be the result of parties' selection of candidates and/or of voters' electoral preferences. To assess the impact of these two channels, we exploit the introduction of Italian Law 215/2013, which prescribes both gender quotas on candidate lists and double preference voting conditioned on gender. Using a Regression Discontinuity Design, we estimate that the law increases the share of elected female politicians by 22 percentage points. The result is driven by the increase in preference votes cast for female candidates, suggesting a salient role of double preference voting in promoting female empowerment in politics.

JEL-codes: D720, J450.

Keywords: gender quotas, municipal elections, regression discontinuity design.

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1 Introduction

Gender gaps dominate the political arena. According to the Global Gender Gap Index (World Economic Forum, 2015), only 23% of the gender gap in politics has closed across the world. In Europe, women represent 28% of politicians in legislative bodies and 27% in government cabinets (European Commission, 2015). In Italy, women represent approximately 30% of members of Parliament.

Different factors can contribute to female under-representation in politics: first, parties may not put women forward as candidates; second, voters may not vote for them.¹ Low female political empowerment has challenged public authorities to design policies to increase the presence of women in political institutions. There is no evidence, though, about whether policies targeting parties are more or less effective than policies targeting voters in achieving stronger female political empowerment. This paper sheds light on this issue by examining a recent Italian law (215/2012) that requires, for municipal elections, both gender quotas on candidates lists and double preference voting conditioned on gender, whereby voters can express two preferences only if they vote for candidates of different genders. The former is designed to affect the behaviour of parties, and the latter the behaviour of voters. The law targets all Italian municipalities with more than 5,000 residents, allowing us to implement a Regression Discontinuity Design around this threshold. The first elections under the new law were in May 2013. We assemble a unique dataset on municipal elections in this year, which includes information on all candidates and their ranking on the ballot, the number of preference votes obtained and the elected politicians. We estimate that the policy leads to a 22 percentage-point increase in the share of elected female politicians. We find no robust evidence of a discontinuity in the share of female candidates around the threshold, but the number of preference votes cast for female candidates significantly increases, suggesting an important role for double preference voting.

¹Another factor not addressed in this paper is that women may not be willing to or may not be interested in competing for political seats, for instance due to time constraints associated with care duties.

The literature proposes different arguments to support the goal of reducing the gender gap in political representation. The promotion of female participation in politics is justified on the grounds of equity considerations (Stevens, 2007), since women represent 50% of the overall and of the voting population. Moreover, female politicians are less corrupt and show higher cooperation and team working skills (Epstein et al. 2005). A gender-balanced political body may have an impact on the policies implemented and on the allocation of resources across different programs, giving more consideration to health and welfare expenditures (Funk and Gathmann, 2014; Jaronicki, 2013; Duflo and Chattopadhyay, 2004; Brollo and Troiano, 2014). The evidence in this regard, though, is not fully conclusive. For example, Ferreira and Gyourko (2014) find that having a female mayor in the United States does not change policy outcomes such as the size of local government, composition of municipal spending, employment, or crime rates. Similarly, Rehavi (2007) finds only marginal effects of female political leadership on policy in the United States.

Gender quotas are a common policy to tackle gender imbalance and are in place in a few countries, either at the national or the subnational level. They are often accompanied by additional measures to further support female political representation, such as zipping or list-proportional representation systems. However, their effectiveness is under scrutiny. Dahlerup and Freidenvall (2008) explain that the success of these policies depends on the combination of several factors, such as the level of enforcement, the type of electoral system, and the real will of parties to move towards more equal representation. Indeed, reserving seats for female candidates on party lists does not necessarily raise the chances of having female politicians elected. De Paola et al. (2010 and 2014) show that gender quotas on candidate lists increased the share of female politicians elected to Italian municipal councils and voters' turnout. However, Bagues and Esteve-Volart (2012) study the case of the Spanish senate and find that women remain "pawns" in the political game. In fact, Bagues and Campa (2015) and Casas-Arce and Saiz (2015) show that female access to political institutions can be challenged by the strategic positioning of female candidates on male-dominated parties' lists. More-

over, there is a concern that gender quotas may induce under-qualified women to run for and win political office, with the consequence of reducing the average quality of politicians. Baltrunaite et al. (2014) show that this is not necessarily the case, and binding gender quotas instead can increase the quality of elected politicians by changing the selection process both for men and for women: the quality of men rises when women enter the competition thanks to quotas.

There is no evidence about the effects of double preference voting, whereby voters can express two preferences, provided they choose candidates of different genders. More generally, preference voting allows voters to select one candidate (or more) on the list in proportional representation systems.² This feature may help create a direct link between voters and candidates and raise accountability due to a “threat” that politicians in top ballot positions are replaced by candidates below them. Preference votes were introduced in a number of countries³ during the past decades. Although the theory suggests that expressive voting may be beneficial for the whole of society (Hillman, 2010), preference votes appear highly ineffective, as voters continue to cast their preferences for the candidates at the top of the list (Farrell, 2001; Mueller, 2005; Andeweg, 2005; De Winter, 2005). Nevertheless, there is evidence that parties may use preference votes cast for candidates in open list systems to test the popularity of politicians and to then promote them to more powerful positions (Folke et al., 2016).

Our paper contributes to the existing literature in several ways. First, we shed light on the effects of a new policy that combines gender quotas and double preference voting conditioned on gender. Second, we separately identify the effect of the latter tool, providing the first evidence of its potential to promote female political empowerment. For this purpose, we have hand-collected data on candidates and preference votes they received.⁴ This allows us to distinguish whether

²Since 2013, in French subnational elections voters can elect two members of the opposite sex on a “binôme” or tandem ballot, whose names are arranged in alphabetical order. This new system of nomination of both female and male candidates (“binôme”) guarantees achievement of parity in departmental councils.

³Austria, Belgium, the Czech Republic, Denmark, Estonia, Lithuania, Norway, the Netherlands, Slovakia, and Sweden.

⁴This is the first study that uses data on Italian candidates in municipal elections in addition

it is the change in the behaviour of parties or voters, that triggers the increase in female presence on local councils. Overall, our contribution may guide the design of policies to promote female empowerment in politics.

The paper is organised as follows: Section 2 presents the institutional setting and the details of Law 215/2012, Section 3 describes our empirical strategy, Section 4 presents the results, and Section 5 concludes.

2 The institutional framework and the data

2.1 Law 215/2012

Italian Law 215 was passed in 2012 with the aim of increasing female presence on municipal councils. The measures introduced by the law apply to municipalities with more than 5,000 residents. First, the law establishes that neither sex can represent more than $2/3$ of the total number of candidates on party lists for municipal councils. This provision ensures the presence of candidates of both sexes and in practice compels parties to reserve at least $1/3$ of the total number of positions for female candidates. In municipalities with less than 15,000 residents, non-compliance is punished by removing the names of male candidates exceeding $2/3$ of the total.⁵ Second, the law introduces double preference voting conditioned on gender: voters are given the option of expressing their preference in favor of two candidates, instead of one, provided that they are of different genders.

The law was in force for the first time in the municipal elections in 2013. Among all municipalities that voted in 2013, only those with more than 5,000 residents were subject to the law, whereas for smaller ones neither gender quotas nor double preference voting conditioned on gender applied.

to data on the actually elected politicians.

⁵In municipalities with more than 15,000 residents, instead, the penalty is more severe and requires the cancellation of the entire list.

2.2 The data

We collect data on all Italian municipalities with less than 15,000 residents and that held elections in 2013. We focus on municipalities below 15,000 residents because electoral rules change for municipalities above this threshold.⁶ Of the 554 municipalities that voted in 2013, 91 have more than 15,000 residents and are therefore excluded from our sample. Of the remaining 463 municipalities,⁷ 316 are below the threshold of 5,000 residents and are not subject to the provisions of Law 215/2012; 147 municipalities are above this threshold and, therefore, must comply with the law. For each municipality we collect the publicly available data on the electoral results of the 2013 election and of the previous election.⁸ We have information on the total number and the identity of elected councilors, the number of female elected councilors, the political orientation of the majority party, and the gender of the mayor. In order to construct municipal-level control variables, we also use the 2011 Italian Census data on demographic, occupational, and educational characteristics.

