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Role models in politics: evidence from an Italian discontinuity

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Abstract

Exploiting a discontinuity in the introduction of a double preference voting law in Italy, this thesis investigates the presence of role model effects in politics. In particular, this research identifies the causal effects of electing more women to the municipal council on female political participation. Using a fuzzy regression discontinuity design, the analysis shows that a stronger female presence in the municipal council is associated with a larger share of female councilors being elected again in the following elections. It also increases significantly the share of female councilor candidates. This effect, however, appears to be driven by a reduction in the number of male candidates, rather than an increase of new female candidates. On the other hand, there is no evidence of an effect on the share of female mayoral candidates, elected female mayors, and female turnout. This thesis proves the need to shed light on the incentives for female political participation, to improve gender policies in policies and achieve more structural and less mechanical positive change.

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Contents

1 Introduction

While the Italian Republic was born in 1946, it was only in 1976 that Tina Anselmi was appointed as the first-ever female minister. Nowadays, the gap has narrowed, yet, only 8 of the 23 ministers in Draghi's government are women. This trend is similar across the majority of political offices and, although it seems to be steadily improving, women are, generally, greatly underrepresented with regard to politics. According to the World Economic Forum (2021), women represent only 26.1% of parliament seats and 22.6% of ministers in the 156 countries where the analysis was conducted. They estimate that at the current rate, it might take more than 145 years to completely extinguish the political gender gap. This is problematic as research shows a tendency for leaders to invest more in infrastructure that is more beneficial to their own gender (Chattopadhyay & Duflo, 2004). This may in effect lead to biased and sub-optimal policymaking. Many governments have tried to implement laws and initiatives to foster female political participation. Without a doubt, the most popular, as well as the most controversial policy, is gender quotas. Gender quotas aim to increase women's participation in the legislature. However, most of their critics argue that quotas only treat the symptoms but not the disease (Dahlerup & Freidenvall, 2010). In fact, they argue that a more diverse representation may be achieved by "forcing" more women into politics. Yet there is no effect on the social environment that produces women's under-representation in the first place - thus acting merely as a symbolic gesture. In practice they think gender quotas do not achieve the structural change that would create an environment where they are no longer needed because political representation is already fair. This begs the question: does greater female representation affect the political environment? This research will attempt to answer the question of whether having more women elected for political positions stimulates a fertile environment for female political participation.

Baltrunaite, Casarico, Profeta, and Savio (2019) have used a (sharp) Regression Discontinuity Design (RDD) to evaluate the effect of an electoral law introduced in Italy in 2012. The so-called "Law 215/2012" introduced double preference voting conditioned on gender (i.e., a voter can cast two preferences for candidates of the same list as long as they have a different gender). This law also established that neither gender can exceed more than 2/3 of the candidates on a party list for municipal councils. The authors exploited the fact that these rules only applied to municipalities with more than 5000 residents and used the discontinuity to infer that this law successfully increased the share of female councilors by 18 percentage points in the treated municipalities. Starting from these findings, this research will take advantage of the same discontinuity to investigate the long-term effects of this law by studying its impact on the following round of elections. It aims to study the existence of a Role Model Effect (RME, a stimulus to follow suit created by relatable individuals whose success seems attainable) for women in politics. In particular, this research attempts to identify the causal effect of having more women in the municipal council on various outcomes related to female political participation in the following round of elections. Using a fuzzy RDD, the results of the analysis show that a stronger

female presence in the municipal council is associated with a larger share of female councilors being elected again in the following elections. It also significantly increases the share of female candidates. This latter effect, however, appears to be driven by a reduction in the number of male candidates rather than an increase of new female candidates. On the other hand, there is no evidence of an effect on the share of female mayoral candidates, elected female mayors, and female turnout. The literature on RME in the political sphere is contradictory and there is no uniform consensus, yet this research corroborates those studies that found little to no evidence for RME in politics in western countries.

The thesis proceeds as follows: section 2 discusses the relevant literature, section 3 describes the institutional framework and the data, section 4 explains the methodology, section 5 illustrates the results of the analysis, section 6 provides some robustness checks, section 7 discusses the findings and, finally, section 8 concludes.

2 Related Literature

The paper by Baltrunaite et al. (2019) is only one of many in the Italian political economy strand. For instance, De Paola, Scoppa, and Lombardo (2010) showed that gender quotas on candidate lists increase the share of female municipal councilors, using a Difference-in-Difference design and a natural experiment that happened in italy in the 90s. Using the same identification strategy, they also found that it increases voters' turnout (De Paola, Scoppa, & De Benedetto, 2014). Baltrunaite, Casarico, and Profeta (2014) also exploited the same natural experiment and verified that gender quotas also increase the election of younger politicians, and that they improve the quality of municipal councilors measured by the level of their education (Baltrunaite, Bello, Casarico, & Profeta, 2014). More recently, Casarico, Lattanzio, and Profeta (2022) used a close mixed-gender election RDD and found that the gender of the mayor does not affect the size and composition of expenditures. Nevertheless, they found evidence that there is heterogeneity in spending, depending on the gender composition of the local government.

These are only some of the examples showing why the under-representation of women in politics might hurt policymaking. Another one is definitely the above-mentioned biased use of public resources (Chattopadhyay & Duflo, 2004). Furthermore, research has shown that female politicians tend to be less corrupt (Brollo & Troiano, 2016), and, naturally, there are several equity considerations related to women making up 50% of the population yet being represented for a much lower share (Stevens, 2007). The literature shows various mechanisms driving this under-representation. For instance, research by Fox and Lawless (2004) has found that women are less likely than men to be encouraged to run for office as well as to deem themselves as qualified to run. However, this might change with the presence of positive role models.

For instance, Beaman, Duflo, Pande, and Topalova (2012) used a randomized natural experiment in India to show that female leadership raises aspirations and educational attainment

for girls. This is one of many studies with credible identification strategies that found, in areas outside of politics, RME having positive effects on reducing the gender gap. In general, it is believed that exposure to high-performing role models can stimulate a change in behavior and an increase in self-esteem in a variety of settings. For example, in the American corporate world, Matsa and Miller (2011) used fixed effects and found that having a larger female share on the board of directors in the previous year has a positive spillover on the female share among current top executives. In a similar manner, in Norway, Kunze and Miller (2017) found evidence for spillover benefits to women in lower ranks following increasing female representation in corporate leadership. Moreover, RME has also been identified in educational settings. Carrell, Page, and West (2010), used a random assignment of professors to determine that the gender gap in course grades and STEM majors is eradicated when female students are assigned to professors of their same gender. More recently, using an individual fixed effects identification strategy, Mouganie and Wang (2020) found that exposure to top-performing female peers in mathematics has positive effects on the likelihood of women choosing a STEM track during high school and college.

Therefore, the efficacy of RME is largely agreed upon in the literature of various settings, yet, there is less convincing evidence with regard to politics. For instance, in Switzerland, Gilardi (2015) finds evidence for RME in political careers, namely that the election of a woman in a given municipality was associated in the next election with an additional female candidate in 10% of its neighbors. However, he notes that the effect decreases over time, and is only prominent in the early phases when the gender gap is especially large. A similar study conducted in the US by Palmer and Simon (2005) also found evidence for RME. However, both pieces of research rely on an ordinary least squares (OLS) regression and their identification strategy does not allow for strong causal inferences. More convincingly, some studies have used an RDD estimation for close mixed-gender races to evaluate the presence of RME in politics. These studies compare elections that were won by a small margin, considering victory as randomly assigned and dependent on unforeseeable circumstances (Lee, 2008). For instance, in Germany, Baskaran and Hessami (2018) found that female council candidates are voted more if a female mayor has been elected. While this relates more to electoral success than political participation, Broockman (2014) used the same technique in the US to show that women's electoral success positively affects the likelihood of a female running for office again in the following elections, but that there are no effects on women's voter turnout or other women's candidacies. These last findings are in contrast with other studies conducted in India. In fact, Bhavnani (2009) used a natural experiment to estimate that, in some districts that were randomly reserved for female candidates at a certain point in time, other women were also more likely to run for the office and win in the following elections. Similarly, Bhalotra, Clots-Figueras, and Iyer (2018) used a close-call elections RDD setting and found that, in India, a woman's electoral victory leads to an increase in the share of women candidates from major parties in the next election. However, this finding is driven by women running for re-election, and actually, there is evidence

for a discouragement effect on new female candidates. In Poland, Jankowski, Marcinkiewicz, and Gwiazda (2019) drew similar conclusions (using, once again, an RDD) and found strong evidence for an "incumbency effect" (the propensity to re-run at the following elections after being elected), although none for an "empowerment effect"(positive spillover effects on the share of women in the winner's list). Therefore, there is no general consensus for RME in politics since previous works often observed a high propensity for the re-election of successful female candidates, rather than the entrance of new candidates inspired by successful peers. However, this was not consistent in every study and it seems to depend on the maturity of the democratic process and the number of women who have held office before. For example, there is some strong evidence coming from India, but less from the US and Poland. In Switzerland, on the other hand, the effect slowly disappeared as women became more present in the political sphere. If these two factors (maturity of democracy and number of women in office) are indeed relevant, this could mean that RME in the Italian context should be similar to the estimates in western countries, and likely not very large.

Compared to other settings, the RME literature regarding politics is less uniform and convincing. This research aims to contribute to this strand of the literature. First of all, it assesses whether the effects of Law 215 (double preference voting conditioned on gender) are persistent in time. Then, it analyzes the empowerment effects of electing more female councilors, measuring the effect on the share of women running for council and on female turnout. Lastly, it shows whether being exposed to peers' success drives women to attempt to excel and aim for even more prestigious political positions, such as running for mayor.

3 Data

3.1 Institutional framework

Italy counts more than 8000 municipalities, each with its own local municipal government. The most important figure in the municipal government is the mayor, who administers the municipality with the assistance of the municipal council (which holds the legislative power), and the executive committee (which holds the executive power). These bodies are in charge of the management of the civil registry and civil status, the management of the election service, the management of school construction, the management of town planning and private construction, and, lastly, the management of local security and traffic through the municipal police. The finances needed to perform these administrative tasks are obtained via the municipality's taxes or through transfers from the Italian government. Municipal elections occur every five years,

except for extraordinary circumstances[1]. Some electoral rules and salaries change at different population thresholds. In the municipalities below 15000 inhabitants (the focus of this analysis), a single-ballot system is in place. Thus, the candidate who receives the majority of votes (relative to the number of voters) wins the election. Moreover, each mayoral candidate runs for office with a single list, and the list supporting the appointed mayor obtains 2/3 of the spots in the council, regardless of the percentage of votes obtained at the elections. The remaining seats go to the losing lists proportionally to their results. The number of people in a list can vary between 3/4 of the number of seats and the maximum number of seats in the council, whilst the number of appointed councilors varies between 6 and 16, depending on the number of inhabitants. As was briefly mentioned in the introduction, Law 215 started being applied in 2013 to encourage female participation in the municipal council. It only applies to municipalities with a population larger than 5000 and prescribes double preference voting conditioned on gender. This means that the voter can choose their preferred party and write down at most two preferences within the candidates in the list, as long as these two candidates have different gender. Furthermore, the law enforces a sort of gender quota for the lists: it is not allowed to have the same gender representing more than 2/3 of the list.

Very importantly for this research, there are some jumps in the mayors' and councilors' salaries depending on the size of the municipal population. Mayors' compensation increases at 3000, 5000 and 10000 inhabitants, while councilors' compensation only increases at 10000 inhabitants. The 5000 inhabitants threshold for mayors' salary is the same as the threshold for Law 215. Hence, one could expect an endogenous change of the incentives for the candidates, yet Section 6 shows that this is not the case. The size of the municipal council, on the other hand, changes only at 3000 and 10000 residents, so there is no overlap with Law 215.

