Online Appendix
Does the election of a female leader clear the way for more women in politics?

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A.1 Details on the collection of the council election data

First, we browsed the official websites of all 426 municipalities for initial party lists as well as election results. Several municipalities have posted this information for some or even all local elections during the period 2001-2016 (usually in PDF or Word format) on their websites. Party lists include information on the name of a candidate (from which we infer gender), the list rank, the date or year of birth (from which we infer age) as well as the current employment (from which we infer education). We downloaded the information and, with the help of several research assistants, copy-pasted or entered the data by hand into Excel files.

In a second step, we sent preformatted Excel files (one Excel file per election) to all municipalities (specifically the mayor's office or a high-ranking official in the local administration) or which the relevant information was not posted online for all or some elections. We kindly asked that mayors or high-ranking officials in the local administration (more specifically their staff) fill in the information in the Excel files and send it back to us. In many cases, they indeed entered the data into the Excel files. In other cases, the municipalities sent us PDF or Word files or scans of paper documents, which we or our research assistants then copy-pasted or entered into the preformatted Excel files.

In a final step, we merged all of these Excel files (by municipal codes and election years) into one datafile. We also invested a significant amount of time – given that much of the data had been entered by hand – in checking the plausibility of numerical variables (whether candidate lists were consecutively numbered and complete, whether those candidates with the lowest final ranks were indeed those that entered the council, etc.) and accounted for any errors (we corrected errors whenever possible and if not set the data point to missing).

We attempted to collect data for all municipalities and elections and hence the reason for any missing data is that data was not made available to us. We could not obtain the data for various reasons: smaller municipalities were less likely to post election results or candidate lists online or send us any information (either by not responding to our email(s) at all or telling us that they did not have the staff / time to work on our request). Information on earlier elections was also more difficult to obtain (for example because the papers were already archived and thus not easily accessible or even shredded).

Overall, there were 283 local council elections held during the tenure of a mayor that had been elected in a mixed-gender mayor election.[1] We were able to collect data on 214 of these 283 elections (about 75 percent). Of the 283 local elections, 194 were held under a male and 89 under a female mayor. Of the 194 elections under a male mayor, we have data on 147 elections, i. e. about 75 percent. Of the 89 local elections that were held under a female mayor, we have data on 67 elections, which is also about 75 percent. Consequently, there is no systematic relationship between mayor gender and sample attrition.

[1] This number is larger than the number reported for mixed-gender mayor elections (which is 268) in Table A.1. The reasons is that the tenure of a mayor is six years while that of the council is five years. Thus, a mayor can have up to two local council elections during her tenure.

A.2 Further extensions

Do female council candidates benefit more from female mayors who have been in office for a longer period? To explore this question, we estimate RDD models that include an interaction between a variable capturing the number of years a mayor has been in office prior to the relevant council election and the female mayor dummy. The results are collected in Table A.16. While the estimate for the interaction effect is positive and significant in some specifications, it is unstable across bandwidths. In particular, according to Model (1), which uses the optimal bandwidth, the interaction effect is insignificant and numerically small. These results indicate that it is mainly the presence of a female mayor as such rather than the length of her tenure that is important for the rank improvements of female council candidates.

Do certain types of female mayors have a larger effect on rank improvements of female candidates? In Table A.17, we report results from interaction models for three mayor characteristics: age, education (whether she has a university degree or not), and prior employment (whether she has prior civil administration experience or not).[2] While we find no significant interaction effects for education and prior employment, the estimates suggest a significant interaction for age. Younger female mayors have a more positive effect on female rank improvements. This finding is consistent with the interpretation that the main reason for the rank improvements is a decline in anti-female voter bias. Voters may be particularly skeptical against younger women, and if such a women succeeds in the mayor election, then the bias against women in general may decline more than if an older women wins the election.