Data on candidate lists are difficult to obtain as they are only gathered by local electoral offices and they are not published by the Ministry of Interior or made available on the internet. For this reason, we contacted all electoral offices of the municipalities in our sample in order to request candidate lists. If no response was received, we searched for candidate lists published in local newspapers, or directly contacted members of the municipal council or local politicians. On several occasions, the lists could only be obtained by watching parties' electoral cam-

⁶In municipalities with less than 15,000 residents, the mayor is elected if he/she takes the majority of votes. Moreover, voters' preferences for a given mayoral candidate automatically support the list associated with him. In municipalities with more than 15,000 residents, instead, the mayor is elected only if he/she wins more than 50% of the votes. Moreover, voters can give their preference to any mayoral candidate and to any list, regardless of whether or not it supports the chosen mayoral candidate.

⁷The sample does not include 4 municipalities for which election results were annulled due to the lack of electoral quorum.

⁸Municipal elections take place every 5 years and, hence, the majority of municipalities voted in 2008 in their previous election. However, as a municipal council may terminate its mandate earlier due to factors such as the unexpected death of the mayor or the resignation of the majority of the councilors, there are several municipalities that voted in the years from 2007 to 2012, and then again in 2013.

paigned video material, or reading official documentation regarding nominations. Moreover, when possible, we collected analogous data for the previous election in municipalities in our sample. In the end, we obtained data on the gender composition of candidate lists for 299 municipalities (out of 463 included in our main sample) in 2013 elections. This amounts to a total of 907 party lists – 425 for municipalities above the 5,000 resident threshold and 482 for those below it. We also have data on 190 municipalities in the election prior to 2013, with a total of 552 lists (257 for treated and 274 for control municipalities).

We also collected preference votes cast for candidates for municipal councils to measure the direct effect of double preference voting conditioned on gender. Specifically, we contacted each municipality in our sample with a request to provide candidate lists presented by every party in the 2013 election with the original (party-composed) candidate ordering and the number of preference votes each candidate on the lists received. Table 1 summarizes the sample coverage in terms of the number of municipalities and of the party lists.

[Table 1 here]

3 Empirical strategy

We adopt a sharp Regression Discontinuity Design in order to estimate the effect of Law 215/2012 on female presence in local politics. We exploit the fact that the measures included in the law, i.e. gender quotas and double preference voting conditioned on gender, apply only to municipalities with more than 5,000 residents. This results in a discontinuous variation in the institutional framework for municipalities of different size along a smoothly increasing forcing variable, namely, municipal population size. Our main regression equation is:

$$y_i = \alpha + \gamma_{01}\tilde{x}_i + \gamma_{02}\tilde{x}_i^2 + \dots + \gamma_{0p}\tilde{x}_i^p + \psi T_i + \gamma_{11}\tilde{x}_i * T_i + \gamma_{12}\tilde{x}_i^2 * T_i + \dots + \gamma_{1p}\tilde{x}_i^p * T_i + \varepsilon_i \quad (1)$$

where y_i is the outcome variable of interest, i.e., the share of elected female councilors or the share of female candidates in municipality i ,⁹ \tilde{x}_i is the resident population size in municipality i , centered at the 5,000 resident threshold; p is the order of the control polynomial function, with $p = 1, 2, 3, 4$; T_i is a dummy variable for municipalities with more than 5,000 residents (“treated municipalities”). The coefficients on the polynomial terms γ are also indexed by 0 and 1 because we allow for different polynomial coefficients on the two sides of the cut-off. The main coefficient of interest is ψ , which estimates the local average treatment effect of the reform. We show three sets of results for every outcome variable of interest:

1. We graphically investigate the existence of the discontinuity around the 5,000 resident cut-off. In order to do so, we plot local sample means of the dependent variable in small equidistant non-overlapping bins over the support of the resident population size \tilde{x}_i , together with smooth global polynomial regression curves drawn separately for municipalities below and above the threshold.
2. We estimate Equation (1) using polynomials of different orders, ranging from 1 to 4, for the entire sample of municipalities (*parametric approach*).
3. We implement local linear regressions using the procedure in Calonico et al. (2014) for observations within an optimal bandwidth. We use three different bandwidth selectors, namely: the bandwidth selector proposed by Calonico et al. (CTT) (2014), the one proposed by Imbens and Kalyanaraman (IK) (2012), and the cross-validation method proposed by Ludwig and Miller (CV) (2007) (*non-parametric approach*).

While these different specifications serve the purpose of transparently showing the robustness of the results, we will focus on the estimates from local linear regressions when commenting on the magnitudes of the effects.

⁹In the party-level regressions estimated for the share of female candidates, subscript i is substituted with subscript is and all variables are defined for party s in municipality i . Also, civic lists can run for seats. We use the words “party” and “lists” interchangeably.

4 Results

In this section, we study the impact of the reform on women’s political representation in Italian municipalities. We estimate the overall impact of the reform on the share of female councilors in order to evaluate the effectiveness of the law. Then, we attempt to assess the role of parties and of voters in generating the overall outcome. To do so, we first use data on the gender composition of candidate lists and measure the effect of gender quotas on female candidate supply. Second, we examine the data on preference votes received by female candidates in order to shed light on the role of double preference voting in fostering female presence in local politics.

4.1 Effects on female councilors

We examine the share of elected female councilors (i.e. the number of elected female councilors over the total number of councilors) around the 5,000 resident threshold. We plot the binned averages of the dependent variable against the municipal population, together with the quadratic polynomial fit on both sides of the cut-off and the 95% confidence intervals.¹⁰ Figure 1 includes the entire sample of municipalities. It shows a discontinuous jump in the share of elected female councilors in the municipalities above the cut-off, which were subject to the policy.

[Figure 1 here]

We next estimate the magnitude of the change in the share of female councilors using the control polynomial (parametric) approach. Specifically, we use observations both close to and far from the cut-off point and estimate equation (1) with polynomials of orders 1 to 4, in the four columns of Table 2, Panel A. Polynomials are allowed to differ on the two sides of the cut-off. The results show that the estimated coefficient of the treatment dummy indicator T is positive, statistically significant and rather stable in all columns.

¹⁰The discontinuity in the share of female councilors is robust and evident in analogous figures with polynomial fits of orders 1 to 4.

To test the existence of the discontinuity in the share of elected female councilors non-parametrically, we implement local linear regressions using a triangular kernel. In Table 2 Panel B Column 1, the optimal bandwidth is chosen by the selector proposed by Calonico et al. (CCT) (2014), in column 2 by the bandwidth selector by Imbens and Kalyanaraman (IK) (2012), and in Column 3 by the cross-validation method proposed by Ludwig and Miller (CV) (2007). Conventional estimates with conventional standard errors, biased-corrected estimates with conventional standard errors, and biased-corrected estimates with robust standard errors are presented in different rows. The results are robust and consistent with the coefficients presented in Panel A. Moreover, the point estimate increases as we concentrate on observations closer to the 5,000 resident threshold. The most conservative point estimate of 0.22 (Column 3, Row 3 in Panel B) implies that municipalities that voted in 2013 under the provisions of Law 215/2012 elected municipal councils with 20% more women.

[Table 2 here]

4.2 Effects on female candidates

Next, we attempt to better understand the differential role of parties' and voters' behaviour in determining the increase in the share of elected female councilors. We start by investigating the effect of gender quotas on female candidate supply, which parties set by forming candidate lists. For each party list presented in municipality i in the 2013 elections, we compute the share of female candidates on list s in municipality i and we use it as our dependent variable. For municipalities with more than 5,000 residents, the law requires that at least 1/3 of candidates on each list be female. We graphically investigate the existence of a discontinuity in the share of female candidates at the 5,000 resident threshold. Figure 2 reveals that the gender composition of candidate lists is different on the two sides of the cut-off. Specifically, municipalities with more than 5,000 residents have a larger share of female candidates.