3.2 Descriptive statistics

This research focuses on the municipal elections to which Law 215 applied from 2013 onward. Extensive data on Italian elections is made available by the Italian Ministry of the Interior. Their datasets at the municipal level include information on politicians elected at the end of the year (mayors, municipal council, and executive committee), the names of the candidates for mayor and their respective results for every round of elections, and also the share of voters by gender. Unfortunately, it does not systematically collect data on councilor candidates. Concerning municipalities, a large number of observable characteristics can be collected from the 2011 Italian Census, which is publicly available on the Istat (Istituto Nazionale di Statistica) website, in the National Population Census section. The analyses are run using two different samples. One is the "full sample" and the other is a sub sample of hand-collected data. The first sample

[1]Elections can be anticipated if the council expresses a vote of no confidence or when the mayor tenders their resignation. On the other hand, they can be postponed due to force majeure (e.g., Covid-19 pandemic).

includes all of the municipalities that elected a mayor from 2013 to 2019 and had another round of elections before 2022. If elections happen every 5 years, one would expect to observe a second round of election only for the municipalities where a mayor was elected before and including 2016. However, as previously mentioned, there are some early (or late) elections due to extraordinary circumstances. These non-standard elections are endogenous and not randomly assigned, but do not cause any identifications problems, as will be explained in section 6.

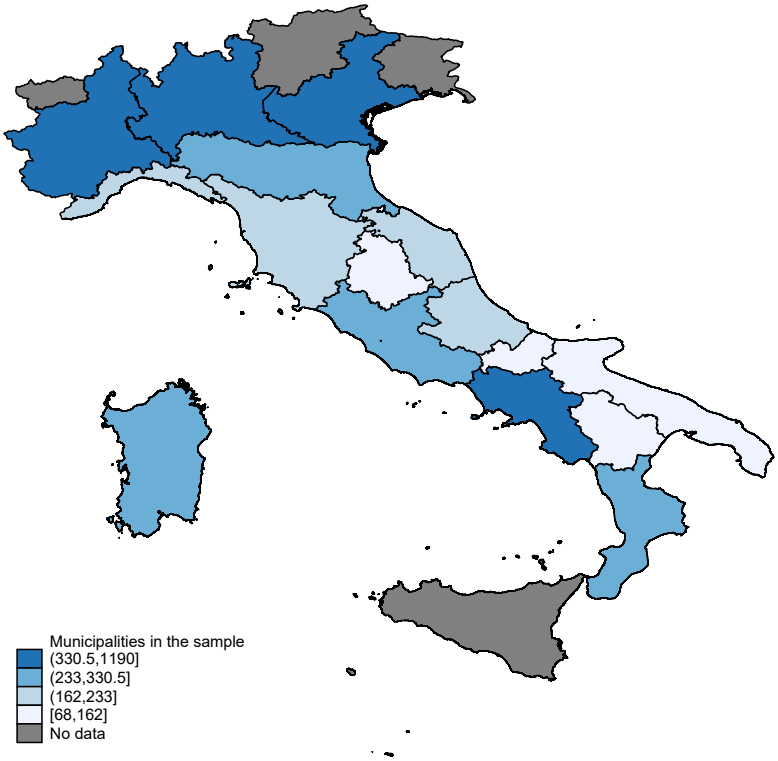

Figure 1: Geographical distribution of the municipalities in the full sample

Note: The figure is a choropleth map of the municipalities included in the full sample.

To prepare the full data set, separate data on results and mayoral candidates of every election from 2013 to 2021 were merged together. The resulting dataset was combined with the information on elected candidates to retrieve the gender of each mayoral candidate, as well as the share of women in the elected municipal council and executive committee. This merger did not create any attrition because losing mayoral candidates get elected as part of the municipal council by virtue of the election rules for municipalities below 15000 inhabitants. Then, the municipalities that had their first round of elections between 2013 and 2019 yet did not have another round of elections before 2022 were dropped from the sample. On the other hand, if a municipality had more than (the standard) two rounds of elections in the time frame 2013-2021, only the first and last elections were kept in the sample. Regions with special autonomy, with the exception of Sardinia, do not apply Law 215, thus all the municipalities in Sicily, Valle d'Aosta, Friuli-Venezia Giulia, and Trentino-Alto Adige were also dropped from the sample.

The geographical distribution of the municipalities in the sample is shown in Figure 1.

Table 1: Summary statistics of electoral outcomes

	Mean	SD	Min	Max	N
Control					
Eligible voters 1	1,654.71	1,158.24	31.00	6,776.00	3,980
Eligible voters 2	1,655.24	1,175.67	27.00	6,969.00	3,980
Voters 1	1,141.39	798.43	17.00	4,732.00	3,980
Voters 2	1,075.85	769.64	22.00	4,713.00	3,980
Female turnout 1	0.69	0.11	0.14	1.00	3,980
Female turnout 2	0.65	0.11	0.14	1.00	3,980
Female mayoral candidates 1	0.16	0.27	0.00	1.00	3,980
Female mayoral candidates 2	0.17	0.29	0.00	1.00	3,980
Female councilors 1	0.29	0.15	0.00	1.00	3,979
Female councilors 2	0.31	0.14	0.00	1.00	3,953
Female mayor 1	0.14	0.34	0.00	1.00	3,980
Female mayor 2	0.14	0.35	0.00	1.00	3,980
Treatment					
Eligible voters 1	7,102.71	2,360.92	527.00	14,357.00	1,179
Eligible voters 2	7,215.58	2,422.07	484.00	20,442.00	1,179
Voters 1	4,974.19	1,668.33	448.00	9,614.00	1,179
Voters 2	4,748.37	1,617.88	402.00	9,730.00	1,179
Female turnout 1	0.70	0.07	0.41	0.88	1,179
Female turnout 2	0.66	0.07	0.36	0.86	1,179
Female mayoral candidates 1	0.17	0.24	0.00	1.00	1,179
Female mayoral candidates 2	0.22	0.28	0.00	1.00	1,179
Female councilors 1	0.42	0.10	0.00	0.75	1,179
Female councilors 2	0.45	0.09	0.09	0.73	1,168
Female mayor 1	0.13	0.34	0.00	1.00	1,179
Female mayor 2	0.17	0.38	0.00	1.00	1,179

Note: The table shows a summary of descriptive statistics. Mean measures the average, SD stands for standard deviation, Min is the minimum value, Max is the maximum value and N is the number of non-missing observations. Control is made up of all the municipalities with less than 5000 residents, while Treatment includes all the municipalities above 5000 residents. Eligible voters are the people with a right to vote. Voters are the individuals who voted. Resident population measures the number of residents in a municipality. Female turnout is equivalent to female voters divided by female eligible voters. Female mayoral candidates measures the share of females running for mayor among all the candidates. Female councilors measures the share of female councilors in the municipal council. Female mayor is a dummy measuring if the mayor is a woman. 1 indicates the first round of elections after the implementation of Law 215, while 2 indicates the second round of elections.

The final result was combined with the observables retrieved from the 2011 National Population Census. Only ten municipalities out of more than 5000 could not be matched (attrition rate of 0.2%). About 1% of the observations was considered dubious (i.e., the reported popu-

lation was inconsistent with the number of voters or other observables), so it was also dropped from the sample. The final sample has 3980 municipalities in the control group (population size smaller than 5000) and 1179 in the treatment group (population size larger than 5000), as shown in Table 1. The table shows some descriptive statistics for the electoral outcomes. On average, the treated municipalities have larger shares of most female political participation indexes. For instance, in the second round of elections, the share of female mayoral candidates is 5 percentage points higher in the treated municipalities, and the share of municipalities with a female mayor is also 3 percentage points greater. Female turnout, on the other hand, is, on average, larger for municipalities below 5000 residents in both elections. The most evident difference, though, lies in the share of female councilors, as clearly depicted in Figure 2.

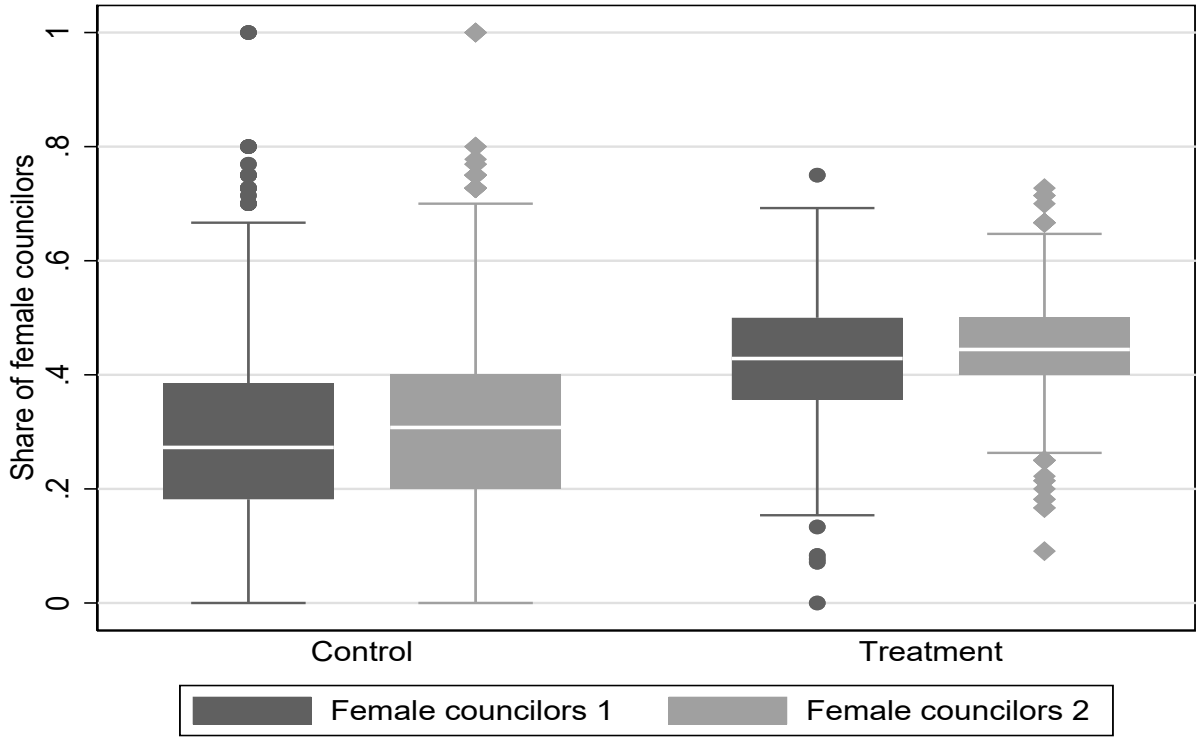

Figure 2: Box plot of the share of female councilors

Note: The figure is a box plot of the share of female councilors. Control is made up of all the municipalities with less than 5000 residents, while Treatment includes all the municipalities above 5000 residents. 1 indicates the first round of elections after the implementation of Law 215, while 2 indicates the second round of elections.

In fact, both the mean and the median are more than 10 percentage points higher for treated municipalities, but both groups show a positive trend in time for these two statistics. Moreover, the box plot offers some more descriptive evidence of the difference between the municipalities where Law 215 is in place and those where it does not apply. The share of female councilors in the control group varies from 0% to 100%, but it is not as extreme in the treatment group. This is likely a consequence of the gender quotas imposed by Law 215 on the candidate lists, which should make it more difficult to elect a single-gender-dominated council.

More descriptive statistics of the demographics collected from the Italian Population Census are shown in Table 2. Compared to the electoral outcomes, the two groups of municipalities are more balanced with respect to these observable characteristics.

Table 2: Summary statistics of Italian Population Census

	Mean	SD	Min	Max	N
Control					
Resident population 1	1,821.88	1,303.53	34.00	4,999.00	3,980
Female residents	0.51	0.02	0.35	0.61	3,980
Foreign female residents	0.57	0.13	0.00	1.00	3,932
Illiterate female residents	0.63	0.23	0.00	1.00	3,690
Graduate female residents	0.50	0.19	0.00	1.00	3,958
Student female residents	0.54	0.09	0.00	1.00	3,951
North	0.58	0.49	0.00	1.00	3,980
Treatment					
Resident population 1	8,539.03	2,721.52	5,004.00	14,998.00	1,179
Female residents	0.51	0.01	0.47	0.59	1,179
Foreign female residents	0.54	0.06	0.35	0.82	1,179
Illiterate female residents	0.65	0.09	0.19	1.00	1,162
Graduate female residents	0.56	0.04	0.00	0.78	1,163
Student female residents	0.53	0.03	0.43	0.65	1,163
North	0.57	0.50	0.00	1.00	1,179

Note: The table shows a summary of descriptive statistics. Mean measure the average, SD stands for standard deviation, Min is the minimum value, Max is the maximum value and N is the number of non-missing observations. Control is made up of all the municipalities with less than 5000 residents, while Treatment includes all the municipalities above 5000 residents. The resident population indicates the number of citizens who are residents in the municipality. North is a binary variable that indicates if the municipality is in the north of Italy. All the other variables indicate the share of women in each respective sub-population (e.g., Female residents is the share of women residents over total residents). 1 indicates the first round of elections after the implementation of Law 215, while 2 indicates the second round of elections.

