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Female Mayors and Public Procurement

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Abstract

This paper investigates the role of mayors' gender in shaping public procurement at the local level. Using a Regression Discontinuity Design (RDD) and unique datasets on Italian procurement records, firm-level data, and political information spanning 2013-2019, we explore whether procurement contracts published under female mayors exhibit different outcomes compared to those under male mayors in close elections. The results indicate modest differences in procurement practices between female and male mayors: female mayors rely less on negotiated contracts and more on direct awards. Female leadership is also associated with fewer renegotiations and a (surprisingly) lower likelihood of appointing female procurement officers, while no differences emerge in winner characteristics or other post-award outcomes.

Keywords: Gender, Public Procurement, Regression Discontinuity

JEL Codes: J16, H57

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1 Introduction

The relationship between politicians’ gender and economic outcomes has attracted increasing attention in recent years, with a growing literature studying whether women in positions of political authority behave differently from their male counterparts. While most studies have focused on public policies or budgetary choices, much less is known about whether gender shapes the functioning of public procurement, an area that is central to local governance and to the allocation of public resources. Public procurement represents 14.8% of GDP in OECD-EU countries (OECD, 2025). Also, existing research on public procurement shows that political leaders affect procurement outcomes (e.g., Coviello and Gagliarducci, 2017). Female political leadership may affect public procurement through different channels (e.g., different risk aversion or attitudes towards corruption). This paper contributes to filling this gap by investigating how the gender of local political leaders affects procurement outcomes in Italian municipalities.

We combine electoral, procurement, and firm-level administrative data to study this question. Electoral data from the Ministry of Interior provide information on municipal elections over the period 2008–2019. We match these data with detailed records of procurement procedures from the Italian Anti-Corruption Authority (ANAC) for 2013–2019, which cover the tendering process, adjudications, and post-award outcomes. We also employ balance sheet data on winning firms from the AIDA database (Bureau van Dijk), which includes the universe of Italian corporations between 2013 and 2019.

Our empirical strategy exploits close elections for mayors and relies on a regres-

sion discontinuity design (RDD). We estimate specifications based on both optimal bandwidth selection, following Calonico et al. (2017), and higher-order local polynomials. This design allows us to causally identify the effect of electing a female rather than a male mayor on procurement outcomes.

The results reveal some differences in procurement practices under female mayors. Municipalities led by women tend to adopt fewer negotiated procedures where only invited firms can submit a bid, and more direct awards where the contracting authority assigns procurement contracts without publishing a tender. In negotiated procedures, they tend to invite more firms. By contrast, we find no differences in the characteristics of winning firms. Regarding post-award outcomes, contracts managed under female leadership are less frequently renegotiated, suggesting greater stability and fewer ex post revisions, but there is no difference in delays and cost overrun. Finally, and perhaps surprisingly, female mayors are less likely to appoint women as procurement officers (RUPs).

Our paper contributes to the extensive literature exploring the impact of women in policymaking. Despite the importance of public procurement for local governance, little is known about whether politicians' gender affects procurement outcomes. This research predominantly focuses on their influence on public policies and corruption.¹ In developing countries like India, clear gender differences in public spending have been observed (e.g., Bhalotra and Clots-Figueras (2014) find that women invest more

¹In the context of female policymakers and corruption, the literature primarily focuses on developing countries such as India (Afridi et al. (2017)) and Brazil (Brollo and Troiano (2016)). Generally, these studies find that female leaders are less likely to engage in corrupt practices. In addition, Decarolis et al. (2022) present evidence indicating that female procurement officers in Italy and China are less likely to be investigated or arrested for corruption.

in public health, Chattopadhyay and Duflo (2004) show that female politicians invest more in the issues raised by other women in the village). On the contrary, findings in developed countries vary, with a number of studies adopting a RDD indicating no differences in public spending in response to increased female political representation. In the Italian context, Casarico et al. (2022) exploit mayoral close elections and find that mayor gender does not affect both per capita total revenues and expenditures and their composition in Italian municipalities in general. When considering heterogeneous effects, they find that municipalities with a female mayor and a higher share of female councilors report higher expenditures in the environment and municipalities with run-off elections (i.e., population above 15,000) and female mayor report lower expenditures in social services. Daniele et al. (2024) also exploit mayoral close elections in Italian municipalities and find no differences in budget allocation, financial performance, and corruption. Bagues and Campa (2021) exploit population thresholds on the share of female councilors in Spain and find no effects of a larger presence of female councilors on the size and the type of local expenditures. Carozzi and Gago (2023), again in the Spanish context, exploit close elections and do not find differences between female and male mayors in gender sensitive policies as long-term care support or education. Ferreira and Gyourko (2014) exploit close elections and do not find any effect of mayor gender on local expenditures, employment, or crime rates in US municipalities. However, some contributions highlight distinctions in the composition of public spending and policymaking linked to gender also in developed countries. For instance, Baskaran and Hessami (2023) discover a positive impact of the share of female councilors in Bavaria on public child care provision, while Lipp-

mann (2022) finds that female and male French politicians prioritize different policy topics in lawmaking (e.g., female politicians tend to focus on women’s issues whereas males engage more in military issues). To the best of our knowledge, we are the first to analyze the causal effect of female mayors on public procurement outcomes.