[Figure 2 here]

We also note that the variance of the share of female candidates is much lower in municipalities that are subject to the law. However, when we focus on the observations closer to the cut-off, there is no clear discontinuity in the share of female candidates.¹¹ This suggests that parties do not behave differently in setting the gender composition of the list in municipalities with population close to 5,000. This can be due to a non-binding quota requirement (the requirement is smaller than the existing share of female candidates) or due to municipalities below the threshold mimicking those under the gender quota constraint.¹² Graphical evidence is confirmed both by parametric and non-parametric estimates, shown in Table 3.

[Table 3 here]

We conclude that, while the reform was overall successful in increasing female elected politicians, there is no strong evidence that gender quotas changed female candidate supply at the margin.

Parties not only decide the gender composition of the list but also the ordering of candidates. Politicians at the top of the list tend to obtain more preference votes and are therefore more likely to be elected (Farrell, 2004). For a given share of female candidates, the likelihood of being elected thus depends on whether women are placed at the bottom or at the top of the list. Several studies (Bagues and Esteve-Volart, 2012; Casas-Arce and Saiz, 2015) show that parties, when constrained by gender quotas, manipulate the ranking of the candidates so that the chances of being elected change little for male candidates, who usually form

¹¹We find no robust evidence of the discontinuity in the share of female councilors also using analogous figures with polynomial fits of orders 1 to 4.

¹²We further investigate the possibility that gender quotas affected candidate selection in municipalities on both sides of the threshold (mimicking effect). Adopting a difference-in-differences approach, we compared the share of female candidates in the two groups of municipalities in the 2013 and in the previous elections. The results (available upon request) show that the temporal change in the share of female candidates was indeed larger in municipalities that were subject to the gender quota law. This may suggest that smaller municipalities did not fully imitate the quota-municipalities. However, we cannot test the identifying assumption of parallel trends in this set-up, and thus our more cautious conclusion is that gender quotas have a limited effect in promoting the supply of female candidates.

the existing party elite. We therefore investigate in our set-up whether parties below and above the 5,000 resident threshold rank male and female candidates differently. If this is the case, the discontinuity we observe in the number of elected females at the cut-off may partially result from parties' decisions regarding the ranking of candidates. The analysis of the lists reveals that 50% of party lists in our sample are ranked alphabetically, which precludes any strategic ranking behaviour by parties. For the remaining lists, Figure 3 shows that the number of women in the top 2 positions does not change at the cut-off. This is confirmed by the results of regression analysis shown in Table 4. In addition, we consider the full ranking of candidates and attribute to each of them a score that decreases as we move down the party list (Borda ordering). Again, we do not find any discontinuity at the cut-off.¹³

[Figure 3 here]

[Table 4 here]

This evidence suggests that the increase in female political empowerment is not likely to be driven by parties' choices: neither the gender composition of candidate lists nor differences in ranking can account for the large increase in the number of female councilors.

4.3 Effect of preference votes for female candidates

We analyze the role of voters' choices in promoting female politicians. We examine the data on preference votes cast for female candidates graphically in Figure 4, which shows a visible positive discontinuity at the cut-off. Regression results in Table 5 imply that the effect amounts to at least 100 votes more cast for female candidates in municipalities in which voters were given the option of casting a double preference vote conditioned on gender.

[Figure 4 here]

[Table 5 here]

¹³The results are available upon request.

What changes to voter behaviour are elicited by the introduction of double preference voting? We cannot observe whether a voter has expressed 0, 1, or 2 preferences, as only information on total number of preferences received by each candidate is known. We thus consider the following possibilities which could explain the observed increase in preference votes cast for female candidates at the cut-off. First, double preference voting makes the issue of gender representation in politics more salient. This can boost the overall turnout in elections if people decide to vote because of the presence of a more women-friendly policy. This does not seem to be the case, as the number of voters (both overall and by gender) does not change discontinuously at the threshold (see Figures 5 and 6).¹⁴

[Figures 5, 6 and 7 here]

Second, double preference voting may increase the willingness of voters to express a preference for candidates. In fact, we find that the total number of preference votes cast in municipalities above the threshold rises, suggesting that preference votes are indeed used more actively (see Figure 8 and Table 6). This may come from a direct effect of the double preference voting (the number of voters who express a preference stays the same, but now they cast two preference votes) or from an increase in the number of voters expressing a single preference in favor of women (some voters now vote in favor of a woman, without a paired vote for a man). Since we observe a small positive discontinuity at the cut-off in the votes cast for male candidates (see Figure 9 and Table 7), at the very least, double preference voting does not subtract preference votes from male candidates, suggesting that voters use the option of expressing two preference votes, instead of one. This supports the idea that voters exploit their expanded set of voting choices.

[Figure 8 and Table 6 here]

[Figure 9 and Table 7 here]

¹⁴We can also exclude that voters are “confused” by this policy: the number of invalid ballots is not significantly different at the cut-off (see Figure 7).

A possible concern is that the law has an impact on the quality of candidates running for office. If so, there may be a change in preference votes for women independently from double preference voting conditioned on gender, if voters care about the quality of candidates (measured, for instance, by their education level or previous occupation, see Baltrunaite et al., 2014). We cannot test this effect directly, because data on personal characteristics of candidates or their CVs are not public. The following possibilities can arise. If the quality of both male and female candidates increases, the higher number of preferences for female candidates at the threshold cannot be explained by changes in quality. If only the quality of female candidates increases, we should expect that better-quality women obtain more preference votes, independent from the double preference voting mechanism, and hence are elected. However, we do not find any significant discontinuity at the cut-off in the quality of elected female councilors (see Figure 10). This is also consistent with findings in Baltrunaite et al. (2014), who do not find any significant effect of gender quotas on the quality of elected female politicians.¹⁵ Finally, if only the quality of male candidates increases, we should expect an increase in the number of votes cast for male candidates. In fact, this is what we do find (see Table 7). However, the change in the number of preference votes for males is smaller than the one observed for females, which leaves room for a significant role for double preference voting conditioned on gender.

[Figure 10 here]

In summary, our evidence is consistent with a substantial role played by voters in achieving stronger female political empowerment.

5 Robustness checks

To check the robustness of our results, we first verify that there are no discontinuities at the 5,000 resident threshold in the distribution of demographic, occupational, and educational characteristics in municipalities in our sample. The

¹⁵They find a positive and significant effect of binding gender quotas on the quality of male elected politicians.

results of graphical analysis are shown in Figures 11 to 13. We also implement local linear regressions, analogous to those in Section 4, using the three different bandwidth selectors. Results in Table 8 show that municipal characteristics vary continuously with the municipal population size. This is confirmed by our 54 tests on the variables of interest (18 municipal characteristics with 3 different bandwidths). This serves the purpose of showing that observable characteristics in municipalities above and below the threshold do not vary discontinuously.

[Figures 11, 12 and 13 here]

[Table 8 here]

Next, we examine the potential discontinuity in our main dependent variables –the shares of female councilors and of female candidates– in previous elections. This shows that there are no pre-existing differences in the share of female candidates and female politicians in our sample of municipalities that could confound our estimates of the policy effect in 2013. Tables 9 and 10 show that the share of female elected politicians and of female candidates do not exhibit any discontinuity at the cut-off in the previous election. The same results emerge from graphical inspection (See Figures 14 and 15) .

[Figures 14 and 15 here] [Tables 9 and 10 here]

We finally deal with the two main potential pitfalls that can threaten the interpretation of Regression Discontinuity Design results, namely “sorting” and “confounding policies” (Eggers et al., 2015). Sorting is the documented tendency of municipalities to strategically manipulate their population to fall on the preferred side of the cut-off. To exclude this possibility, we implement a McCrary test and find no evidence of manipulation of the population size in the universe of Italian municipalities.