The second sample was constructed to conduct the analysis of councilor candidates. Since this variable is not systematically collected by the Italian Ministry of the Interior, it had to be hand-collected. Therefore, only a sub-sample was selected. For practical reasons and accessibility of data, the chosen sub-sample contains all the municipalities with a population between 2000 and 12000 inhabitants that had their first round of elections in 2015. The underlying motivation is that these municipalities were expected to have the following elections in 2020, which, by virtue of being very recent, increases the chances of retrieving the data online. Therefore, the names of each list's candidates were collected from the internet (more than 6000 in total), whenever possible from the municipality's official website, otherwise from local newspapers' articles, or from the list's official Facebook page. Gender was then assigned (again manually), based on the first name of the candidates. Even though this may sound like a relevant issue for

measurement errors, this is only partly true as Italian names are straightforward to associate with the respective gender, and these small municipalities very rarely have foreign candidates with dubious first names. Some descriptive statistics for the final result of this manual collection are presented in Appendices A1, A2, and A3: a sub-sample of 224 municipalities and only one missing observation (attrition rate of 0.4%).

4 Methodology

The main analysis of this research will be conducted in a similar fashion as Baltrunaite et al. (2019), yet using a fuzzy RDD instead of a sharp RDD. Fuzzy RDD works similarly to Instrumental Variables (IV) and uses a Two-Stage Least Squares (2SLS) estimation. The underlying intuition is that, at the discontinuity, the incentives to participate change, but not enough to move every individual (in this case municipality) from non-treatment to treatment. This means that, even though Baltrunaite et al. (2019) found a larger share of female councilors being elected above the threshold, not every municipality with more than 5000 inhabitants necessarily elected more female councilors. Thus, the effect is scaled down by the share of so-called "compliers," and this allows an estimate of Local Average Treatment Effect (LATE) at the threshold instead of an Intention-to-Treat Effect (ITT) at the threshold. The main equations for the analysis are as follows.

$$T_i = \delta + f(Z_i) + f(Z_i) * D_i + \gamma D_i + \eta_i \tag{1}$$

$$Y_i = \alpha + f(Z_i) + f(Z_i) * D_i + \tau D_i + \epsilon_i \tag{2}$$

$$\rho = \frac{\tau}{\gamma} \tag{3}$$

Where (1) is the First stage, (2) is the Reduced Form and (3) is the 2SLS estimate. ρ is the coefficient of interest, which will show the estimated LATE effect. D_i is a binary variable that takes up value 1 if the municipalities are treated (i.e. Population is equal to or larger than 5000) and 0 otherwise. T_i is the share of elected female councilors at the first election. Y_i is the outcome variable of interest at the following elections and varies in each analysis[2]. Z_i is the population of a municipality for the first round of elections. $f(Z_i)$ is a flexible function in Z_i. $f(Z_i)$ is also interacted with D_i to allow for different polynomial coefficients on the

[2]The exhaustive list of the outcome variables used in the main analysis includes: share of female councilors, share of female candidates, share of female mayoral candidates, whether the municipality elected a female mayor, and female turnout.

two sides of the cut-off. It is standard to center the running variable at the cutoff point and $f(Z_i)$ must be specified in the same way in both regressions. Both models will be estimated for polynomials of a different order, ranging from 1 to 3 (parametric models), as well as for a local linear regression with optimal bandwidth as described by Calonico, Cattaneo, Farrell, and Titiunik (2017)(non-parametric models). Three non-parametric models are estimated: one with a conventional variance estimator, one bias-corrected estimate with a conventional variance estimator, and a bias-corrected estimate with a robust variance estimator. The bias-corrected estimates account for the effect of a larger bandwidth choice, that is, they recenter the standard t-statistic with an estimate of the leading bias which is re-scaled with a novel standard error formula that accounts for the variability introduced by the estimation of the bias. These three models all employ local linear regressions using optimal bandwidth computed by one common MSE-optimal bandwidth selector. Finally, a graphical analysis of the reduced form will be conducted to investigate the existence of the discontinuity around the 5000 thresholds. This is achieved with the cmogram Stata command (Robert, 2011). This command plots local sample means of the dependent variable in small equidistant non-overlapping bins on the population size Z_i, with different quadratic polynomial fit for municipalities above and below the 5000 resident cut-off, and the 95% confidence interval. This approach should help to prove the robustness of the results and to delve into the mechanisms driving these results.

Furthermore, to strengthen the credibility of the identification strategy, all of the underlying assumptions of a fuzzy RDD model are tested and discussed. First of all, the assumption that the first stage is strong should be satisfied given the findings by Baltrunaite et al. (2019), but, nonetheless, the F-value magnitude are reported. Then, in order to check that no other things change at the threshold except for the treatment, some placebo tests using a variety of municipal observable characteristics are run. Finally, a McCrary test (McCrary, 2008) is utilized to test that there exists no manipulation around the threshold. There are two steps involved in implementing the local linear density estimator for a McCrary test. The first step is drawing a histogram based on the frequency table of a discretized version of the running variable (population), then the second step smooths the histogram using local linear regression. Hence, this approach tests the manipulation related to the continuity of the running variable density function. All of these tests were already run by Baltrunaite et al. (2019), but are re-estimated for the sake of transparency, considering that the full sample is slightly larger than theirs, while the 2015 sub-sample is much smaller.

5 Results

5.1 Female councilors

The first outcome variables of interest are related to the electoral outcomes of women councilors in the following round of elections. First of all, the focus is on the share of female councilors

elected in the following elections. The idea is to investigate whether those municipalities that elected more female councilors in the first round of elections after the introduction of Law 215, also continue electing more women in the following elections. It is important to note that Law 215 is still in place for the second elections as well, thus the objective is to check if its impact is persistent in time and to scale it in relation to the share of female councilors elected in the first round of elections. Figure 3 shows a clear discontinuity in the Reduced Form. Moreover, estimates for the effect are shown in the first 3 columns of Table 3 (parametric) and in the first column of Table 4 (non-parametric).

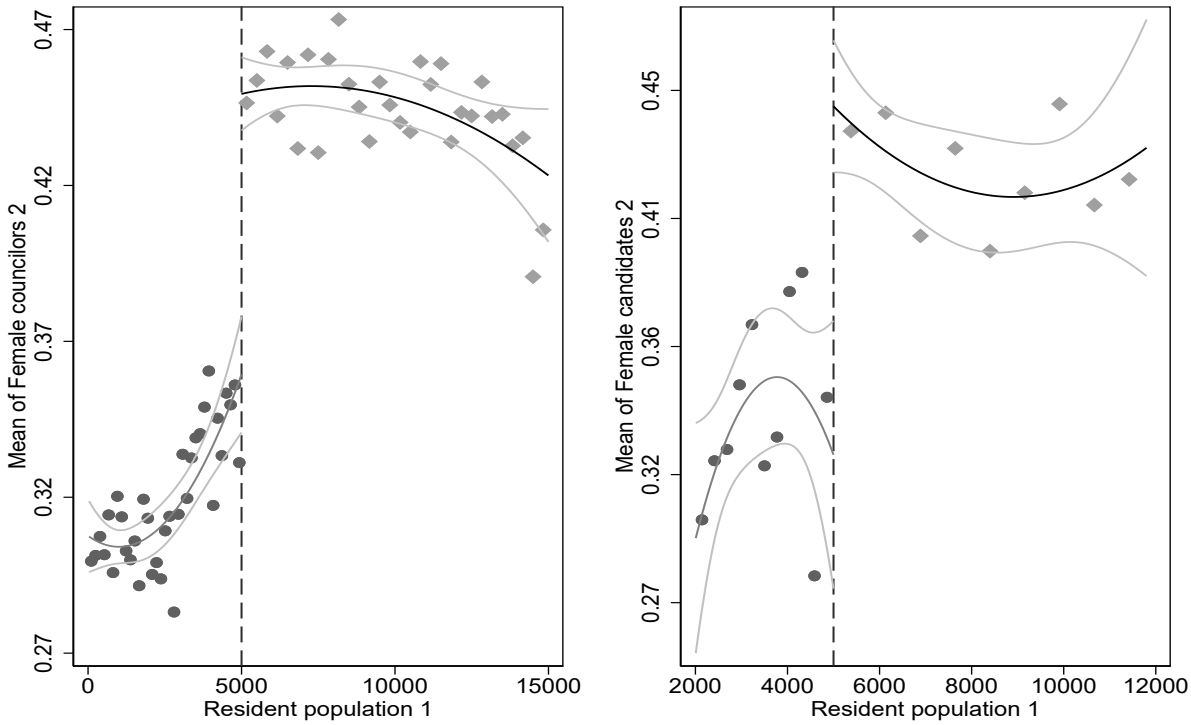

Figure 3: Reduced form of the share of female councilors and female candidates

Note: The figure plots the binned averages of the outcome variables against the municipal population, together with the quadratic polynomial fit on both sides of the 5000 resident cut-off and the 95% confidence intervals. 1 indicates the first round of election after the implementation of Law 215, while 2 indicates the second round of elections.

Both the parametric and non-parametric estimations are positive and statistically significant. Non-parametric estimations are chosen as the favorite specifications because they focus on an optimal bandwidth around the threshold. These estimates show that a 10 percentage points increase in female councilors in the first round of election is associated with a 7 percentage points increase in the share of women councilors in the following elections. This is not a clear causal effect because there are two simultaneous changes at the threshold: more female council members were elected in the previous election, and Law 215 is still in place. These results show the persistence of a larger share of female councilors in the treated municipalities, but it is not possible to distinguish between the two factors affecting the threshold.

With regard to councilors, the aim is also to assess whether there are RME and more women running for office when more female councilors were elected in their municipalities in the previous election. This outcome is estimated with the 2015 subsample and the results are shown in columns 4-6 of Table 3 and column 2 of Table 4.

Table 3: Female councilors' parametric estimations

	Female councilors 2			Female candidates 2		
	(1)	(2)	(3)	(4)	(5)	(6)
Female councilors 1	0.88***	0.80***	0.76***	0.47***	0.56***	0.77***
	(0.06)	(0.10)	(0.12)	(0.11)	(0.13)	(0.24)
Polynomial order	1	2	3	1	2	3
Observations	5120	5120	5120	223	223	223

Note: The table shows the estimates of six parametric 2SLS models. The outcome variable is the share of female councilors in columns 1-3 and the share of female candidates in columns 4-6. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary variable indicating whether the resident population was above 5000 in period 1. Polynomial order indicates the order of the polynomial for the respective model, and polynomials are allowed to differ on the two sides of the cut-off. 1 indicates the first round of elections after the implementation of Law 215, while 2 indicates the second round of elections. Heteroskedasticity-robust standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Once again, all the estimates are positive and statistically significant (in fact, Figure 3 shows a clear discontinuity). Using the non-parametric specification, one can claim that a 10 percentage points increase in female councilors in the first round of election results in a 7 percentage points increase in the share of women candidates at the following elections. Contrary to the female councilors outcome, a causal claim is now possible. In fact, as long as there is no discontinuity for the first election (2015), while there is a discontinuity for the second election, then more female candidates are a consequence of a larger share of female council members in the previous election. Baltrunaite et al. (2019) focused on the first election and found no effects on candidates' share for a subsample of the 2013 elections. This represents a convincing evidence that the effect found for the 2015 sample on female candidates is indeed driven by a RME, rather than a direct effect of Law 215.

Table 4: Female councilors' non parametric estimations

	Female councilors 2	Female candidates 2
	(1)	(2)
Conventional	0.73***	0.70***
	(0.14)	(0.20)
Bias-corrected	0.70***	0.74***
	(0.14)	(0.20)
Robust	0.70***	0.74***
	(0.16)	(0.25)
Bandwidth	1,251	934
Observations on the left	464	39
Observations on the right	297	30

Note: The table shows the estimates for two non parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). The outcome variable is the share of female councilors in column 1 and the share of female candidates in column 2. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary indicating whether the resident population was above 5000 in period 1. Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

5.2 Female mayors

The second part of the results section focuses on mayoral outcomes. The underlying idea is to investigate whether a stronger female presence in the municipal council encourages women to climb the political hierarchy and run for higher political positions. Therefore, we estimate all the models for two outcome variables: the share of female mayoral candidates and whether the elected mayor is a woman, both measured in the second round of elections. The estimates are shown in Table 5 and 6 and the Reduced Form is graphically depicted in Figure 4.