In addition, our research relates to the literature on the effects of public buyers’ characteristics on public procurement. Decarolis et al. (2020) and Bucciol et al. (2020) examine this issue in the Italian context. Based on their results, it seems important to investigate the role of gender in leading political positions on procurement contracts.

The paper proceeds as follows. Section 2 describes the institutional context of our study. Section 3 presents the main data sources used for the analysis. Section 4 outlines the empirical strategy. Section 5 reports our findings, and Section 6 concludes.

2 Institutional framework

The Italian municipal administration, referred to as the *Comune*, is governed by three principal institutions: the mayor (*Sindaco*), the executive committee (*Giunta comunale*), and the municipal council (*Consiglio comunale*). The mayor serves as the political head of the municipality and leads the executive branch, chairing the *Giunta*, which is responsible for implementing policies and administrative programs. The *Consiglio comunale* is an elected deliberative body with legislative, budgeting, and political-administrative oversight functions. Municipal administrations are re-

sponsible for a broad range of local public functions, including urban infrastructure, local public transportation, welfare services, utilities-related services, and the procurement and supervision of public works.

Like other public administrations in Italy, municipalities are required to comply with public procurement regulations when outsourcing public works, goods, or services. Depending on the characteristics and value of the contract, procurement may take place through different procedures established under procurement law. For each contract, the contracting authority appoints a procurement officer (Responsabile Unico del Progetto or RUP), typically selected from within the municipal administration. This officer is responsible for the entire procurement process, which includes tasks such as preparing the preliminary project, advertising the tender, choosing the awarding methodology, managing the contract proceedings, facilitating payment to the winning firm, and monitoring the project's implementation.

In our analysis, we consider three types of procedures to assign public works, goods, or services. The first is the open procedure: any economic operator can submit a bid within the terms established by the call for tender. The second type is the negotiated procedure: the contracting authority must invite a minimum number of bidders to compete, and participation is restricted to the invited bidders only. Finally, contracting authorities can use direct awards for contracts below 150,000 euros, where they can directly select the awarded firm without consulting multiple economic operators.

In many procurement procedures for public works, participating firms submit bids indicating the price at which they are willing to undertake the project as a percentage

reduction (rebate) relative to the project’s estimated value. This estimated value, also known as the reserve price or starting value, represents the maximum amount that the public administration is willing to pay for the project.

3 Data

3.1 Italian Public Procurement data

The procurement data utilized in our study are sourced from the database provided by the Public Contracts Observatory at the Italian Anticorruption Authority (ANAC). Since 2000, ANAC has monitored all public contracts with a reserve price above EUR 150,000 until 2010 and above EUR 40,000 thereafter. We use ANAC data for the years 2013-2019, covering works, goods, and services.

For each procedure within our dataset, we have comprehensive information on publication date, type of tender, the selection criterion, the contracting authority, and the contract size. However, ANAC provides complete data on all contract phases only on a subsample of contracts (around 49%). This includes details such as the initiation and conclusion dates of the bidding process, the nature of the contracting authority, the count of participating bidders, the identity of the winning bidder, the identity of the procurement officer (RUP), and post-award outcomes such as delays, suspensions of the contract, renegotiations. Appendix Table A.1 reports the share of missing observations for the main variables. Missing adjudication data vary substantially across procurement types. Specifically, direct awards present a high rate of missing adjudication data (around 76%), while for open and negotiated procedures the share

is slightly higher than 40%. Consistently, missing adjudications are concentrated within the category of smaller contracts (below 150k Euros, around 61%). Also, the category of Works presents a lower share of missing adjudications (30%) than Goods (80%) and Services (61%). Appendix Table A.2 shows that procedures with missing adjudication data are not systematically correlated with mixed-gender close elections, close elections won by female or male candidates, or close elections more generally. This suggests that our results are unlikely to be driven by differential reporting completeness across close elections.

3.2 Italian Mayors

We employ an administrative dataset of Italian mayoral elections between 2008 and 2019. Within this dataset, comprehensive information is available, including gender, age, highest educational attainment, and political affiliation for all mayoral candidates.

The dataset also incorporates specific information on the precise duration of each term and the reasons for any early termination of the legislature.

Table 1 reports descriptive statistics for mayors. In terms of political orientation, females seem more likely than males to be affiliated to center left than center right parties. Also, women are younger and, consistently, they display lower incumbency rates and less experience. Finally, they tend to be more educated than men.