[Figure 16 here]

Second, we take into account that other features of the Italian municipal setting change at the same cut-off of 5,000 residents: the salary of the mayor and

the size of the municipal councils. In principle, a change in the wage of politicians could have different effects on the male and female probability of running for a seat. We first note that the law does not regulate the amount of the attendance fee collected by the councilors, which is the only compensation for this appointment. Hence, direct effects of monetary incentives to run for a seat on a municipal council are unlikely. Moreover, to exploit the fact that the change in the mayor’s salary at the 5,000 resident cut-off preceded the introduction of Law 215/2012, we implement a difference-in-discontinuities design. Following the specification adopted by Grembi et al. (2016), we estimate the following linear model for several bandwidth selectors:

$$y_{it} = \delta_0 + \delta_1 \tilde{x}_i + T_i(\gamma_0 + \gamma_1 \tilde{x}_i) + A_t[\alpha_0 + \alpha_1 \tilde{x}_i + T_i(\beta_0 + \beta_1 \tilde{x}_i)] + \epsilon_{it} \quad (2)$$

where y_i is the outcome variable of interest, namely the share of elected female councilors in municipality i , \tilde{x}_i is the resident population size in municipality i , centered on the 5,000 resident threshold; T_i is a dummy variable for municipalities with more than 5,000 residents (“treated municipalities”), A_t is a dummy variable equal to 1 for 2013 elections and 0 for previous elections. The main coefficient of interest is β_0 , which estimates the local average treatment effect of the reform. As reported in Table 11, estimates of the treatment effect are positive, large, and significant. Thus, the positive effect of the law on women’s empowerment holds true even when controlling for the discontinuity in the mayor’s salary. Finally, we note that at the cut-off there is an increase both in the size of the municipal council and in the size of the list (both increase by three individuals). This change in size was however decided after 2008. To make sure this does not confound the result, we use shares instead of the absolute numbers of candidates (councilors), in municipality level (party level) analysis.

[Table 11 here]

6 Conclusions

This paper shows that Italian Law 215/2012 has a large, robust impact on women’s political representation. Specifically, our causally identified estimates suggest an increase of at least 22 percentage points in the share of female councilors. The paper shows that this effect cannot be explained by changes in parties’ behaviour at the cut-off, but rather stems from the actions of voters. If the electorate is given the option of casting a preference vote for one candidate of each gender, it selects female candidates more often. As a result, double preference voting conditioned on gender leads to stronger empowerment of women in local politics.

The design of policies to promote women in politics has so far focused mostly on selection decisions made by parties, prescribing gender quotas, zipping, or ranking rules in building the party’s list. Our evidence shows that, although these measures are important in order to include women in the political arena, they may not be enough for female political empowerment to succeed. When given the option, voters do choose women as their preferred candidates and do give a final push in guaranteeing their electoral success.

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Tables and figures

Table 1: Sample coverage

Panel A - 2013 election			
No. of municipalities:	Control	Treated	Total
voted	316	147	463
with all lists available	231	119	350
with preference votes available	231	119	350
with ranking available	189	110	299
No. of party lists	600	447	1047
No. of party lists with ranking available	501	417	918
No. of party lists with non-alphabetical ranking	272	259	531
Panel B - Previous election			
No. of municipalities:	Control	Treated	Total
voted	316	147	463
with all lists available	110	80	190
No. of party lists	275	257	532
Panel C - Geographical coverage			
No. of municipalities:	Control	Treated	Total
North	130	64	194
South and islands	151	62	213
Center	34	21	55

Notes: The table reports sample numerosity for the municipal 2013 election and for the previous one, and the geographical coverage of the sample, distinguishing between treated and control municipalities. For the municipal 2013 election, Panel A reports the number of municipalities that voted (for which we have data on all elected councilors), the number of municipalities with lists available, with preference votes available, and with ranking available. It also reports the total number of party lists, the number of party lists with ranking available, and among them, those with non-alphabetical ranking. For the previous election, Panel B reports the number of municipalities that voted (for which we have data on all elected councilors), the number of municipalities with lists available, and the number of party lists. Panel C reports the number of voting municipalities by geographical area.

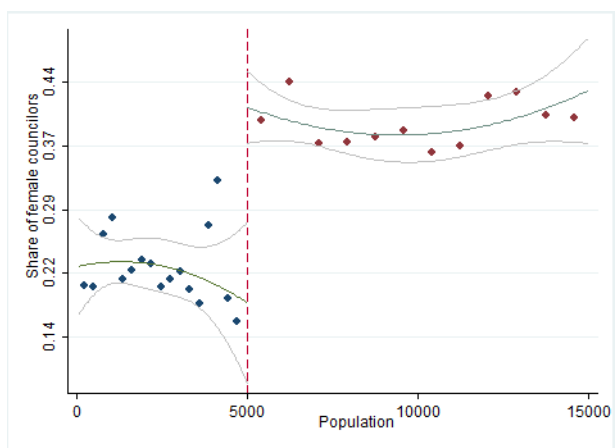


Figure 1: Female councilors

Table 2: Female presence on municipal councils

Share of female councilors								
Panel A - Parametric Approach					Panel B - Non-parametric Approach			
	(1)	(2)	(3)	(4)		(1)	(2)	(3)
T	0.190***	0.231***	0.208**	0.284**	Conventional	0.290***	0.218***	0.218***
					Bias-corr	0.316***	0.288***	0.216***
					Robust	0.316***	0.288**	0.216***
P-value	0.000	0.000	0.000	0.000	P-value	0.000	0.000	0.000
Observations	463	463	463	463	Obs. left	34	284	301
					Obs. right	39	98	100
Polyn. Order	1	2	3	4	Bandwidth	1351.63	4550.83	4779.00
R-Squared	0.19	0.19	0.19	0.20	Band. selector	CCT	IK	CV

Notes: The table shows the results of parametric and non-parametric estimation. The dependent variable is the share of female councilors over the total number of councilors. In Panel A, the sample includes all municipalities with less than 15,000 residents and that held elections in 2013. Columns 1-4 include polynomials of orders 1-4, respectively, in the resident population, centered on the 5,000 resident threshold. Polynomials are allowed to differ on the two sides of the cut-off. Only the coefficient of interest T is reported. In Panel B, conventional RD estimates with conventional variance estimator, bias-corrected RD estimates with conventional variance estimator, and bias-corrected RD estimates with robust variance estimator are reported. The sample includes municipalities voting in 2013 within the indicated bandwidth around the cut-off of 5,000 residents. Different bandwidth selectors are used in columns 1-3: the bandwidth selector proposed by Calonico, Cattaneo, and Titiunik (CCT) (2014); the bandwidth selector by Imbens and Kalyanaraman (IK) (2012); and the cross-validation method proposed by Ludwig and Miller (CV) (2007), respectively. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

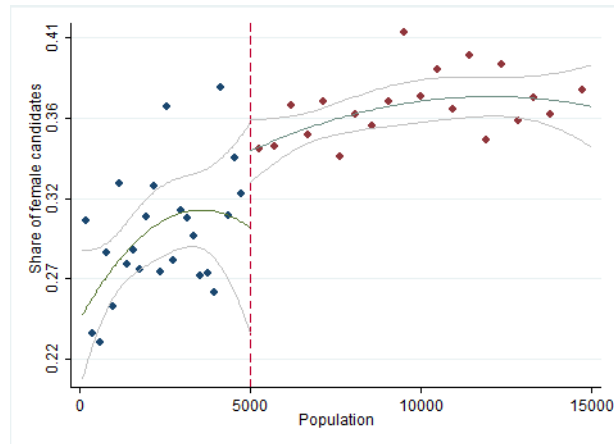


Figure 2: Female candidates

Table 3: Female candidate supply on party lists

Share of female candidates on party lists								
Panel A - Parametric Approach					Panel B - Non-parametric Approach			
	(1)	(2)	(3)	(4)		(1)	(2)	(3)
T	0.025	0.045	0.022	-0.059	Conventional	0.021	0.032	0.032
					Bias-corr	0.022	0.020	0.037*
					Robust	0.022	0.020	0.037
P-value	0.000	0.000	0.000	0.000	P-value	0.666	0.080	0.082
Observations	1047	1047	1047	1047	Obs. left	69	577	578
					Obs. right	93	292	292
Polyn. Order	1	2	3	4	Bandwidth	1315.50	4717.61	4742.00
R-Squared	0.07	0.08	0.08	0.08	Band. selector	CCT	IK	CV