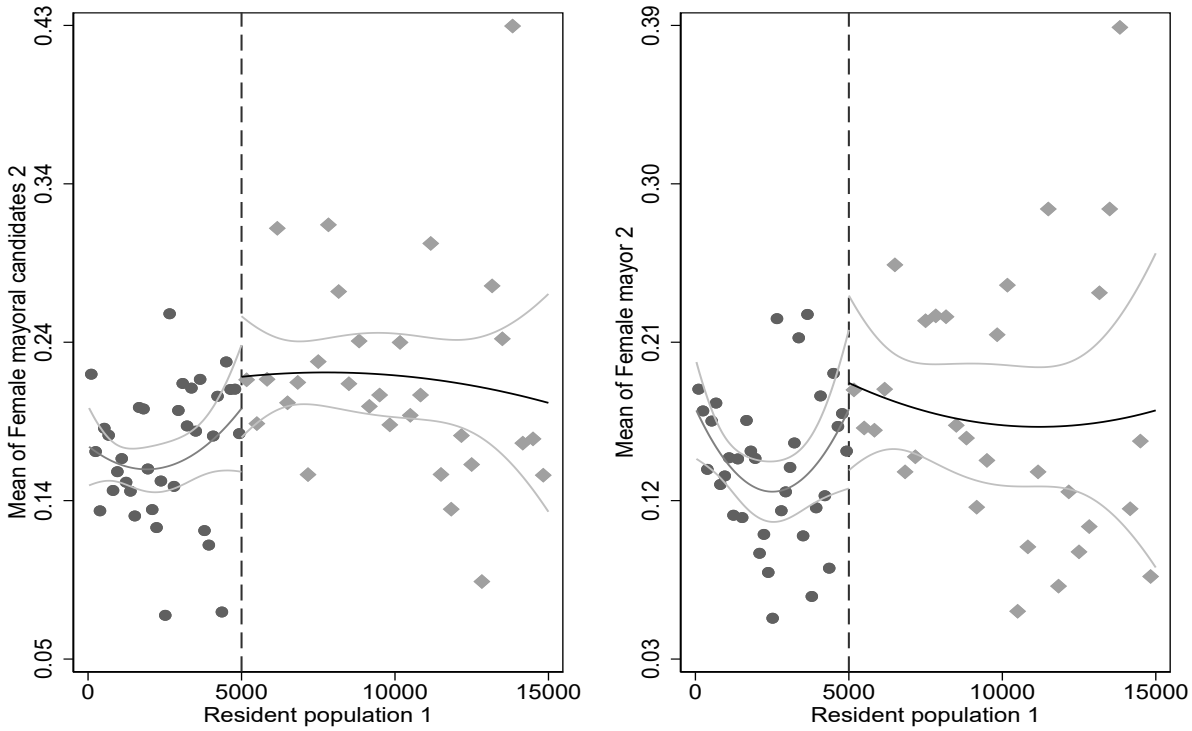

Figure 4: Reduced form of the share of female mayoral candidates and female mayors

Note: The figure plots the binned averages of the outcome variables against the municipal population, together with the quadratic polynomial fit on both sides of the 5000 resident cut-off and the 95% confidence intervals. Female mayors is a binary variable indicating whether the municipality elected a female mayor or not. 1 indicates the first round of election after the implementation of Law 215, while 2 indicates the second round of elections.

Both outcomes show similar results. A higher share of female councilors after the first round of election leads to a significantly higher share of female mayoral candidates in the following elections, according to the parametric model of order 1. However, all the other parametric estimates are insignificant and the non-parametric estimates even change the sign of the effect, but are, again, insignificant. The results are similar for the estimates of female mayors, except that its non-parametric estimates still show positive effects, even though insignificant. Therefore, these results are not robust to different specifications. A plausible explanation for the significant positive effect detected by the model with the polynomial of order one is that overseen non-linearity can lead to incorrect significant impacts, especially when the bandwidth is not very narrow around the cut-off. In fact, the graphical representations in Figure 4 does not seem to show any apparent discontinuities and the variance of the observations is quite large. For both outcomes, the standard errors are too large to determine whether there is a precisely estimated 0 effect, but, on the other hand, there is no evidence that electing more women to the municipal council in the first elections has an RME that encourages females to run for mayor and get elected.

Table 5: Female mayors' parametric estimations

	Female mayoral candidates 2			Female mayors 2		
	(1)	(2)	(3)	(4)	(5)	(6)
Female councilors 1	0.34**	0.17	0.14	0.37**	0.13	0.11
	(0.14)	(0.24)	(0.28)	(0.18)	(0.31)	(0.36)
Polynomial order	1	2	3	1	2	3
Observations	5158	5158	5158	5158	5158	5158

Note: The table shows the estimates of six parametric 2SLS models. The outcome variable is the share of female mayoral candidates in columns 1-3 and whether the municipality elected a female mayor in columns 4-6. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary variable indicating whether the resident population was above 5000 in period 1. Polynomial order indicates the order of the polynomial for the respective model, and polynomials are allowed to differ on the two sides of the cut-off. 1 indicates the first round of election after the implementation of Law 215, while 2 indicates the second round of elections. Heteroskedasticity-robust standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6: Female mayors' non parametric estimations

	Female mayoral candidates 2	Female mayors 2
	(1)	(2)
Conventional	-0.14	0.10
	(0.31)	(0.36)
Bias-corrected	-0.22	0.10
	(0.31)	(0.36)
Robust	-0.22	0.10
	(0.35)	(0.44)
Bandwidth	1,647	2,226
Observations on the left	639	938
Observations on the right	370	487

Note: The table shows the estimates for two non parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). The outcome variable is the share of female mayoral candidates in column 1 and whether the municipality elected a female mayor in column 2. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary indicating whether the resident population was above 5000 in period 1. Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

5.3 Turnout

The last outcome variable taken into analysis is female turnout. Electing more women to the municipal council in one round of the elections might stimulate female political participation,

encouraging more women to go voting as they see that it could help their peers succeed. The results for this outcome variable are shown in Table 7, while the reduced form is plotted in Figure 5.

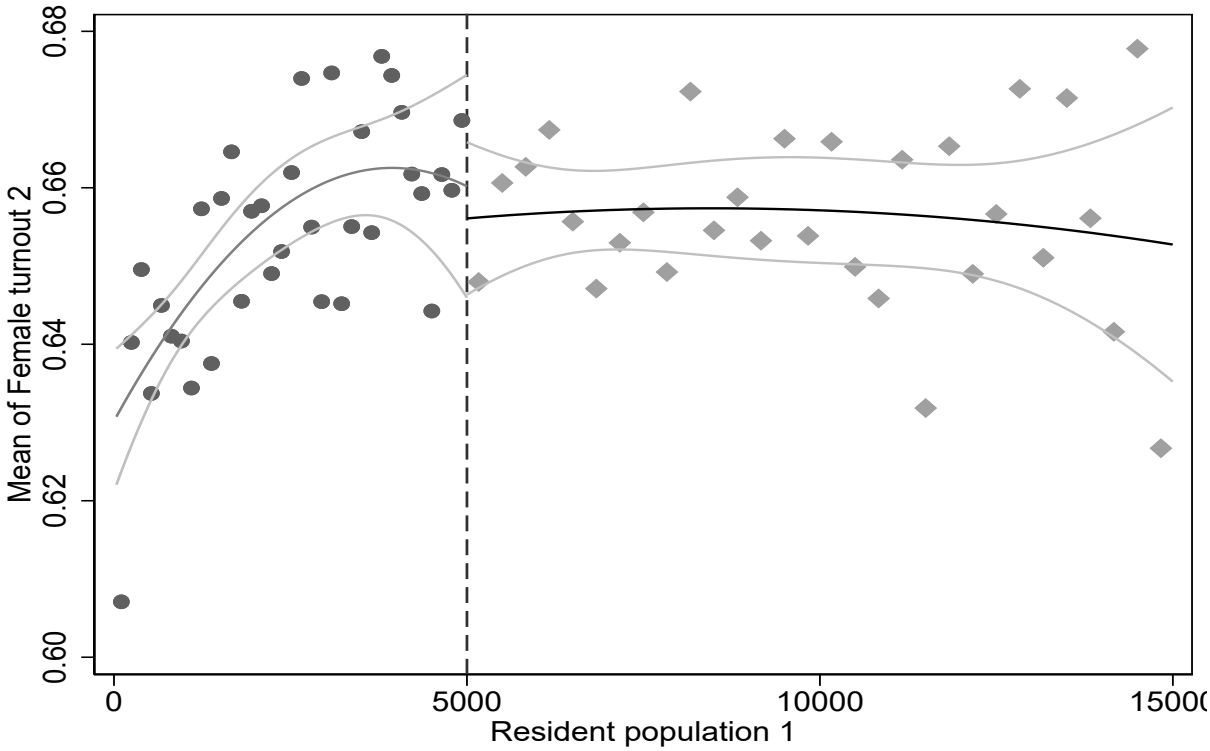

Figure 5: Reduced form of female turnout.

Note: The figure plots the binned averages of the outcome variable against the municipal population, together with the quadratic polynomial fit on both sides of the 5000 resident cut-off and the 95% confidence intervals. 1 indicates the first round of election after the implementation of Law 215, while 2 indicates the second round of elections.

Contrary to the expectations, the estimate from the parametric first-order polynomial is negative and statistically significant, indicating that a 10 percentage points increase in the share of women councilors in one round of election leads to a 1 percentage point decrease in female turnout at the following elections. However, while the module of the estimate is fairly constant across all models, it is also statistically insignificant in every other specification. Similar to the mayoral outcomes, the significant negative effect detected by the model with the polynomial of order one is likely due to non-linearity in the observations, as suggested by Figure 5. Therefore, the results seem to indicate no significant effect of the independent variable on female turnout.

Table 7: Female turnout parametric and non parametric estimations

	Female turnout 2		
	(1)	(2)	(3)
Panel A: Parametric			
Female councilors 1	-0.11***	-0.04	-0.04
	(0.04)	(0.07)	(0.08)
Polynomial order	1	2	3
Observations	5158	5158	5158
Panel B: Non-parametric			
Conventional	-0.10		
	(0.09)		
Bias-corrected	-0.12		
	(0.09)		
Robust	-0.12		
	(0.11)		
Bandwidth	1,249		
Observations on the left	466		
Observations on the right	299		

Note: Panel A shows the estimates of three parametric 2SLS models. Polynomial order indicates the order of the polynomial for the respective model, and polynomials are allowed to differ on the two sides of the cut-off. Panel B shows the estimates for two non-parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. The outcome variable is the female turnout. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary variable indicating whether the resident population was above 5000 in period 1. 1 indicates the first round of elections after the implementation of Law 215, while 2 indicates the second round of elections. Heteroskedasticity-robust standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

5.4 Mechanisms

The aim of this section is to shed light on the mechanism driving the effects estimated in the main analysis. In particular, it will study the composition of the councilor candidates in the second round of the election, to determine what drives the increase in the share of female candidates. The 2015 sub-sample was combined with the dataset containing the demographics of politicians in charge at the end of 2015 to measure the share of candidates who are re-running for office and the share of non-incumbent candidates. We compare the share of new female candidates (as a fraction of female candidates and as a fraction of total candidates) below and above the

threshold. Non parametric estimates are shown in Table 8.