Table 1: Summary statistics

Variable	Male mayors			Female mayors		
	Mean	SD	N	Mean	SD	N
Center right	0.282	0.450	204660	0.157	0.364	29419
Center left	0.465	0.499	204660	0.293	0.455	29419
Population	263337.144	630607.117	204543	771558.942	1147915.43	29414
Year born	1962.789	10.322	204660	1969.112	10.255	29419
Incumbent	0.302	0.459	204660	0.139	0.346	29419
Tot terms office	1.673	0.617	204660	1.390	0.498	29419
Engineer	0.041	0.199	204660	0.014	0.119	29419
Lawyer	0.151	0.358	204660	0.081	0.272	29419
Architect	0.034	0.182	204660	0.020	0.140	29419
Accountant	0.028	0.164	204660	0.008	0.091	29419
Trade	0.009	0.096	204660	0.003	0.053	29419
Manager	0.032	0.176	204660	0.014	0.118	29419
Autonomous worker	0.020	0.139	204660	0.007	0.086	29419
Building surveyor	0.015	0.120	204660	0.001	0.030	29419
Clerk	0.168	0.374	204660	0.171	0.377	29419
Entrepreneur	0.075	0.263	204660	0.017	0.129	29419
Teacher	0.043	0.203	204660	0.082	0.275	29419
Doctor	0.046	0.210	204660	0.019	0.135	29419
Construction worker	0.004	0.066	204660	0	0	29419
Retired	0.031	0.172	204660	0.030	0.171	29419
Sales person	0.015	0.121	204660	0.003	0.054	29419
Student	0.026	0.159	204660	0.013	0.114	29419
Journalist	0.005	0.070	204660	0.019	0.136	29419
Degree	0.610	0.488	204660	0.785	0.410	29419
High school	0.279	0.449	204660	0.170	0.376	29419
Middle school	0.034	0.182	204660	0.008	0.089	29419
Elementary	0.002	0.047	204660	0	0.010	29419

Notes: The table reports individual characteristics for male and female mayors. *Population* refers to the municipal population at election. *Incumbent* is the dummy for mayor's second mandate. *Tot terms office* measures the number of years the mayor has been in office in the current mandate.

3.3 Firm data

The source of information for firm balance sheets is AIDA (Bureau Van Dijk). AIDA gathers information on the universe of Italian companies and provides detailed information about corporate management and firm performance. We collect data on firm headquarter location, number of employees, and sector (Economic Activity or ATECO at 2-digit level) for the years 2013-2019.

4 Empirical strategy

In a given municipal election, we aim to create an approximation of an ideal experiment. Recognizing that the choice to support either a female or male mayor is not random, we narrow our focus to elections where the margin of victory for a female (male) candidate over a male (female) candidate is marginal. We use first-round data for municipalities with population under 15,000, since these are decided in a single round regardless of vote share, and for municipalities with population at or above 15,000 in which a candidate obtained an absolute majority (50%+1) of valid votes in the first round. We use second-round (runoff) data only for municipalities with population at or above 15,000 in which no candidate reached an absolute majority of valid votes in the first round. The underlying assumption is that, within this specific subset of closely contested races, the outcome—whether a female or male candidate becomes the mayor—is as good as random. To validate this assumption, in Figure 1 we show the McCrary Density Test for the margin of victory of female candidates over males and we find that there is no discontinuity at the threshold. Moreover,

Figure 2 reports the distribution of the main covariates used in the regression analysis (total terms in office, incumbency, local mayor, and population). Graphically, we do not find any discontinuity at the threshold.

In our primary model, we specifically restrict our sample to close elections in a bandwidth estimated using the approach of Calonico et al. (2017). The regressions operate at the contract level, aggregating all procedures published under the winners (female or male) in closely contested elections. The estimated model takes the following form:

$$y_{ijtm} = \beta_0 + \beta_1 Female_{jtm} + \beta_2 MV_{jtm} + \delta_p + \gamma_t + \beta_3 X_i + \beta_4 Z_m + \beta_5 W_j + \epsilon_{ijtm}, \quad (1)$$

where y_{ijtm} is the outcome for contract i under mayor j elected in year t in municipality m , MV_{jtm} is the margin of victory of mayor j elected in year t in municipality m , δ_p are province fixed effects, γ_t are election year fixed effects, X_i , Z_m , W_j are procedure, municipal, and mayor characteristics, respectively. Moreover, we adopt as an additional specification a Local Polynomial of 3^{rd} degree and, therefore, estimate the following:

$$y_{ijtm} = \sum_{k=0}^3 (\beta_k MV_{jtm}^k) + Female_{jtm} \sum_{k=0}^3 (\pi_k MV_{jtm}^k) + \delta_p + \gamma_t + \beta_4 X_i + \beta_5 Z_m + \beta_6 W_j + \epsilon_{ijtm}. \quad (2)$$