Notes: The table shows the results of parametric and non-parametric estimation. The dependent variable is the share of female candidates over the total candidates on party lists. In Panel A, we include a subsample of parties that competed in 2013 elections in municipalities with less than 15,000 residents. Columns 1-4 include polynomials of orders 1-4, respectively, in the resident population, centered on the 5,000 resident threshold. Polynomials are allowed to differ on the two sides of the cut-off. Only the coefficient of interest T is reported. In Panel B, conventional RD estimates with conventional variance estimator, bias-corrected RD estimates with conventional variance estimator, and bias-corrected RD estimates with robust variance estimator are reported. The sample includes a subsample of parties that competed in 2013 elections in municipalities that are in a small bandwidth around the cut-off of 5,000 residents. Different bandwidth selectors are used in columns 1-3: the bandwidth selector proposed by Calonico, Cattaneo, and Titiunik (CCT) (2014); the bandwidth selector by Imbens and Kalyanaraman (IK) (2012); and the cross-validation method proposed by Ludwig and Miller (CV) (2007), respectively. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

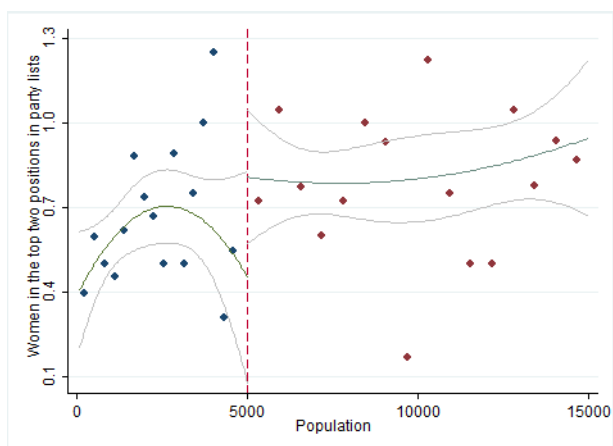


Figure 3: Women in the top two positions on party lists

Table 4: Placement of female candidates on party lists

Women in the top two positions on party lists								
Panel A - Parametric Approach					Panel B - Non-parametric Approach			
	(1)	(2)	(3)	(4)		(1)	(2)	(3)
T	0.047	0.356	0.358	0.456	Conventional	0.347	0.239	0.209
					Bias-corr	0.380	0.358*	0.338*
					Robust	0.380	0.358	0.338
P-value	0.003	0.004	0.016	0.041	P-value	0.172	0.140	0.180
Observations	538	538	538	538	Obs. left	56	204	229
					Obs. right	86	153	158
Polyn. Order	1	2	3	4	Bandwidth	1959.34	4165.76	4442.05
R-Squared	0.03	0.03	0.03	0.03	Band. selector	CCT	IK	CV

Notes: The table shows the results of parametric and non-parametric estimation. The dependent variable is the number of women in the top two positions on party lists. In Panel A, we include a subsample of parties that competed in 2013 elections in municipalities with less than 15,000 residents. Columns 1-4 include polynomials of orders 1-4, respectively, in the resident population, centered on the 5,000 resident threshold. Polynomials are allowed to differ on the two sides of the cut-off. Only the coefficient of interest T is reported. In Panel B, conventional RD estimates with conventional variance estimator, bias-corrected RD estimates with conventional variance estimator, and bias-corrected RD estimates with robust variance estimator are reported. The sample includes a subsample of parties that competed in 2013 elections in municipalities with less than 15,000 residents and are in a small bandwidth around the cut-off of 5,000 residents. Different bandwidth selectors are used in columns 1-3: the bandwidth selector proposed by Calonico, Cattaneo, and Titiunik (CCT) (2014); the bandwidth selector by Imbens and Kalyanaraman (IK) (2012); and the cross-validation method proposed by Ludwig and Miller (CV) (2007), respectively. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

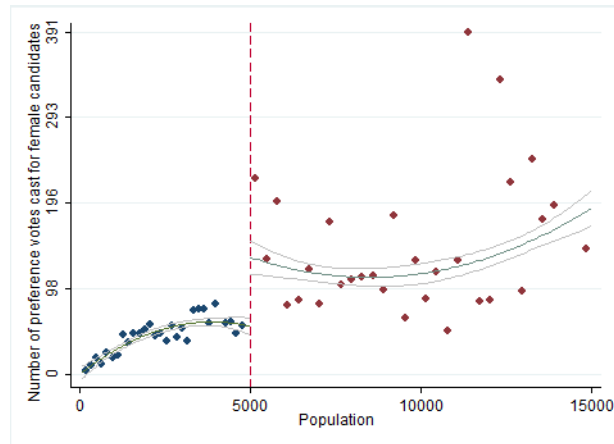


Figure 4: Preference votes cast for female candidates

Table 5: Preference votes cast for female candidates

Preference votes cast for female candidates								
Panel A - Parametric Approach					Panel B - Non-parametric Approach			
	(1)	(2)	(3)	(4)		(1)	(2)	(3)
T	19.111	74.122***	136.033***	149.728***	Conventional	152.172***	102.276***	152.598***
					Bias-corr	166.268***	123.026***	167.984***
					Robust	169.738***	155.673***	167.994***
P-value	0.000	0.000	0.000	0.000	P-value	0.000	0.000	0.000
Observations	3024	3024	3024	3024	Obs. left	120	506	202
					Obs. right	289	814	418
Polyn. Order	1	2	3	4	Bandwidth	1108.66	2961.75	1555.60
R-Squared	0.12	0.13	0.13	0.13	Band.-selector	CCT	IK	CV

Notes: The table shows the results of parametric and non-parametric estimation. The dependent variable is the number of women in the top two positions on party lists. In Panel A, we include a subsample of parties that competed in 2013 elections in municipalities with less than 15,000 residents. Columns 1-4 include polynomials of orders 1-4, respectively, in the resident population, centered on the 5,000 resident threshold. Polynomials are allowed to differ on the two sides of the cut-off. Only the coefficient of interest T is reported. In Panel B, conventional RD estimates with conventional variance estimator, bias-corrected RD estimates with conventional variance estimator, and bias-corrected RD estimates with robust variance estimator are reported. The sample includes a subsample of parties that competed in 2013 elections in municipalities with less than 15,000 residents and are in a small bandwidth around the cut-off of 5,000 residents. Different bandwidth selectors are used in columns 1-3: the bandwidth selector proposed by Calonico, Cattaneo, and Titiunik (CCT) (2014); the bandwidth selector by Imbens and Kalyanaraman (IK) (2012); and the cross-validation method proposed by Ludwig and Miller (CV) (2007), respectively. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