Table 8: New female candidates' non parametric estimations

	% of female candidates 2	% of total candidates 2
	(1)	(2)
Conventional	-0.12	0.59***
	(0.23)	(0.22)
Bias-corrected	-0.04	0.67***
	(0.23)	(0.22)
Robust	-0.04	0.67**
	(0.28)	(0.26)
Bandwidth	1,091	963
Observations on the left	46	41
Observations on the right	34	31

Note: The table shows the estimates for two non parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). The outcome variable is the share of new female candidates out of female candidates in column 1 and the share of new female candidates out of total candidates in column 2. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary indicating whether the resident population was above 5000 in period 1. Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

There is a small insignificant negative effect on the share of new female candidates out of all female candidates, while the estimate for the share of new female candidates out of all candidates is positive and significant. In fact, a 10 percentage points increase in the share of female councilors in the first round of elections increases the share of new female candidates out of all candidates by around 6 percentage points. Therefore, while the overall share of female candidates (according to the main analysis) and the overall share of new female candidates increases, the composition of these female candidates does not seem to be affected significantly, i.e., the proportion of new candidates and re-candidates is the same above and below the threshold. This means that a higher share of female councilors does not encourage proportionally more new female candidates. To further investigate what is the underlying cause driving the increase of female candidates, Table 9 shows the non-parametric estimates for the effect on the total number of male and female total candidates (columns 1 and 4, respectively), re-candidates (columns 2 and 5), and new candidates (columns 3 and 6).

Table 9: Candidates' non parametric estimations

	Males			Females		
	(1)	(2)	(3)	(4)	(5)	(6)
Conventional	-29.34**	-11.59**	-20.90	12.82	1.81	11.32
	(14.64)	(5.85)	(16.37)	(9.22)	(3.01)	(9.98)
Bias-corrected	-37.55**	-12.07**	-28.62*	10.11	1.25	8.96
	(14.64)	(5.85)	(16.37)	(9.22)	(3.01)	(9.98)
Robust	-37.55**	-12.07*	-28.62	10.11	1.25	8.96
	(17.65)	(6.98)	(19.80)	(11.42)	(3.58)	(12.38)
Bandwidth	1,166	1,193	1,155	1,253	1,088	1,307
Observations on the left	48	50	48	56	46	56
Observations on the right	35	35	35	35	34	35

Note: The table shows the estimates for six non parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). The outcome variable is total candidates in columns 1 & 4, re-candidates in columns 2 & 5, new candidates in columns 3 & 6. Columns 1-3 refer to males while columns 4-6 refer to females. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary variable indicating whether the resident population was above 5000 in period 1. Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

The estimates are positive but never significant for female candidates, while they are negative and mostly significant (with $p < 0.05$ or $p < 0.1$, depending on the specification) for males. In particular, it seems that a 10 percentage points increase in the share of female councilors in one round of elections decreases the total number of male candidates by 3 people and the number of males running again for office by 1 (likely due to the fact that less of them were elected in the first place). Even though the sub-sample is small and not all the estimates are strongly significant, it appears that the increase in the share of female candidates is not driven by RME, but rather by a reduction of men candidates. These estimates shed light on the results in Table 8. The share of new female candidates out of all female candidates probably does not change because there is no significant change in the total number of female new candidates and re-candidates. On the other hand, the share of female candidates out of total candidates increases significantly, and this should be driven by the number of male re-candidates and, in general, of male candidates, which decreases significantly.

5.5 Heterogeneity

The last part of the results section investigates the presence of heterogeneous effects for different subgroups of the population. Section 2 discussed extensively how the literature on RME in politics cannot find a consensus and how different sociopolitical environments seem to yield

different outcomes. Therefore, it is interesting to check whether these inconsistencies not only exist between populations but also within the same population, for different subgroups. To run the analysis, the sample has to be split into subgroups that have a stronger and weaker level of gender inequality. Bozzano (2014) explored the geographic distribution of gender inequality across Italian regions. Taking inspiration from the Global Gender Gap Index by the World Economic Forum, she ranked Italian regions by their scores on different gender equality dimensions. In particular, she ranked Italian regions by their gender inequality in economic participation/opportunity and in political participation. Bozzano (2014) used data from 2008, meaning that her estimates might not be completely accurate for outcomes from 2013 onward, yet they have the advantage of being measured before the introduction of Law 215. Thus, using her rankings, the sample was split into two groups, one consisting of the municipalities in the regions that perform above the regional average, and the other made up of those in the regions performing below regional average[3]. All the main results were replicated using these subs-samples to investigate possible heterogeneous effects. Table 10 and 11 show the estimates of the non-parametric models for the sample divided based on political and economic inequality, respectively. The only estimates that change statistical significance, with respect to the main analysis, are the councilor candidates estimates in Panel A of Table 11 and the bias-corrected turnout estimate in Panel A of 10. However, the former estimates are somewhat unreliable in this analysis because the 2015 sub-sample is restricted to about 30 to 60 observations (depending on the specification) and has very low statistical power. The negative turnout estimate, on the other hand, is only significant (for $p < 0.1$) in one specification, and is not robust to different non-parametric models. In general, the estimates do not seem considerably heterogeneous, and those that do show changes in module and sign (e.g., whether the municipality elected a female mayor) have very high standard errors. Interestingly, and consistently with the literature, the RME seems to be a bit stronger for those municipalities that show more political disparity (Table 11). Nonetheless, the effect is only a couple of percentage points higher for a 10 percentage points increase in the share of female councilors in the first round of elections, and, again, the councilor candidates' estimates have too little statistical power to be considered reliable.

[3]Piedmont, Sardinia, Lombardy, Tuscany, Umbria, Campania, Emilia Romagna, and Abruzzo are the regions with below-average political disparity. Umbria, Piedmont, Lazio, Liguria, Emilia Romagna, Marches, Abruzzo and Lombardy are the regions with below average economic disparity.

Table 10: Main non-parametric estimations by gender political disparity

	Councilors	Candidates	Mayor candidates	Mayor	Turnout
	(1)	(2)	(3)	(4)	(5)
Panel A: Below average political disparity					
Conventional	0.66***	0.60***	0.07	-0.25	-0.17
	(0.15)	(0.19)	(0.38)	(0.51)	(0.10)
Bias-corrected	0.63***	0.54***	0.02	-0.25	-0.18*
	(0.15)	(0.19)	(0.38)	(0.51)	(0.10)
Robust	0.63***	0.54**	0.02	-0.25	-0.18
	(0.18)	(0.24)	(0.45)	(0.62)	(0.12)
Bandwidth	1,231	863	2,125	2,059	1,648
Observations on the left	305	25	549	528	407
Observations on the right	178	15	274	266	227
Panel B: Above average political disparity					
Conventional	0.93***	0.76**	-0.22	0.53	0.06
	(0.18)	(0.38)	(0.54)	(0.55)	(0.12)
Bias-corrected	0.93***	0.89**	-0.41	0.54	0.08
	(0.18)	(0.38)	(0.54)	(0.55)	(0.12)
Robust	0.93***	0.89*	-0.41	0.54	0.08
	(0.23)	(0.47)	(0.64)	(0.66)	(0.15)
Bandwidth	2,078	1,354	1,516	1,967	2,093
Observations on the left	321	21	205	296	325
Observations on the right	183	18	135	175	186

*Note:*The table shows the estimates for five non parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). The outcome variable is the share of female councilors 2 in column 1, the share of female councilor candidates 2 in column 2, the share of female mayoral candidates 2 in column 3, whether the municipality elected a female mayor 2 in column 4 and female turnout 2 in column 5. Panel A (B) shows the estimates for the sub-sample of observations in those regions that had a below (above) average gender political disparity in 2008 according to Bozzano (2014). Female councilors 1 measures the share of female councilors in the municipal council and is the independent variable. Resident population 1 is the running variable. The instrument is a binary variable indicating whether the resident population was above 5000 in period 1. 1 indicates the first round of elections after the implementation of Law 215, while 2 indicates the second round of elections. Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 11: Main non-parametric estimations by gender economic disparity

	Councilors	Candidates	Mayor candidates	Mayor	Turnout
	(1)	(2)	(3)	(4)	(5)
Panel A: Below average economic disparity					
Conventional	0.74***	0.71*	0.55	0.24	-0.08
	(0.18)	(0.42)	(0.41)	(0.59)	(0.11)
Bias-corrected	0.70***	0.41	0.60	0.25	-0.09
	(0.18)	(0.42)	(0.41)	(0.59)	(0.11)
Robust	0.70***	0.41	0.60	0.25	-0.09
	(0.21)	(0.56)	(0.50)	(0.73)	(0.13)
Bandwidth	1,189	1,199	2,522	2,397	1,600
Observations on the left	275	15	681	636	380
Observations on the right	161	12	302	291	207
Panel B: Above average economic disparity					
Conventional	0.81***	0.59***	-0.26	-0.04	-0.06
	(0.16)	(0.18)	(0.34)	(0.45)	(0.12)
Bias-corrected	0.79***	0.68***	-0.38	-0.13	-0.09
	(0.16)	(0.18)	(0.34)	(0.45)	(0.12)
Robust	0.79***	0.68***	-0.38	-0.13	-0.09
	(0.20)	(0.22)	(0.41)	(0.53)	(0.15)
Bandwidth	2,136	1,358	1,806	1,794	1,710
Observations on the left	337	39	274	273	252
Observations on the right	204	23	177	175	167

Note: The table shows the estimates for five non parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). The outcome variable is the share of female councilors 2 in column 1, the share of female councilor candidates 2 in column 2, the share of female mayoral candidates 2 in column 3, whether the municipality elected a female mayor 2 in column 4 and female turnout 2 in column 5. Panel A (B) shows the estimates for the sub-sample of observations in those regions that had a below (above) average gender economic disparity in 2008 according to Bozzano (2014). Female councilors 1 measures the share of female councilors in the municipal council and is the independent variable. Resident population 1 is the running variable. The instrument is a binary variable indicating whether the resident population was above 5000 in period 1. 1 indicates the first round of elections after the implementation of Law 215, while 2 indicates the second round of elections. Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

6 Robustness checks

6.1 RDD underlying assumptions

To further assess the credibility of the results beyond the different parametric and non-parametric model specifications, some robustness checks are run to prove that the underlying assumptions of RDD are satisfied and to discuss the validity of the samples.

First of all, the strong first stage assumption is satisfied in both samples: the F-statistic of the First Stage is larger than 300 in the full sample and larger than 50 in the 2015 sub-sample (Appendix A4).

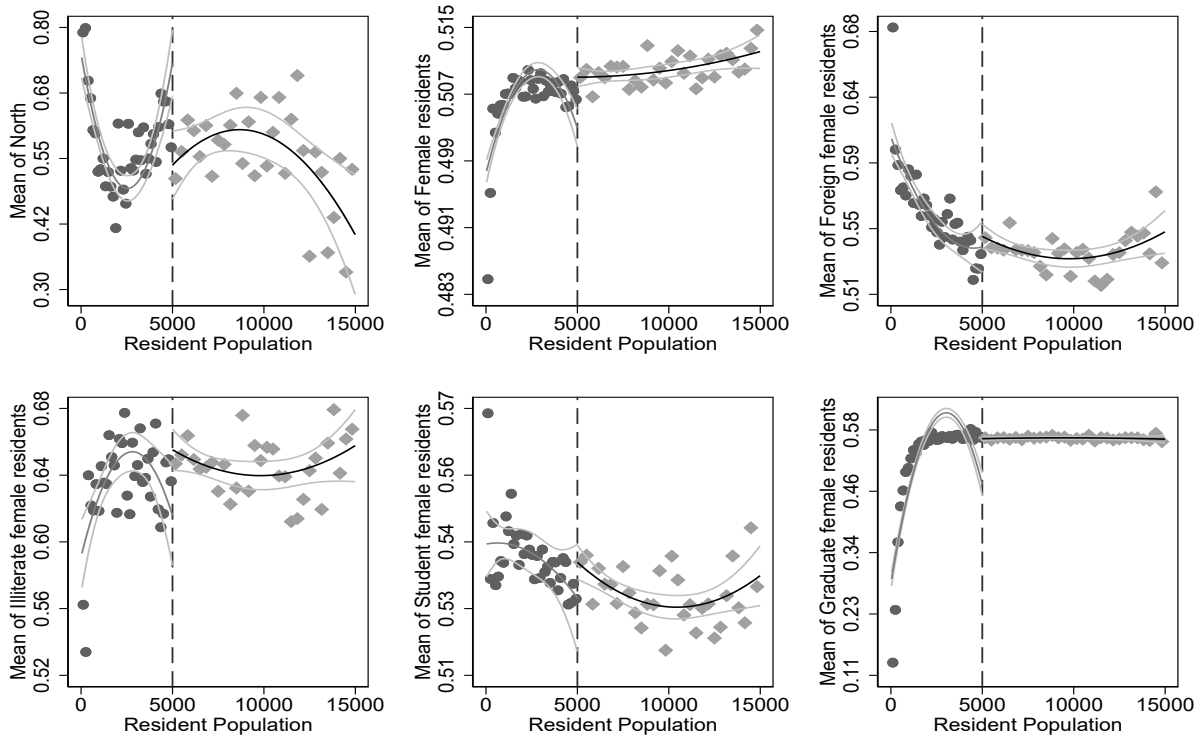

Figure 6: Balance check of covariates.