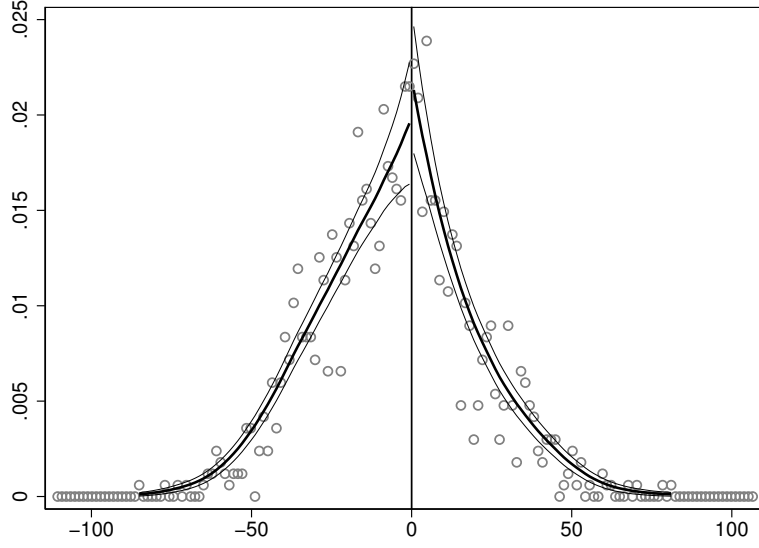


Figure 1: McCrary Density Test for the Margin of Victory

5 Results

In this section, we provide evidence on the effects of mayor gender on procurement outcomes. First, we consider pre-award outcomes, i.e. contract-level outcomes which refer to the period between the publication and the award. We then turn to winner characteristics and post-award outcomes, that is, the characteristics of awarded firms and the outcomes related to the phase between the award and the end of the contract. Finally, we look at the relationship between female mayors and female RUP.

5.1 Pre-award outcomes

Table 2 reports the effects of female mayors on the type of procurement procedure adopted. It seems that women tend to adopt fewer negotiated procedures and use

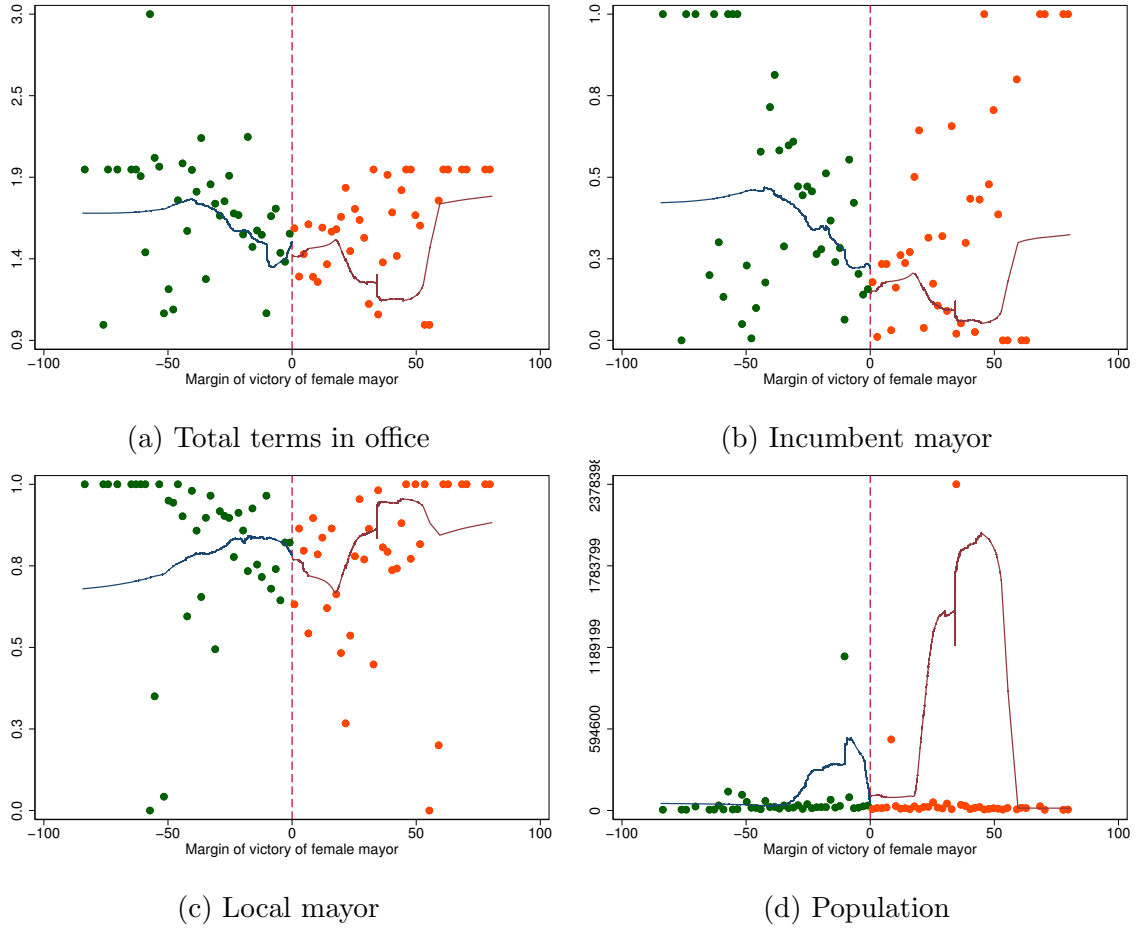


Figure 2: Balance of covariates

direct awards more frequently than men. Specifically, they adopt on average 7 p.p. (14% of the mean of male mayors) fewer negotiated procedures and 8.4 p.p. (35% of the mean of male mayors) more direct awards than males when using the estimator by Calonico et al. (2017) and we find analogous results when adopting the local polynomial specification.