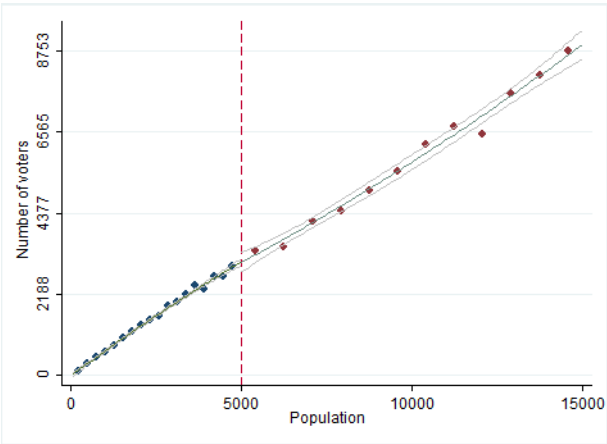


Figure 5: Voters

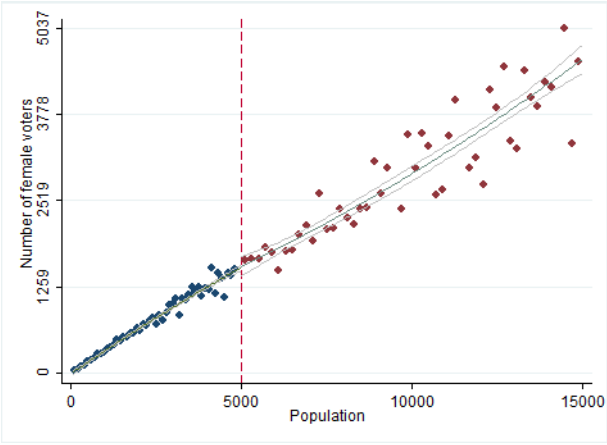


Figure 6: Female voters

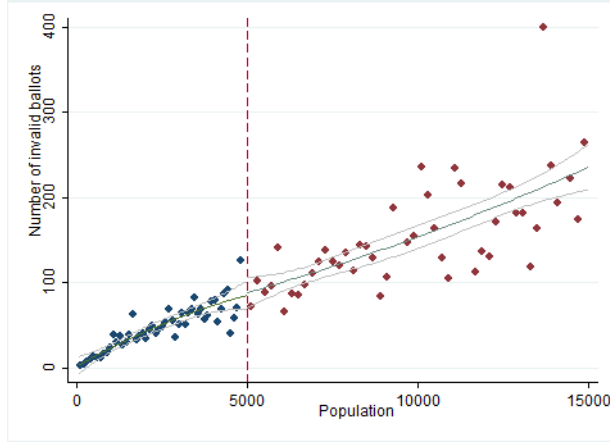


Figure 7: Invalid ballots

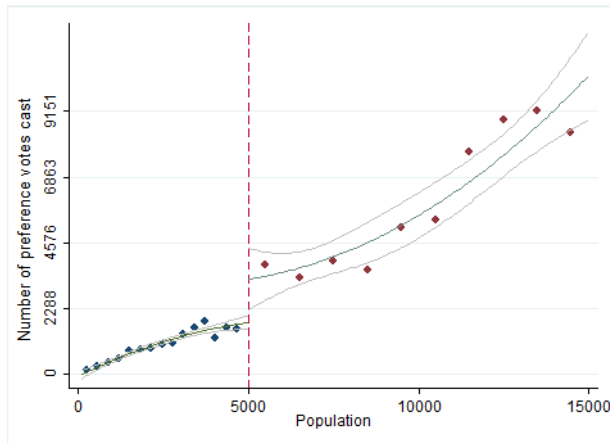


Figure 8: Preference votes cast for female and male candidates at municipal level

Table 6: Preference votes cast for female and male candidates at municipal level

Preference votes cast for female and male candidates at municipal level								
Panel A - Parametric Approach					Panel B - Non-parametric Approach			
	(1)	(2)	(3)	(4)		(1)	(2)	(3)
T	607.133	1509.445**	2532.707**	3043.111**	Conventional	3068.122***	2168.479***	1798.105***
					Bias-corr	3454.000***	2580.681***	2590.133***
					Robust	3454.000***	2580.681***	2590.133***
P-value	0.000	0.000	0.000	0.000	P-value	0.000	0.000	0.000
Observations	349	349	349	349	Obs. left	26	86	182
					Obs. right	29	59	75
Polyn. Order	1	2	3	4	Bandwidth	3454.000***	2580.681***	2590.133***
R-Squared	0.73	0.73	0.74	0.74	Band. selector	CCT	IK	CV

Notes: The table shows the results of parametric and non-parametric estimation. The dependent variable is the number of preference votes for female and male candidates collapsed at the municipal level. In Panel A, we include the candidates running in 2013 municipal elections. Columns 1-4 include polynomials of orders 1-4, respectively, in the resident population, centered on the 5,000 resident threshold. Polynomials are allowed to differ on the two sides of the cut-off. Only the coefficient of interest T is reported. In Panel B, conventional RD estimates with conventional variance estimator, bias-corrected RD estimates with conventional variance estimator, and bias-corrected RD estimates with robust variance estimator are reported. The sample includes a subsample of candidates running in 2013 elections in municipalities which are inside a small bandwidth around the cut-off of 5,000 residents. Different bandwidth selectors are used in columns 1-3: the bandwidth selector proposed by Calonico, Cattaneo, and Titiunik (CCT) (2014); the bandwidth selector by Imbens and Kalyanaraman (IK) (2012); and the cross-validation method proposed by Ludwig and Miller (CV) (2007), respectively. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

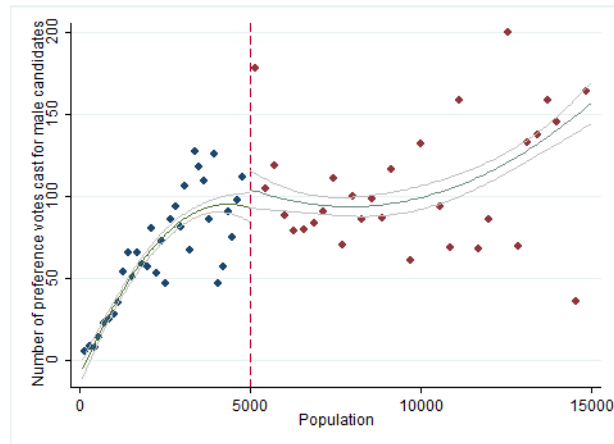


Figure 9: Preference votes cast for male candidates

Table 7: Preference votes cast for male candidates

Preference votes cast for male candidates							
Panel A - Parametric Approach					Panel B - Non-parametric Approach		
Column	1	2	3	4	Column	1	2
T	-37.698***	11.378	37.508**	51.347*	Conventional	57.144*	44.249***
					Bias-corr	66.836**	58.213***
					Robust	66.836**	58.213***
P-value	0.000	0.000	0.000	0.000	P-value	0.017	0.000
Observations	6007	6007	6007	6007	Obs. left	516	767
					Obs. right	716	1226
Polyn. Order	1	2	3	4	Bandwidth	1695.01	2331.87
R-Squared	0.11	0.11	0.12	0.12	Band. selector	CCT	IK

Notes: The table shows the results of parametric and non-parametric estimation. The dependent variable is the number of preference votes cast for male candidates on party lists. In Panel A, we include the candidates running in 2013 elections. Columns 1-4 include polynomials of orders 1-4, respectively, in the resident population, centered on the 5,000 resident threshold. Polynomials are allowed to differ on the two sides of the cut-off. Only the coefficient of interest T is reported. In Panel B, conventional RD estimates with conventional variance estimator, bias-corrected RD estimates with conventional variance estimator, and bias-corrected RD estimates with robust variance estimator are reported. The sample includes a subsample of candidates running in 2013 elections in municipalities which are inside a small bandwidth around the cut-off of 5,000 residents. Different bandwidth selectors are used in columns 1-2: the bandwidth selector proposed by Calonico, Cattaneo, and Titiunik (CCT) (2014), and the bandwidth selector by Imbens and Kalyanaraman (IK) (2012), respectively. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