Note: The figure plots the binned averages of the outcome variable against the municipal population, together with the quadratic polynomial fit on both sides of the 5000 resident cut-off and the 95% confidence intervals. North is a binary variable that indicates if the municipality is in the north of Italy. All the other variables indicate the share of women in each respective sub-population (e.g., Female residents is the share of women residents over total residents). 1 indicates the first round of elections after the implementation of Law 215, while 2 indicates the second round of elections.

Moreover, in order to check that no other things change at the threshold except for the treatment, some placebo tests were run using a variety of municipal observable characteristics collected from the Italian Population Census of 2011. The results of these placebo tests are shown in Figure 6 and Table 12 for the whole sample and in Appendix A5 and Appendix A6 for the 2015 sub-sample. As expected, all of the pre-treatment observables do not change significantly

at the threshold, for either of the two samples. This finding is reassuring and corroborates the hypothesis that the only factor causing significant changes at the threshold is Law 215.

Table 12: Balance check of covariates

	(1)	(2)	(3)	(4)	(5)	(6)
Conventional	-0.79	0.00	0.11	0.08	0.05	0.00
	(0.53)	(0.01)	(0.07)	(0.12)	(0.04)	(0.04)
Bias-corrected	-0.83	0.00	0.11	0.06	0.06	0.02
	(0.53)	(0.01)	(0.07)	(0.12)	(0.04)	(0.04)
Robust	-0.83	0.00	0.11	0.06	0.06	0.02
	(0.63)	(0.01)	(0.08)	(0.14)	(0.04)	(0.05)
Bandwidth	1,741	1,497	1,507	1,414	1,764	1,096
Observations on the left	686	566	570	533	695	385
Observations on the right	389	341	344	322	389	262

Note: The table shows the estimates for six non parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). The outcome variable is a binary for whether the municipality is in the North of Italy in column 1, the share of female residents in column 2, the share of foreign female residents in column 3, the share of illiterate female residents in column 4, the share of student female residents in column 5, the share of graduate female residents in column 6. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary indicating whether the resident population was above 5000 in period 1. Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Moreover, there is a need to assess whether there was some sorting around the threshold. Intuitively, this is very hard to imagine, because moving is a very expensive commitment, and it is not necessarily the case that municipalities below and above the threshold are close to each other. Nonetheless, a McCrary test (McCrary, 2008) was run and the results are shown in Figure 7 (and in Appendix A7 for the 2015 sub-sample). The McCrary test uses a local linear density estimator, by first drawing a histogram based on the frequency table of a discretized version of the running variable (resident population), and then by smoothing the histogram using local linear regression. Thus, it estimates a discontinuity estimate using a log difference in height. The estimated discontinuity is -0.19, which is not significant given that its standard error is 0.12. Therefore, we can exclude any significant sorting around the cut-off.

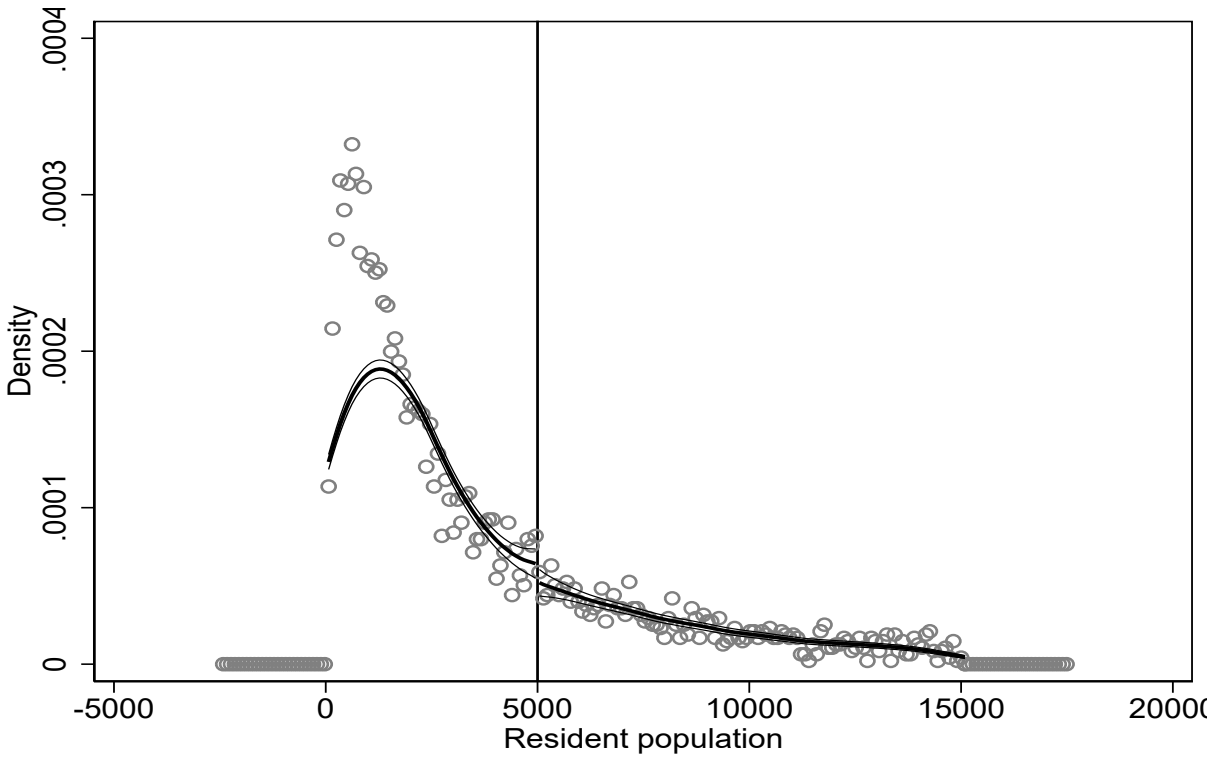

Figure 7: McCrary test.

With regard to the mayoral outcomes, there is a possible source of endogeneity that should be addressed to strengthen the credibility of the findings. In fact, mayors' salary increases at 5000 residents, which may create heterogeneous incentives for the two genders and bias the results of our model. For instance, higher salary may encourage male participation more than female participation. It could be that, generally, there are significantly fewer female mayoral candidates (and female mayors) at the 5000 residents cut-off and that the insignificant results after the introduction of Law 215 actually indicate that women are indeed climbing the political hierarchy more than before. To make sure this is not the case, two other jumps in mayors' salaries, namely at 3000 and 10000 residents, can be exploited for a robustness check. Unfortunately, one cannot run the main fuzzy RDD design at these two thresholds because the first stage would not be strong, therefore the results of a sharp RDD are shown in Table 13. A sharp RDD is equivalent to only estimating the reduced form of a fuzzy RDD, i.e., regressing the outcome variable on the running variable (resident population) and the treatment dummy (adjusted to the new placebo cut-offs). It estimates an Average Treatment Effect on the Treated (ATT) at the threshold, namely the average effect of being on one side of the threshold on the outcome variable, compared to being on the other side. This effect is exactly the objective of this investigation, namely if being on either side of a mayor's salary cutoff changes the incentives to participate. However, all the estimates are insignificant, suggesting that a change in salary does not seem to modify electoral incentives heterogeneously for men and women.

Table 13: Female mayors' non parametric estimations at different cutoffs

	Female mayoral candidates 2		Female mayors 2	
	(1)	(2)	(3)	(4)
Conventional	0.04	-0.01	0.03	-0.04
	(0.03)	(0.07)	(0.04)	(0.11)
Bias-corrected	0.04	-0.03	0.03	-0.07
	(0.03)	(0.07)	(0.04)	(0.11)
Robust	0.04	-0.03	0.03	-0.07
	(0.04)	(0.09)	(0.05)	(0.13)
Cutoff	3,000	10,000	3,000	10,000
Bandwidth	1,515	1,164	1,521	1,665
Observations on the left	1,178	122	1,185	186
Observations on the right	650	116	651	136

Note: The table shows the estimates for two non parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). The outcome variable is the share of female mayoral candidates in column 1 & 2 and whether the municipality elected a female mayor in column 3 & 4. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary indicating whether the resident population was above 5000 in period 1. Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

One more possible source of endogeneity (briefly mentioned in Section 3) is the fact that some municipalities had an earlier or later second round of election. While postponements are usually due to force majeure and one could possibly make the case that they happen at random, an anticipation of the election usually follows a case of ungovernability, which is unlikely exogenous. Therefore, one could expect that the share of extraordinary elections might differ on either side of the 5000 resident threshold, and be affected by the municipal council composition. However, Figure 8 clearly shows there is no discontinuity at the cutoff, both for the share of extraordinary elections (extensive margin) and for the average time between the first and second round of elections (intensive margin). Hence, these observations are not problematic for the identification strategy.

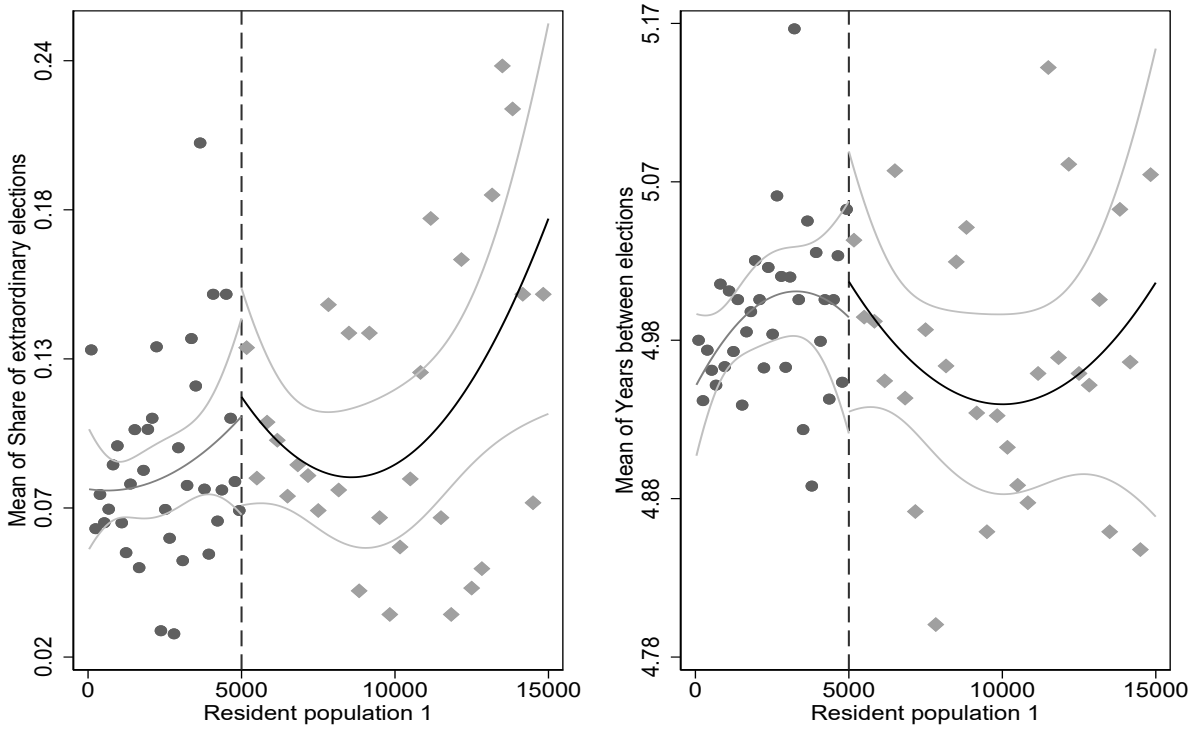

Figure 8: Balance check of extraordinary elections.

Note: The figure plots the binned averages of the outcome variable against the municipal population, together with the quadratic polynomial fit on both sides of the 5000 resident cut-off and the 95% confidence intervals. Share of extraordinary elections measures the share of second elections that did not happen 5 years later the first round. Years between elections measures the number of years between the two rounds of elections.