Columns 1 and 2 of Table 3 report the estimated effects of the mayor's gender on the number of bidders in negotiated and open procedures. Both specifications display

no effect of mayor gender on the number of bidders. Columns 3-4 of Table 3 report the results on the number of invited firms in negotiated procedures. The procedures published under female mayors show a larger number of invited firms, specifically, between 1 and 2 more invited firms under female mayors, which is around 30% of the mean of male mayors, but with a significance level at 10%. We do not find significant effects, instead, on the difference between invited and participating firms (columns 5-6) and the likelihood of inviting a number of bidders that is below the legal minimum (columns 7-8). Following Decarolis et al. (2025), we define this outcome variable to capture cases in which the number of invited firms falls below the legal minimum, a situation potentially associated with the abuse of discretionary procedures.

Table 2: Type of procedure

VARIABLES	(1) OB Competitive procedure	(2) LP Competitive procedure	(3) OB Negotiated procedure	(4) LP Negotiated procedure	(5) OB Direct award	(6) LP Direct award
Female Mayor	0.002 (0.031)	0.003 (0.031)	-0.070* (0.041)	-0.079* (0.044)	0.084* (0.047)	0.076 (0.054)
Observations	22,653	62,636	24,572	62,636	24,947	62,636
Adjusted R-squared	0.081	0.069	0.104	0.120	0.138	0.147
Province fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Period fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Procedure characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Municipality characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Mayor characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Mean D.V. Male	0.266	0.257	0.488	0.471	0.242	0.272
Elections	482	1248	545	1248	557	1248
Bandwidth	11.04		13.05		13.48	

Notes: The results refer to public procurement contracts published over the years 2013-2019 by mayors who won in mixed-gender elections in municipalities with a population of at least 5,000. In columns 1, 3, 5, optimal bandwidths are estimated using Calonico et al. (2017). Columns 2, 4, 6 report results using Local Polynomial regressions. Controls are: local mayor (dummy), incumbent mayor (dummy), political position, contract category, contract size, population in municipality in 2011 census. Robust standard errors clustered at mayor level in parentheses.

Table 3: Bidders in procurement auctions

SAMPLE VARIABLES	(1) OB Open&Negotiated N. Bidders	(2) LP Open&Negotiated N. Bidders	(3) OB Negotiated Invited firms	(4) LP Negotiated Invited firms	(5) OB Negotiated Difference Inv. Part.	(6) LP Negotiated Difference Inv. Part.	(7) OB Negotiated Below min	(8) LP Negotiated Below min
Female Mayor	1.713 (1.699)	-0.752 (0.974)	1.463* (0.763)	1.585* (0.825)	0.338 (0.717)	1.020 (0.708)	-0.008 (0.028)	-0.015 (0.024)
Observations	7,202	26,497	7,652	17,370	4,832	17,370	11,436	29,621
Adjusted R-squared	0.247	0.226	0.208	0.238	0.139	0.123	0.112	0.040
Province fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Procedure characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipality characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mayor characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean D.V. Male	7.960	8.834	4.940	5.876	1	1.318	0.150	0.141
Elections	377	1104	527	1039	362	1039	467	1155
Bandwidth	9.413		15.98		9.680		11.81	

Notes: The results refer to public procurement contracts published over the years 2013-2019 by mayors who won in mixed-gender elections in municipalities with a population of at least 5,000. In columns 1, 3, 5, optimal bandwidths are estimated using Calonico et al. (2017). Columns 2, 4, 6 report results using Local Polynomial regressions. Controls are: local mayor (dummy), incumbent mayor (dummy), political position, contract category, contract size, population in municipality in 2011 census. Columns 1 and 2 control for the dummy for Open procedure. Robust standard errors clustered at mayor level in parentheses.

5.2 Winner characteristics and post-award outcomes

In Table 4, we report the results of the mayor's gender on the characteristics of the winner. Columns 1–4 display the results on the dummies for the local and incumbent winners. We define a local as a firm whose headquarters are based in the same province as the municipality of the mayor, and incumbent as a firm having been awarded a contract by the same contracting authority during the year before the considered procedure. We do not find statistically significant results on these two variables. In addition, columns 5–6 report the results on the dummy for SME, which we define as a firm with less than 250 employees, and we find no significant result. Finally, columns 7–8 report the results on firm age. Again, we find no effect of mayor gender on the age of awarded firms. Therefore, female mayors do not seem to behave differently from men in terms of winners' selection in procurement tenders.