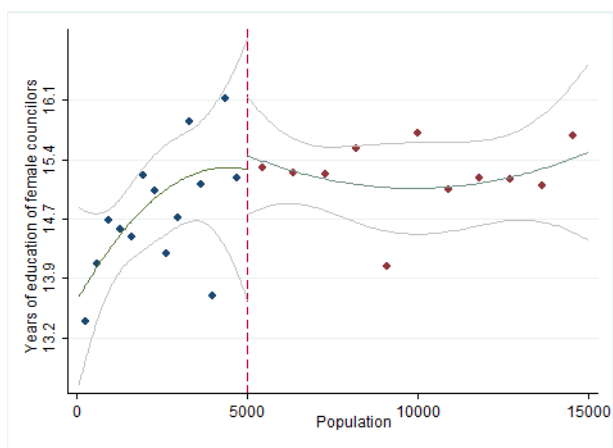


Figure 10: Years of education of female councilors

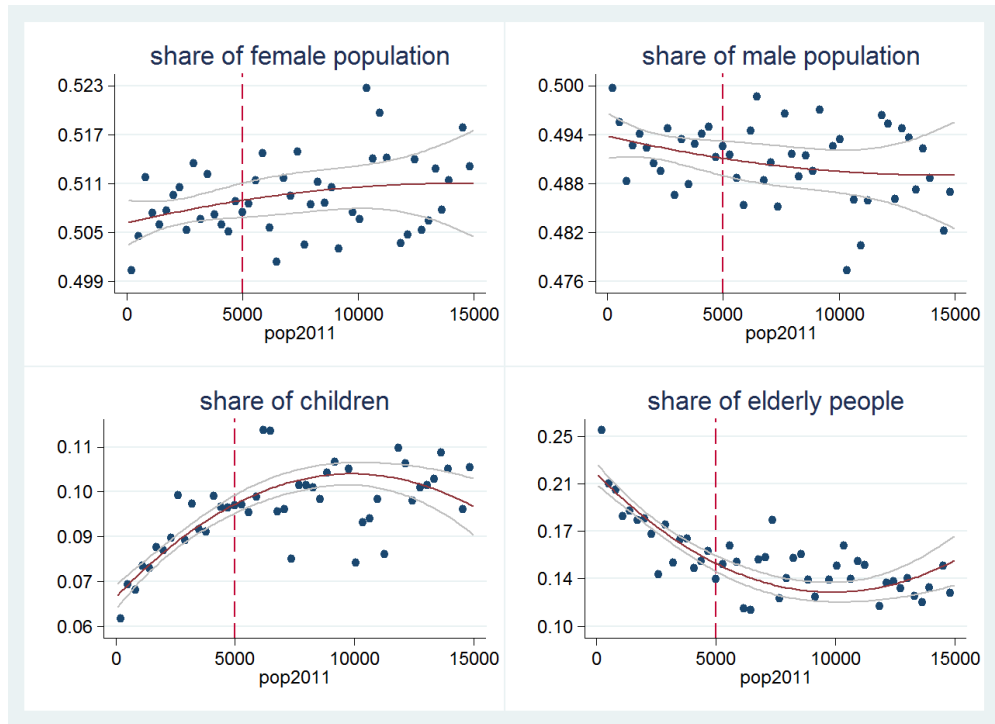


Figure 11: Demographic characteristics

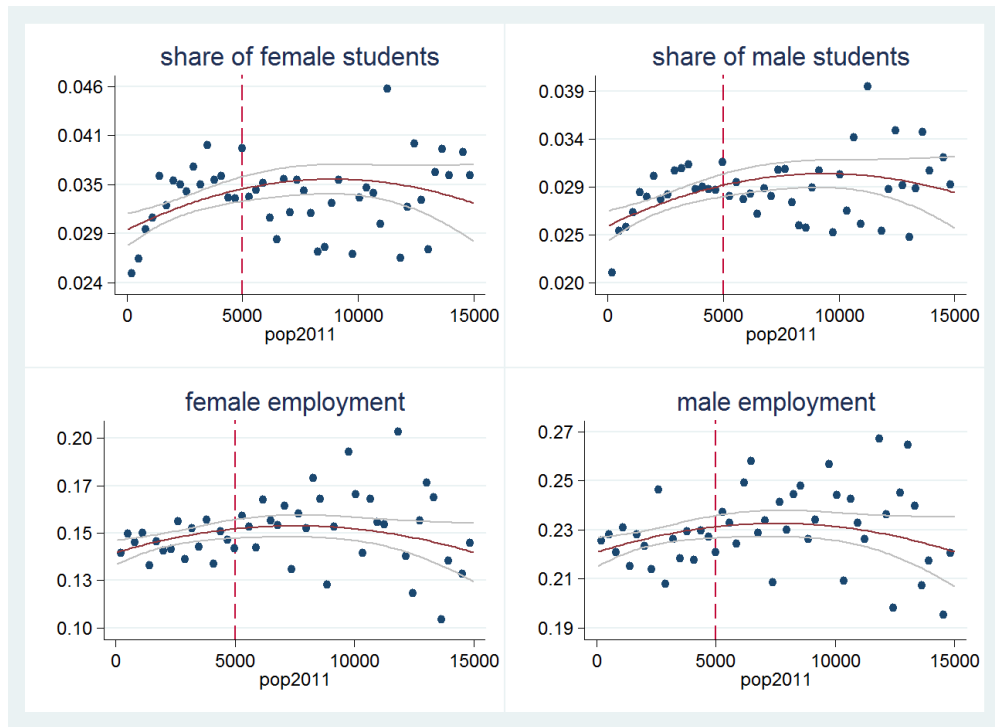


Figure 12: Occupational characteristics

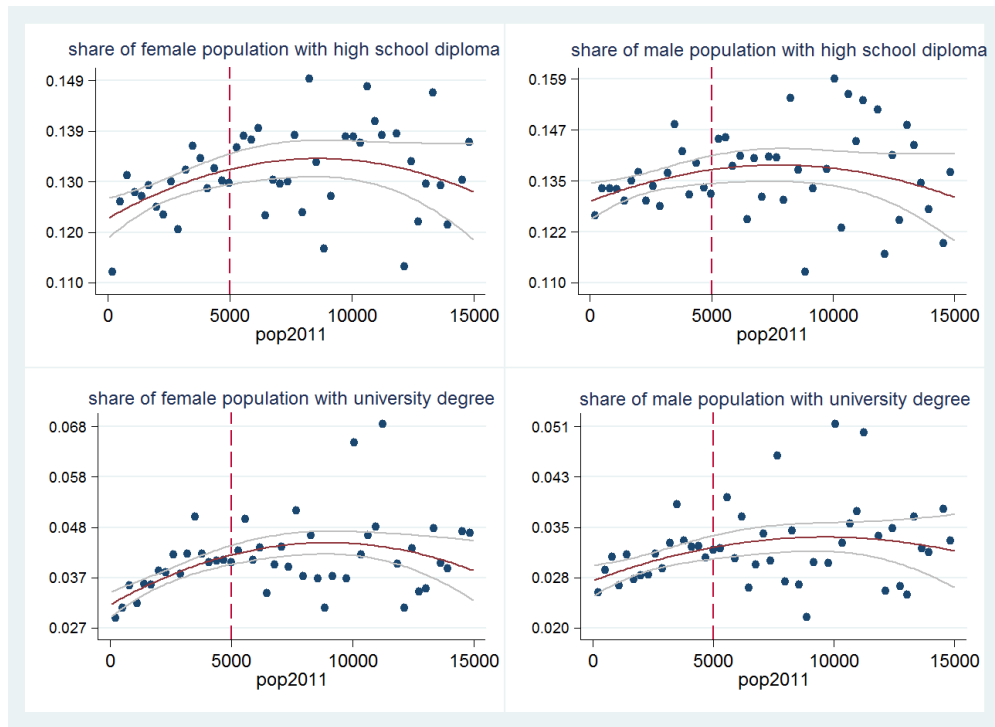


Figure 13: Educational characteristics

Table 8: Socio-demographic characteristics

Panel A - Demographic characteristics			
female population	11.354	2.605	12.166
male population	-11.776	-2.608	-12.166
children	-17.567	18.292	37.764
elderly people	52.852	-24.233	-16.819
Panel B - Occupational status			
female employed	28.800	20.128	22.348
male employed	40.179	14.456	40.441
female students	12.560	4.246	-2.408
male students	13.566	5.246	-2.518
female housemakers	-27.955	23.777	16.541
male housemakers	-2.817	0.090	0.244
Panel C - Educational status			
elementary school female	9.159	12.245	11.887
elementary school male	-45.678	-28.314	-21.879
middle school female	-22.148	1.909	4.035
middle school male	-59.634	-37.023	-21.339
Bandwidth-Selector	CCT	IK	CV