6.2 2015 sub-sample

Finally, it is relevant to discuss the 2015 sub-sample external validity and limitations. In fact, it is not randomly drawn from the full sample and the summary statistics show, indeed, that many covariates differ, on average, from the full sample (Appendices A1, A2, A). Therefore, in case of heterogeneous effects, or simply for lack of power (it only has 224 observations compared to more than 5000), one could argue that the results obtained from its analysis cannot be extrapolated to the entire sample, or that they could be biased. There is no doubt that the 2015 sub-sample is not as powerful as the full sample, and that it is more prone to measurement errors, by virtue of having been hand-collected. However, this section has just shown that it satisfies all the underlying assumptions of fuzzy RDD. Moreover, Appendices A8, A9, A10 and A11 show the entire main analysis replicated for the 2015 sub-sample. The main results are very consistent with the ones obtained from the full sample. In particular, the increase in the share of female councilors at the second election is again significant and very close to the estimate of the main analysis. The other three outcomes, on the other hand, change in sign in the non-parametric estimates, but are insignificant and have very high standard errors. Therefore, the sub-sample seems to provide fairly accurate estimates, despite its lower power.

7 Discussion

This section discusses the results, especially in relation to theoretical expectations and the existing literature.

7.1 Female councilors

The results for female councilors in the second round of elections are in line with the results by Baltrunaite et al. (2019) in the first elections after the introduction of Law 215. The effect found in their paper seems to be persistent in time, yet there is no evidence that it is growing exponentially. However, from the descriptive statistics in Table 1, it can be noticed that, in the treated municipalities, women constitute on average 45% of the municipal council at the second round of elections. This might create a ceiling effect, meaning that it is progressively harder to elect more women and reach the 50% threshold. Nonetheless, this finding by itself is not necessarily a proof for RME. In fact, Law 215 is still in place at the second elections, meaning that this persistent higher share of female councilors could merely be a "mechanical" effect of double preference voting, rather than a cultural change. To further conjecture about RME, it is fundamental to investigate the long run changes caused by Law 215. One of these is the gender composition of the candidates. In fact, Baltrunaite et al. (2019) analyzed a subsample of municipalities that had the election in 2013 and found no significant effect of the policy on the share of female candidates. However, the analysis of the hand-collected 2015 sub-sample hints toward a long-run effect on the gender composition of candidate lists, with women obtaining proportionately more spots in the treated municipalities. This would be considered a positive (side) effect of the policy if it were driven by an increase of female candidates (and especially new candidates). However, the analysis of the mechanisms suggests that this increase seems to be largely explained by a drop in male candidates. Therefore, there is no clear evidence of RME in this setting, as more female presence in the municipal council does not appear to encourage more women to follow suit. On the other hand, one cannot deny that, in relative terms, female are participating more in politics. The fact that this effect is mainly driven by less male candidates could be the consequence of several factors. In fact, the choice of running for office is also endogenous to whom the other candidates are, and possibly to their gender. For example, if an individual feels strongly represented by a female candidate he might be less likely to run himself for the municipal council. Therefore, even though there is only evidence for RME in a relative sense, it could still be considered a positive byproduct of double-gender voting.

These findings are in line with a large share of the literature. In fact, while research in India shows the presence of RME (Baskaran & Hessami, 2018; Bhavnani, 2009), both Broockman (2014) and Jankowski et al. (2019) found that, in western countries such as the US and Poland, there is no evidence of empowerment effects for new female candidacies. Gilardi (2015) also

noticed that, in Switzerland, RME decreased as the gender gap became thinner.

7.2 Female mayors

With regard to mayoral outcomes, there is no evidence that a stronger female presence in the municipal council encourages women to climb up the political ladder and run for mayor. To the best of my knowledge, this specific hypothesis has never been addressed in the literature. Given the efficacy of RME in various spheres, it was legitimate to expect there might exist incumbency effects not only for the same office (Jankowski et al., 2019), but also along the political hierarchy. However, this hypothesis found no confirmation in the analysis.

7.3 Female turnot

Similar to mayoral outcomes, there was no evidence of the effect of electing more women to the municipal council on female turnout in the following elections. This finding is in line with Broockman (2014), who also found no significant RME on female voters in the US. On the other hand, these estimates could seem in contrast with the research by De Paola et al. (2014), who found that, in the 90s, the introduction of gender quotas in Italy had a positive effect on female turnout. Nonetheless, their findings do not imply the presence of RME, but merely explain the response to the introduction of a measure such as gender quota. Baltrunaite et al. (2019) had already assessed in their paper that Law 215 did not have the same effect, and, one round of elections later, their findings are confirmed, despite one could expect that more female presence in the municipal council would encourage women to vote to support their peers.

7.4 Mechanisms

The results estimated in the mechanism section suggest that there is no significant effect of a stronger female presence in the municipal council on the total number of female candidates and on the number of new female candidates. Rather, the increase in female candidate share appears to be driven by a reduction in male candidates. For the sake of transparency, it is important to notice that this part of the analysis is the most prone to bias. In fact, while the identification strategy and the size of the full sample guarantee some reliable causal estimates, these other observations come from a smaller and hand-collected sample, thus, it is reasonable to expect some measurement errors. In particular, the analysis of re-candidates and new candidates is likely to be the least accurate. The hand-collected names were merged with the official dataset on elected politicians by the Italian Minister of Interior, but any misreporting on either side would cause an overestimation of the number of new candidates and an underestimation of the number of re-candidates. The estimates for the total candidates, on the other hand, should be more reliable, even though they lack some statistical power.

7.5 A local effect (LATE)

A relevant caveat of this analysis is that all of the estimates measure a LATE at the threshold. This means that the estimated treatment effects apply to so-called compliers (those municipalities that do elect more female councilors when Law 215 is in place), and, perhaps more importantly, only at the 5000 resident cut-off. This means that the analysis is specific to relatively small municipalities and it is hard to assess how credible it is to generalize these findings to national governments or larger cities. Considering that the literature shows considerable variation in RME depending on the maturity of the democratic process and the number of women who have held office before, one could expect different outcomes in larger cities if, for instance, they show a higher level of average education. A better understanding of the mechanisms driving RME would also foster the ability to draw conclusions on the reliability of these estimates in disparate contexts.

8 Conclusion

This thesis shows that a stronger female presence in the municipal council is persistent over time, even though it is not clear whether this is due to the effect of Law 215, to RME, or a combination of both. More interestingly, the analysis shows that a larger share of female councilors increases the share of female candidates in the following elections, even though this effect seems to be driven by a reduction in the number of male candidates rather than an RME on new female candidates. However, the mechanism part of the analysis is the least reliable of this investigation, and future research should assess its accurateness. On the other hand, this investigation found no significant effects on the share of female mayoral candidates, elected female mayors, and female turnout. In general, and consistently with the literature regarding western countries, there is not much evidence for RME in the political sphere. This is surprising considering that evidence is strong in several other contexts. A conjecture is that RME in education and business are usually explained by (long-lasting) exposure to the role model (a classmate, a professor, or a colleague), but in politics, and in particular at the municipal level, there might not be enough interaction between the councilors and the citizens. This would be an interesting and relevant topic for future research. It is very important to shed light on what actually encourages female political participation, in order to continue improving policies like gender quotas and double preference voting to achieve a more structural, and less mechanical, positive change in female political participation.

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A Appendix

A1

Table 14: Summary statistics of electoral outcomes - sample 2015

	Mean	SD	Min	Max	N
Control					
Eligible voters 1	3,119.11	879.92	1,625.00	5,375.00	142
Eligible voters 2	3,104.18	916.70	1,612.00	5,751.00	142
Voters 1	2,076.85	574.71	990.00	3,544.00	142
Voters 2	2,033.15	597.57	1,043.00	3,573.00	142
Female turnout 1	0.67	0.09	0.42	0.89	142
Female turnout 2	0.66	0.09	0.39	0.86	142
Female mayoral candidates 1	0.15	0.28	0.00	1.00	142
Female mayoral candidates 2	0.18	0.29	0.00	1.00	142
Female councilors 1	0.26	0.13	0.00	0.64	142
Female councilors 2	0.31	0.13	0.00	0.62	142
Female mayor 1	0.13	0.34	0.00	1.00	142
Female mayor 2	0.14	0.35	0.00	1.00	142
Treatment					
Eligible voters 1	6,601.15	1,921.41	2,093.00	10,641.00	82
Eligible voters 2	6,599.32	1,907.74	2,025.00	10,494.00	82
Voters 1	4,462.46	1,392.18	1,496.00	7,688.00	82
Voters 2	4,395.68	1,313.48	1,358.00	7,527.00	82
Female turnout 1	0.67	0.07	0.52	0.84	82
Female turnout 2	0.67	0.08	0.45	0.86	82
Female mayoral candidates 1	0.13	0.20	0.00	0.67	82
Female mayoral candidates 2	0.17	0.24	0.00	1.00	82
Female councilors 1	0.43	0.09	0.07	0.67	82
Female councilors 2	0.47	0.08	0.20	0.64	80
Female mayor 1	0.04	0.19	0.00	1.00	82
Female mayor 2	0.07	0.26	0.00	1.00	82

Note: The table shows a summary of descriptive statistics. Mean measure the average, SD stands for standard deviation, Min is the minimum value, Max is the maximum value and N is the number of non-missing observations. Control is made up of all the municipalities with less than 5000 residents, while Treatment includes all the municipalities above 5000 residents. Eligible voters are the people with a to vote. Voters are the individuals who voted. Resident population measures the number of residents in a municipality. Female turnout is equivalent to female voters divided by female eligible voters. Female mayoral candidates measures the share of female running for mayor between all the candidates. Female councilors measures the share of female councilors in the municipal council. Female mayor is a dummy measuring if the mayor is a woman. 1 indicates the first round of elections after the implementation of Law 215, while 2 indicates the second round of elections.

A2

Table 15: Summary statistics of Italian Population Census - sample 2015

	Mean	SD	Min	Max	N
Control					
Resident population 1	3,390.36	914.34	2,008.00	4,995.00	142
Female residents	0.51	0.01	0.49	0.53	142
Foreign female residents	0.58	0.10	0.39	1.00	142
Illiterate female residents	0.64	0.11	0.29	1.00	141
Graduate female residents	0.58	0.05	0.47	0.70	141
Student female residents	0.54	0.04	0.45	0.66	141
North	0.27	0.45	0.00	1.00	142
Treatment					
Resident population 1	7,474.16	2,099.58	5,018.00	11,799.00	82
Female residents	0.51	0.01	0.49	0.54	82
Foreign female residents	0.57	0.09	0.38	0.82	82
Illiterate female residents	0.67	0.08	0.43	0.93	82
Graduate female residents	0.57	0.04	0.48	0.66	82
Student female residents	0.54	0.03	0.46	0.61	82
North	0.28	0.45	0.00	1.00	82

Note: The table shows a summary of descriptive statistics. Mean measure the average, SD stands for standard deviation, Min is the minimum value, Max is the maximum value and N is the number of non-missing observations. Control is made up of all the municipalities with less than 5000 residents, while Treatment includes all the municipalities above 5000 residents. Resident population indicates the number of citizens who are resident in the municipality. North is a binary variable that indicates if the municipality is in the north of Italy. All the other variables indicate the share of women in each respective sub-population (e.g., Female residents is the share of women residents over total residents). 1 indicates the first round of elections after the implementation of Law 215, while 2 indicates the second round of elections.

A3

Table 16: Summary statistics of hand-collected variables - sample 2015

	Mean	SD	Min	Max	N
Control					
Female candidates 2	0.33	0.10	0.12	0.64	141
F new candidates out of F candidates 2	0.88	0.14	0.33	1.00	141
F new candidates out of T candidates 2	0.29	0.08	0.06	0.50	141
Males re-running 2	3.98	2.81	0.00	13.00	142
Females re-running 2	1.33	1.47	0.00	5.00	142
New male candidates 2	13.61	5.74	0.00	35.00	142
New female candidates 2	7.39	3.56	0.00	22.00	142
Treatment					
Female candidates 2	0.43	0.05	0.29	0.55	82
F new candidates out of F candidates 2	0.84	0.14	0.43	1.00	82
F new candidates out of T candidates 2	0.36	0.07	0.13	0.52	82
Males re-running 2	3.67	2.62	0.00	10.00	82
Females re-running 2	2.78	2.12	0.00	9.00	82
New male candidates 2	16.56	7.47	6.00	46.00	82
New female candidates 2	12.30	5.41	3.00	32.00	82

Note: The table shows a summary of descriptive statistics. Mean measure the average, SD stands for standard deviation, Min is the minimum value, Max is the maximum value and N is the number of non-missing observations. Control is made up of all the municipalities with less than 5000 residents, while Treatment includes all the municipalities above 5000 residents. Female candidates measures the share of female councilor candidates. (Fe)Males re-running and new candidates measure the total number of (Fe)Male candidates who are re-running or new candidates, respectively. F stands for female and T stands for total. 1 indicates the first round of elections after the implementation of Law 215, while 2 indicates the second round of elections.