Further, we assess the effect of mayor gender on post-award outcomes. Table 5

Table 4: Winner characteristics in procurement auctions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OB	LP	OB	LP	OB	LP	OB	LP
VARIABLES	Local	Local	Incumbent	Incumbent	SME	SME	Firm age	Firm age
Female Mayor	0.003 (0.004)	0.004 (0.006)	-0.025 (0.029)	-0.047* (0.027)	0.036 (0.027)	0.009 (0.025)	0.904 (1.100)	0.591 (1.145)
Observations	12,385	22,756	8,114	30,699	7,766	21,888	9,414	22,711
Adjusted R-squared	0.174	0.158	0.132	0.208	0.206	0.191	0.059	0.051
Province fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Auction characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipality characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mayor characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean D.V. Male	0.009	0.009	0.171	0.184	0.808	0.833	22.39	22.79
Elections	721	1129	406	1157	454	1124	561	1129
Bandwidth	21.92		9.628		11.67		15.34	

Notes: The results refer to public procurement contracts published over the years 2013-2019 by mayors who won in mixed-gender elections in municipalities with a population of at least 5,000. OB is the result from RDD regressions with optimal bandwidths estimated using Calonico et al. (2017). LP reports results using Local Polynomial regressions. Controls are: local mayor (dummy), incumbent mayor (dummy), political position, contract category, contract size, dummy for Open procedure, and population in municipality in 2011 census. Robust standard errors clustered at mayor level in parentheses.

shows the results on cost overrun, delay, and renegotiations. We find no significant effects of mayor gender on cost overrun and delay, but we find a significant reduction in the number of renegotiations, which are lower by 0.06 or 40% of the mean of male mayors under the optimal bandwidth specification and 0.05 or 35% of the mean of male mayors under the local polynomial specification.

As a robustness check, we repeat the analyses keeping only contracts published and concluded under the same mayor. Appendix Tables A.4 and A.5 show the results from these robustness checks and confirm the main results.

Table 5: Post-award outcomes

VARIABLES	(1) OB Cost overrun	(2) LP Cost overrun	(3) OB Delay	(4) LP Delay	(5) OB Tot. Renegotiations	(6) LP Tot. Renegotiations
Female Mayor	-0.014 (0.022)	0.007 (0.024)	46.295 (67.775)	31.715 (55.128)	-0.059** (0.029)	-0.050* (0.027)
Observations	11,396	29,930	3,648	10,031	23,029	62,636
Adjusted R-squared	0.117	0.222	0.011	0.011	0.105	0.079
Province fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Period fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Procedure characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Municipality characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Mayor characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Mean D.V. Male	-0.0180	-0.00400	-12.13	23.53	0.149	0.144
Elections	501	1150	436	921	497	1248
Bandwidth	12.97		15		11.51	

Notes: The results refer to public procurement contracts published over the years 2013-2019 by mayors who won in mixed-gender elections in municipalities with a population of at least 5,000. OB is the result from RDD regressions with optimal bandwidths estimated using Calonico et al. (2017). LP reports results using Local Polynomial regressions. Controls are: local mayor (dummy), incumbent mayor (dummy), political position, contract category, contract size, dummy for Open procedure, population in municipality in 2011 census. Robust standard errors clustered at mayor level in parentheses.

5.3 Mayors and RUPs

We also analyze the relationship between mayor gender and the gender of the procurement officer (RUP). The RUP oversees all phases of the procurement process and contract implementation and the contracting authority appoints the RUP from among its employees. Table 6 reports the results from these regressions. Female mayors are less likely to select female RUPs across all procedures and the effect ranges between 16 and 21 p.p. depending on the RDD specification (see columns 1 and 2).

One may hypothesize a number of potential explanations behind this effect. Several mechanisms could potentially explain this result. Female mayors may allocate procurement responsibilities differently if the RUP position is perceived as particu-

larly demanding in terms of time or administrative burden, or women may instead be promoted to alternative positions of responsibility within the administration. Given the lack of detailed information on RUP characteristics, however, we are unable to identify the mechanisms underlying this result. Future work could investigate these channels more directly.

In addition, we check whether the starting price is different when both mayor and RUP are female (see columns 3 and 4), but we find no statistically significant association.

To ensure that RUP designation and the publication of the tender happened under the same mayor, we repeat the analyses keeping only contracts published at least six months after the election of the mayor. The results are in Appendix Table A.6 and confirm the main results.

6 Conclusions

This paper provides causal evidence on the relationship between the gender of local politicians and public procurement outcomes, focusing on Italian municipalities. Exploiting close electoral races in a regression discontinuity design, we show that female mayors display some modest differences in managing procurement processes compared to their male counterparts. Specifically, municipalities led by women rely less on negotiated procedures and invite more firms in such procedures when they adopt them. Furthermore, contracts under female leadership are less frequently subject to renegotiation, consistent with a higher degree of credibility and *ex ante*