Notes: The table shows the results of a non-parametric RDD estimation for socio-demographic characteristics. In Panel A, we focus on demographic characteristics of the Italian resident population; In Panel B, we refer to the occupational status of the Italian resident population. In Panel C, we refer to the educational status of the Italian resident population. The sample includes municipalities that are in a small bandwidth around the cut-off of 5,000 residents. Different bandwidth selectors are used in columns 1-3: the bandwidth selector proposed by Calonico, Cattaneo, and Titiunik (CCT) (2014); the bandwidth selector by Imbens and Kalyanaraman (IK) (2012); and the cross-validation method proposed by Ludwig and Miller (CV) (2007), respectively. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

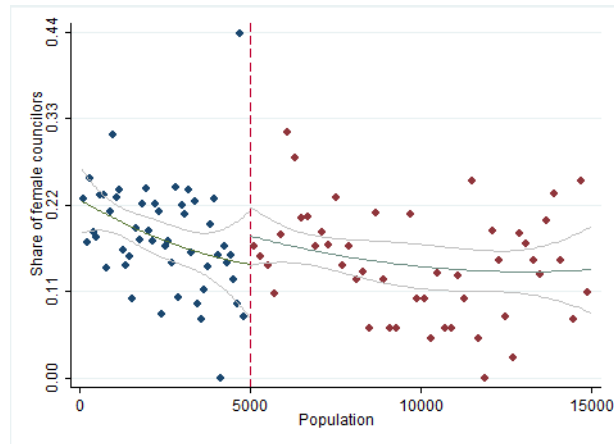


Figure 14: Female presence on municipal councils before reform

Table 9: Female presence on municipal councils before reform

Share of female councilors elected before reform								
Parametric Approach					Non-parametric Approach			
	(1)	(2)	(3)	(4)		(1)	(2)	(3)
T	0.038	0.036	-0.004	-0.050	Conventional	-0.024	-0.006	0.022
					Bias-corr	-0.046	-0.041	-0.030
					Robust	-0.046	-0.041	-0.030
P-value	0.001	0.003	0.005	0.004	P-value	0.641	0.882	0.437
Observations	468	468	468	468	Obs. left	70	131	304
					Obs. right	64	84	101
Polyn. Order	1	2	3	4	Bandwidth	2112.60	3085.54	4779.00
R-Squared	0.04	0.04	0.04	0.05	Band. selector	CCT	IK	CV

Notes: The table shows the results of parametric and non-parametric estimation. The dependent variable is the share of female councilors over the total number of councilors in the election prior to 2013. In sample A, we included all municipalities voting in 2013 with less than 15,000 residents. Columns 1-4 include different order polynomials in the resident population, centered on the 5,000 resident threshold. Polynomials are allowed to differ on the two sides of the cut-off. Only the coefficient of interest T is reported. In Panel B, conventional RD estimates with conventional variance estimator, bias-corrected RD estimates with conventional variance estimator, and bias-corrected RD estimates with robust variance estimator are reported. The sample includes municipalities belonging to ordinary statute regions voting in 2013 with less than 15,000 residents that are in a small bandwidth around the cut-off of 5,000 residents. Different bandwidth selectors are used in columns 1-3: the bandwidth selector proposed by Calonico, Cattaneo and Titiunik (CCT) (2014); the bandwidth selector by Imbens and Kalyanaraman (IK) (2012); and the cross-validation method proposed by Ludwig and Miller (CV) (2007), respectively. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

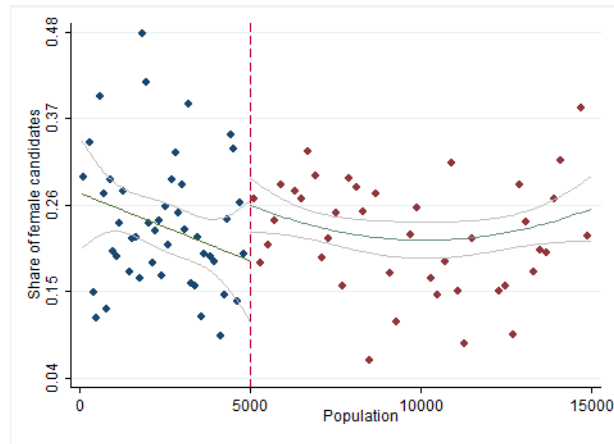


Figure 15: Female candidates in the previous election

Table 10: Female candidate supply before reform

Share of female candidates on party lists before reform								
Parametric Approach					Non-parametric Approach			
Column	1	2	3	4	Column	1	2	3
T	0.048	0.071	-0.008	-0.117	Conventional	-0.042	0.003	0.042
					Bias-corr	-0.040	-0.052	-0.006
					Robust	-0.040	-0.052	-0.006
P-value	0.113	0.162	0.050	0.019	P-value	0.436	0.940	0.129
Observations	531	531	531	531	Obs. left	43	128	269
					Obs. right	54	100	149
Polyn. Order	1	2	3	4	Bandwidth	1328.12	2693.97	4779.00
R-Squared	0.01	0.01	0.03	0.04	Band. selector	CCT	IK	CV

Notes: The table shows the results of parametric and non-parametric estimation. The dependent variable is the share of female candidates over the total number of candidates on party lists presented in the election prior to 2013. The sample includes the parties running in the last elections before 2013 in those municipalities that voted in 2013. Columns 1-4 include different order polynomials in the resident population, centered on the 5,000 resident threshold. Polynomials are allowed to differ on the two sides of the cut-off. Only the coefficient of interest T is reported. In Panel B, conventional RD estimates with conventional variance estimator, bias-corrected RD estimates with conventional variance estimator, and bias-corrected RD estimates with robust variance estimator are reported. The sample includes the parties running in the last election before 2013 in those municipalities that voted in 2013 and that are inside a small bandwidth around the cut-off of 5,000 residents. Different bandwidth selectors are used in columns 1-3: the bandwidth selector proposed by Calonico, Cattaneo, and Titiunik (CCT) (2014); the bandwidth selector by Imbens and Kalyanaraman (IK) (2012); and the cross-validation method proposed by Ludwig and Miller (CV) (2007), respectively. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

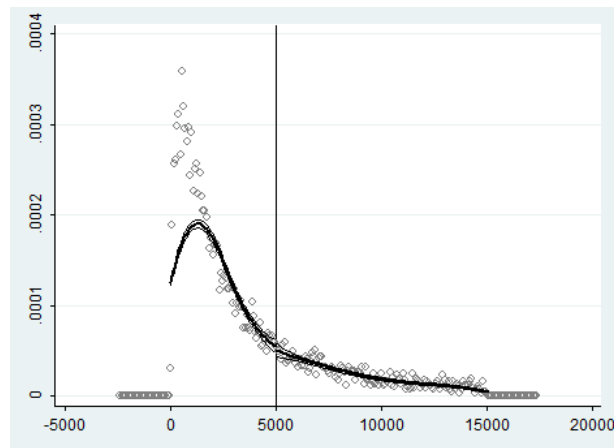


Figure 16: McCrary test, below 15,000 residents

Table 11: Difference-in-discontinuities

	(1)	(2)	(3)
$T \times A$	0.301***	0.171***	0.175***
Observations	146	764	802
P-value	0.000	0.000	0.000
R-Squared	0.48	0.17	0.17
Bandwidth	CCT	IK	CV

Notes: The table shows the results of non-parametric difference-in-discontinuities estimation. The dependent variable is the share of female councilors over the total number of councilors. The sample includes a subsample of parties that competed in 2013 elections in municipalities that are in a small bandwidth around the cut-off of 5,000 residents. Different bandwidth selectors are used in columns 1-3: the bandwidth selector proposed by Calonico, Cattaneo, and Titiunik (CCT) (2014); the bandwidth selector by Imbens and Kalyanaraman (IK) (2012); and the cross-validation method proposed by Ludwig and Miller (CV) (2007), respectively. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.