A4

Table 17: Fuzzy RDD first-stage

	Full sample	2015 sample
	(1)	(2)
Law 215	0.13***	0.18***
	(0.01)	(0.02)
F-value	320.57	58.05
Observations	5158	224

Note: The table shows the estimates of two OLS models, representing the first stage (equation 1). The outcome variable is the share of female councilors in the first round of elections in both columns. Column 1 is the estimate for the full sample, column 2 is the estimate for the 2015 sample. Resident population is the independent variable. Law 215 indicates whether the double gender voting law applied to the municipality or not. F-value indicates the F-value for the Law 215 binary variable. Heteroskedasticity-robust standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

A5

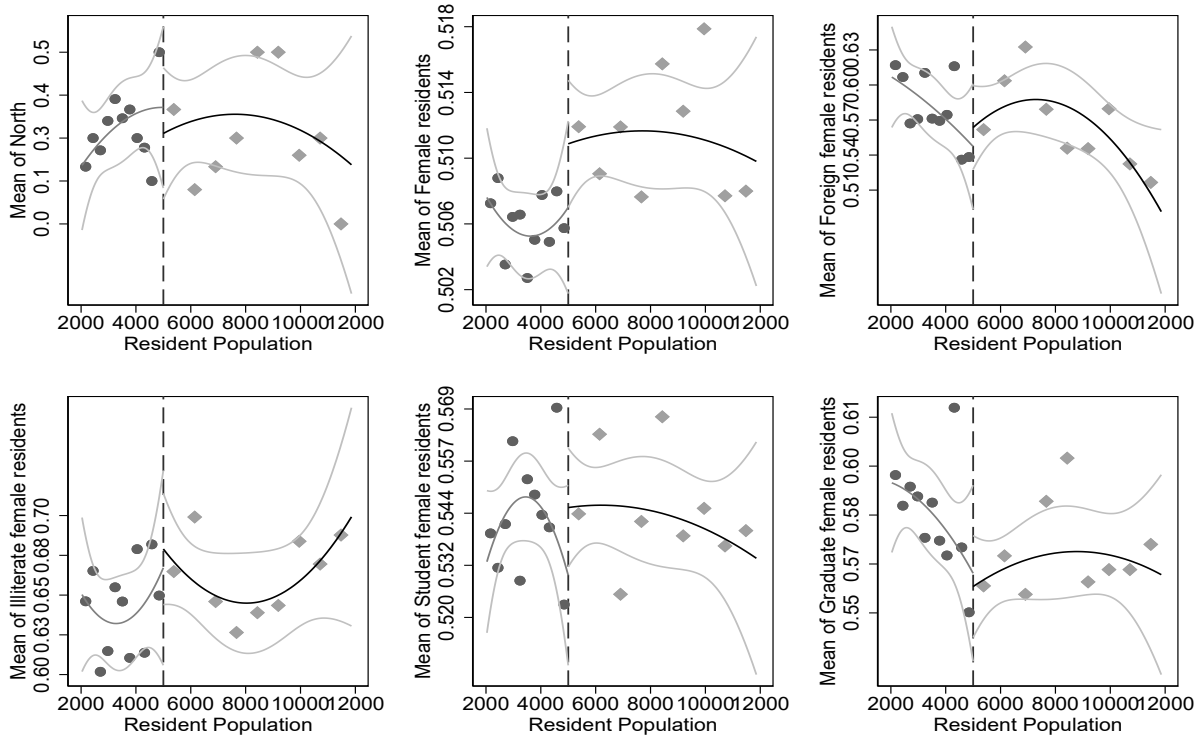

Figure 9: Balance check of covariates - sample 2015

Note: The figure plots the binned averages of the outcome variable against the municipal population, together with the quadratic polynomial fit on both sides of the 5000 resident cut-off and the 95% confidence intervals. North is a binary variable that indicates if the municipality is in the north of Italy. All the other variables indicate the share of women in each respective sub population (e.g., Female residents is the share of women residents over total residents). 1 indicates the first round of election after the implementation of Law 215, while 2 indicates the second round of elections.

A6

Table 18: Balance check of covariates - sample 2015

	(1)	(2)	(3)	(4)	(5)	(6)
Conventional	-0.54	-0.01	0.10	0.02	-0.02	0.08
	(1.39)	(0.02)	(0.17)	(0.20)	(0.08)	(0.09)
Bias-corrected	-0.87	-0.02	0.15	0.05	-0.01	0.12
	(1.39)	(0.02)	(0.17)	(0.20)	(0.08)	(0.09)
Robust	-0.87	-0.02	0.15	0.05	-0.01	0.12
	(1.70)	(0.02)	(0.21)	(0.24)	(0.11)	(0.12)
Bandwidth	922	1,361	1,271	1,018	1,286	1,097
Observations on the left	39	59	56	41	55	45
Observations on the right	30	35	35	33	35	34

Note: The table shows the estimates for six non parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). The outcome variable is a binary for whether the municipality is in the North of Italy in column 1, the share of female residents in column 2, the share of foreign female residents in column 3, the share of illiterate female residents in column 4, the share of student female residents in column 5, the share of graduate female residents in column 6. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary indicating whether the resident population was above 5000 in period 1. Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

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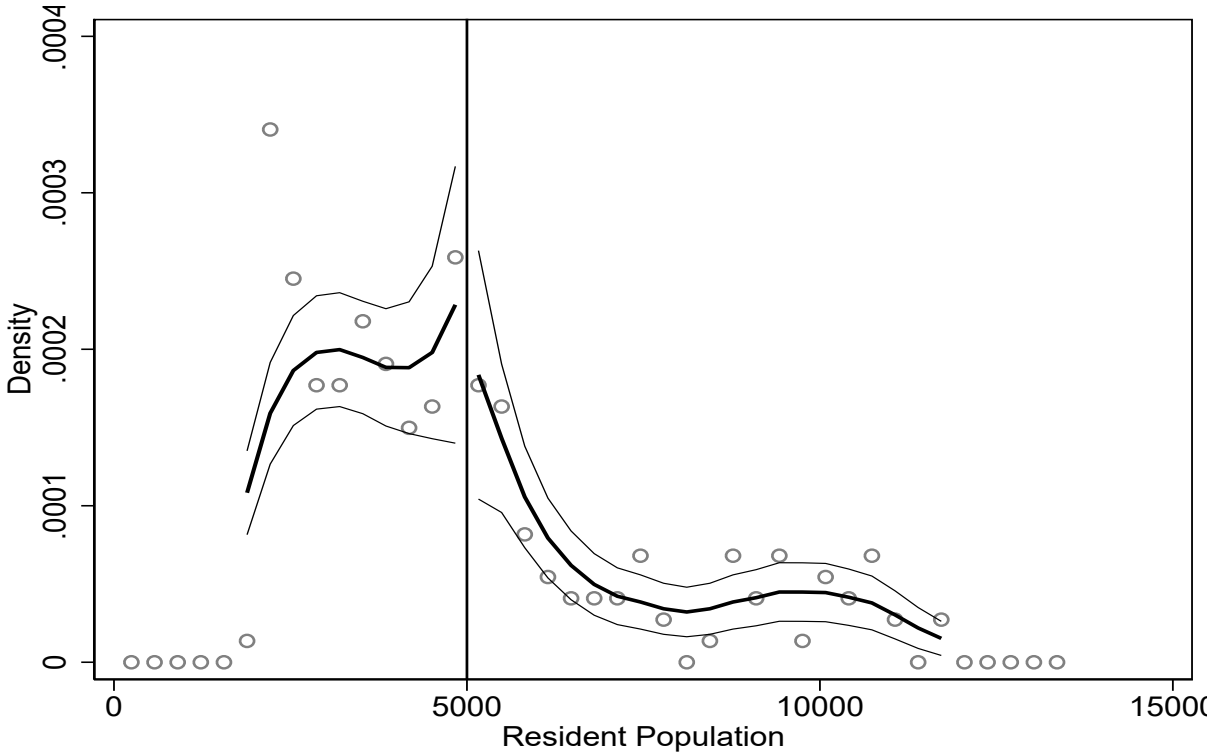

Figure 10: McCrary test - sample 2015.

A8

Table 19: Female councilors and female turnout parametric estimations - sample 2015

	Female councilors 2			Female turnout 2		
	(1)	(2)	(3)	(4)	(5)	(6)
Female councilors 1	0.71***	0.82***	0.97***	-0.02	0.13	0.18
	(0.15)	(0.19)	(0.34)	(0.09)	(0.10)	(0.17)
Polynomial order	1	2	3	1	2	3
Observations	222	222	222	224	224	224

Note: The table shows the estimates of six parametric 2SLS models. The outcome variable is the share of female councilors in columns 1-3 and female turnout in columns 4-6. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary variable indicating whether the resident population was above 5000 in period 1. Polynomial order indicates the order of the polynomial for the respective model, and polynomials are allowed to differ on the two sides of the cut-off. 1 indicates the first round of election after the implementation of Law 215, while 2 indicates the second round of elections. Heteroskedasticity-robust standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

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Table 20: Female councilors and female turnout parametric estimations - sample 2015

	Female councilors 2	Female turnout 2
	(1)	(2)
Conventional	0.71***	0.07
	(0.23)	(0.13)
Bias-corrected	0.70***	0.01
	(0.23)	(0.13)
Robust	0.70**	0.01
	(0.30)	(0.15)
Bandwidth	1,171	1,265
Observations on the left	48	56
Observations on the right	34	35

Note: The table shows the estimates for two non parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). The outcome variable is the share of female councilors in column 1 and female turnout in column 2. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary indicating whether the resident population was above 5000 in period 1. Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

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Table 21: Female mayors' parametric estimations - sample 2015

	Female mayoral candidates 2			Female mayors 2		
	(1)	(2)	(3)	(4)	(5)	(6)
Female councilors 1	0.08	0.25	0.69	-0.49	-0.19	-0.33
	(0.30)	(0.32)	(0.58)	(0.44)	(0.53)	(0.96)
Polynomial order	1	2	3	1	2	3
Observations	224	224	224	224	224	224

Note: The table shows the estimates of six parametric 2SLS models. The outcome variable is the share of female mayoral candidates in columns 1-3 and whether the municipality elected a female mayor in columns 4-6. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary variable indicating whether the resident population was above 5000 in period 1. Polynomial order indicates the order of the polynomial for the respective model, and polynomials are allowed to differ on the two sides of the cut-off. 1 indicates the first round of election after the implementation of Law 215, while 2 indicates the second round of elections. Heteroskedasticity-robust standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

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Table 22: Female mayors' non parametric estimations - sample 2015

	Female mayoral candidates 2	Female mayors 2
	(1)	(2)
Conventional	0.27	-0.26
	(0.44)	(0.86)
Bias-corrected	0.22	-0.24
	(0.44)	(0.86)
Robust	0.22	-0.24
	(0.54)	(1.10)
Bandwidth	1,144	1,200
Observations on the left	47	50
Observations on the right	35	35

Note: The table shows the estimates for two non parametric models within the optimal bandwidth selected by one common MSE-optimal bandwidth selector (Calonico et al., 2017). The outcome variable is the share of female mayoral candidates in column 1 and whether the municipality elected a female mayor in column 2. Female councilors measures the share of female councilors in the municipal council and is the independent variable. Resident population is the running variable. The instrument is a binary indicating whether the resident population was above 5000 in period 1. Conventional RDD estimates with a conventional variance estimator, Bias-corrected RDD estimates with a conventional variance estimator, and bias-corrected RDD estimates with a robust variance estimator are reported. Observations on the left/right indicates the effective number of observations (given by the bandwidth) used to the left/right of the cutoff. Bandwidth measures the bandwidth used for estimation of the regression function on each side of the cutoff. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.