Table 6: Mayors and RUP gender

	(1)	(2)	(3)	(4)
	OB	LP	OB	LP
VARIABLES	Female RUP	Female RUP	Log starting price	Log starting price
Female Mayor	-0.213*** (0.073)	-0.159** (0.078)	0.079 (0.103)	-0.026 (0.085)
Female RUP			-0.036 (0.047)	-0.005 (0.033)
Female Mayor $\times$ Female RUP			0.048 (0.216)	0.021 (0.094)
Observations	8,094	14,393	7,835	19,035
Adjusted R-squared	0.140	0.122	0.252	0.214
Province fixed effects	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes
Period fixed effects	Yes	Yes	Yes	Yes
Procedure characteristics	Yes	Yes	Yes	Yes
Municipality characteristics	Yes	Yes	Yes	Yes
Mayor characteristics	Yes	Yes	Yes	Yes
Mean D.V. Male	0.325	0.327	12.23	12.10
Elections	485	854	341	912
Bandwidth	18.49		10.28	

Notes: The results refer to public procurement contracts published over the years 2013-2019 by mayors who won in mixed-gender elections in municipalities with a population of at least 5,000. OB is the result from RDD regressions with optimal bandwidths estimated using Calonico et al. (2017). LP reports results using Local Polynomial regressions. Controls are: local mayor (dummy), incumbent mayor (dummy), political position, contract category, dummy for Open procedure, population in municipality in 2011 census. Columns 1 and 2 also control for contract size. Robust standard errors clustered at mayor level in parentheses.

planning in the execution of public contracts. However, we find no significant gender differences in post-award performance indicators such as delays or cost overruns, nor in the characteristics of winning firms. The limited effects of mayors' gender on procurement outcomes are in line with the literature on politicians' gender and public spending/policymaking, which generally reports modest or statistically insignificant effects of female mayors (see, e.g., Casarico et al. (2022)). Finally, we find that female mayors are less likely to appoint female procurement officers. Future research

could explore the mechanisms underlying this surprising effect - whether it reflects differences in time constraints, gendered perceptions of competence, selection into administrative roles, or other mechanisms.

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Appendix

A Additional tables

Table A.1: Summary statistics for missing adjudications

Variable	% Missing	N.
North	.477	114687
Center	.524	62299
South	.587	47374
Female	.480	29419
Male	.516	204660
Large Municipality ($> 15k$)	.487	154094
Small Municipality ($< 15k$)	.558	79985
Local	.506	174448
Non Local	.527	59631
Incumbent	.503	65945
Non Incumbent	.514	168134
Center Left	.483	103766
Center Right	.515	62322
Open	.433	63489
Negotiated	.414	108555
Direct	.762	61856
Below150	.613	159243
Above150	.292	74124
Above300	.285	41502
Above1000	.307	13551
Works	.305	79532
Goods	.805	7181
Services	.608	147366

Notes: The Table reports the share of missing adjudications and the total number of observations for all municipal, mayoral, and contract-level characteristics.

Table A.2: Missing adjudications and close elections

VARIABLES	(1) Missing adjudication	(2) Missing adjudication	(3) Missing adjudication	(4) Missing adjudication
Mixed gender close election	-0.039 (0.025)			
Female winner close election		-0.031 (0.034)		
Male winner close election			-0.044 (0.034)	
Close election				0.015 (0.015)
Observations	4,611	4,611	4,611	4,611
Adjusted R-squared	0.000	-0.000	0.000	-0.000
Mean D.V.	0.0970	0.0480	0.0490	0.350

Notes: The Table reports regression results of the dummy for missing adjudication on close elections. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.3: Predictors of close elections

VARIABLES	(1) Mixed gender close election	(2) Female winner close election	(3) Male winner close election	(4) Close election
North	0.018 (0.038)	0.016 (0.026)	0.002 (0.029)	-0.062 (0.043)
Center	-0.012 (0.039)	0.011 (0.027)	-0.023 (0.030)	-0.111** (0.044)
South	-0.001 (0.039)	0.010 (0.026)	-0.011 (0.030)	0.006 (0.044)
Log population	-0.004 (0.011)	0.002 (0.007)	-0.006 (0.009)	0.010 (0.015)
Local mayor	-0.021 (0.015)	-0.015 (0.011)	-0.006 (0.011)	-0.034** (0.017)
Incumbent mayor	-0.055*** (0.015)	-0.052*** (0.010)	-0.004 (0.012)	-0.179*** (0.017)
Large municipality	-0.027 (0.020)	-0.008 (0.014)	-0.019 (0.016)	-0.076*** (0.027)
Center left	-0.015 (0.048)	-0.045* (0.028)	0.031 (0.039)	-0.046 (0.057)
Lega	0.076*** (0.025)	0.018 (0.014)	0.058*** (0.022)	0.080*** (0.030)
FDI	0.021 (0.026)	-0.008 (0.013)	0.029 (0.023)	0.023 (0.030)
Five stars	0.046 (0.047)	-0.004 (0.033)	0.050 (0.037)	0.017 (0.059)
PD	0.006 (0.049)	0.028 (0.028)	-0.021 (0.040)	-0.007 (0.059)
Center right	-0.056*** (0.017)	-0.039*** (0.009)	-0.018 (0.015)	-0.039 (0.026)
Year born	-0.001 (0.001)	0.000 (0.000)	-0.001** (0.000)	-0.004*** (0.001)
Tot terms office	-0.014 (0.012)	-0.005 (0.009)	-0.010 (0.010)	-0.007 (0.015)
Previous female	0.052* (0.030)	-0.007 (0.018)	0.059** (0.025)	
Previous Female and Incumbent	0.147*** (0.048)	0.236*** (0.040)	-0.089*** (0.029)	
Observations	2,499	2,499	2,499	4,600
Adjusted R-squared	0.037	0.058	0.015	0.056
Mean D.V.	0.101	0.0490	0.0520	0.350

Notes: The Table reports regression results of the dummy for close election on municipal and mayoral controls. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.4: Same mayor Robustness Check: Winner characteristics

VARIABLES	(1) OB Local	(2) LP Local	(3) OB Incumbent	(4) LP Incumbent	(5) OB SME	(6) LP SME	(7) OB Firm age	(8) LP Firm age
Female Mayor	0.005 (0.004)	0.006 (0.007)	-0.031 (0.031)	-0.038 (0.032)	0.068** (0.032)	0.016 (0.027)	1.023 (1.329)	1.243 (1.397)
Observations	7,926	15,140	6,662	20,245	4,833	14,540	5,576	15,108
Adjusted R-squared	0.216	0.175	0.151	0.244	0.219	0.199	0.042	0.045
Province fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Auction characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipality characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mayor characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean D.V. Male	0.00900	0.0100	0.206	0.179	0.843	0.861	21.76	22.39
Elections	591	938	380	977	365	936	429	938
Bandwidth	22.16		11.38		11.68		13.95	

Notes: The results refer to public procurement contracts published over the years 2013-2019 by mayors who won in mixed-gender elections in municipalities with a population of at least 5,000 and published at least six months after the election date and concluded under the same mayor. OB is the result from RDD regressions with optimal bandwidths estimated using Calonico et al. (2017). LP reports results using Local Polynomial regressions. Controls are: local mayor (dummy), incumbent mayor (dummy), political position, contract category, contract size, dummy for Open procedure, and population in municipality in 2011 census. Robust standard errors clustered at mayor level in parentheses.

Table A.5: Same mayor Robustness Check: Post-award outcomes

VARIABLES	(1) OB Cost overrun	(2) LP Cost overrun	(3) OB Delay	(4) LP Delay	(5) OB Tot. Renegotiations	(6) LP Tot. Renegotiations
Female Mayor	0.041* (0.022)	0.035 (0.027)	27.932 (50.226)	40.936 (55.417)	-0.092*** (0.035)	-0.073* (0.039)
Observations	7,586	19,613	4,836	7,936	11,876	34,150
Adjusted R-squared	0.096	0.242	0.002	0.005	0.131	0.094
Province fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Period fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Auction characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Municipality characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Mayor characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Mean D.V. Male	0.0400	0.0460	31.50	37.12	0.223	0.201
Elections	461	970	558	793	504	1048
Bandwidth	14.53		27.07		14.94	

Notes: The results refer to public procurement contracts published over the years 2013-2019 by mayors who won in mixed-gender elections in municipalities with a population of at least 5,000 and published at least six months after the election date and concluded under the same mayor. OB is the result from RDD regressions with optimal bandwidths estimated using Calonico et al. (2017). LP reports results using Local Polynomial regressions. Controls are: local mayor (dummy), incumbent mayor (dummy), political position, contract category, contract size, dummy for Open procedure, population in municipality in 2011 census. Robust standard errors clustered at mayor level in parentheses.

Table A.6: Same mayor Robustness Check: Mayors and RUP gender

	(1)	(2)	(3)	(4)
	OB	LP	OB	LP
VARIABLES	Female RUP	Female RUP	Log starting price	Log starting price
Female Mayor	-0.206*** (0.074)	-0.156** (0.078)	0.097 (0.103)	-0.024 (0.085)
Female RUP			-0.035 (0.047)	-0.001 (0.033)
Female Mayor $\times$ Female RUP			0.015 (0.221)	0.012 (0.099)
7,974	14,090	7,951	18,732	
Adjusted R-squared	0.133	0.122	0.254	0.216
Province fixed effects	Yes	Yes	Yes	Yes
Election year fixed effects	Yes	Yes	Yes	Yes
Period fixed effects	Yes	Yes	Yes	Yes
Auction characteristics	Yes	Yes	Yes	Yes
Municipality characteristics	Yes	Yes	Yes	Yes
Mayor characteristics	Yes	Yes	Yes	Yes
Mean D.V. Male	0.323	0.326	12.23	12.10
Elections	471	826	357	887
Bandwidth	18.78		11.46	

Notes: The results refer to public procurement contracts published over the years 2013-2019 by mayors who won in mixed-gender elections in municipalities with a population of at least 5,000 and published at least six months after the election date. OB is the result from RDD regressions with optimal bandwidths estimated using Calonico et al. (2017). LP reports results using Local Polynomial regressions. Controls are: local mayor (dummy), incumbent mayor (dummy), political position, contract category, dummy for Open procedure, population in municipality in 2011 census. Columns 1 and 2 also control for contract size. Robust standard errors clustered at mayor level in parentheses.

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