Finally, we study in Table A.18 whether the effect of female mayors increases with the share of female mayors in neighboring municipalities. The results suggest no significant interaction effect, indicating that there is no spatial cumulation effect of female mayors. Once a municipality has a female mayor, the number of female mayors in neighboring municipalities appears to be irrelevant for the performance of female council candidates.[3]

A.3 Across-party effects

The rank improvement measure is a within-party measure as it captures how the rank of female candidates changes in their party relative to their initial placement. However, female mayors may have further effects that would not be captured by this measure. Specifically, rather than influencing for which candidates voters cast their vote on a given list, female mayors may lead voters to switch to entirely different lists. Such across-party effects may either compound or counteract the rank

[2] See Hessami (2017) for a detailed description of the data on mayor characteristics.

[3] We also find in Table A.18 that the effect of the share of female mayors in neighboring municipalities has an insignificant or small negative effect on the rank improvement of female candidates in municipality *i*. This is not inconsistent with the spillover results in Table 9 (which show a positive effect of a female mayor in municipality *i* to neighboring municipalities) as in the specification in Table A.18, the share of female-led neighbors is not quasi-random.

improvements experienced by female council candidates and thus lead to overall more or less female representation.[4]

In our context, across-party effects are arguably less important than within-party effects because voters are likely to express any change in attitudes toward female candidates by voting for those women that are on the list of the party that they would prefer anyway for ideological reasons or because they support its municipality-specific policy goals. However, across-party effects need to be explored for a comprehensive assessment of the effect of female mayors.

Table A.19 thus reports results from RDD specifications where we relate the vote share of all competing parties in a municipality to the gender of its mayor. To explore whether parties with more women on the list receive more votes in municipalities with female mayors, we interact the female mayor dummy with the share of women on the list of a party. The results show no significant interaction, indicating that across-party effects are not important in our context.

References

Hessami, Z. 2017. "Accountability and incentives of appointed and elected public officials." *Review of Economics and Statistics*, forthcoming.

[4]For example, if some voters have become more biased against female candidates in response to a female mayor, they may either vote for the men on their otherwise preferred list or switch to a list that has fewer women in the first place. In the latter case, we may end up observing both positive rank improvements for women (because voters who do not switch are relatively profemale) and less female representation (as the switchers vote for parties with fewer women).

A.4 Appendix Tables

Table A.1: SUMMARY STATISTICS ON MAYOR ELECTIONS

Year	All mayor elections	Mixed-gender elections	Close mixed-gender elections (female victories)
1993	86	6	1 (1)
1994	85	8	1 (1)
1995	82	7	2 (2)
1996	90	8	0 (0)
1997	51	3	1 (1)
1998	58	7	1 (0)
1999	84	11	2 (1)
2000	79	14	3 (3)
2001	87	13	5 (4)
2002	82	15	4 (2)
2003	60	10	2 (1)
2004	55	9	1 (1)
2005	84	15	6 (3)
2006	72	13	1 (0)
2007	80	13	1 (0)
2008	88	14	4 (1)
2009	58	14	2 (1)
2010	58	11	3 (2)
2011	84	12	2 (2)
2012	82	19	2 (1)
2013	73	16	4 (1)
2014	84	16	2 (0)
2015	59	14	5 (1)
Total	1721	268	55 (29)

Notes: This table reports the number of mayor elections in Hesse in each year between 1993 and 2015. Column two reports the total number of mayor elections. Column three reports the number of mayor elections where the two top candidates were male and female. Column four reports the number of mixed-gender mayor elections where the margin of victory was below 10% as well as the number of female victories in close mixed-gender elections in parentheses.

Table A.2: DIFFERENCES IN INITIAL LIST PLACEMENT AND RANK IMPROVEMENT, FEMALE VS. MALE CANDIDATES

	Female candidate	Male candidate	Diff.	Std. Error	Obs.
Initial list rank (normalized)	38.816	40.556	1.740***	0.185	109017
Rank improvement (normalized)	-0.459	0.252	0.711***	0.091	109017

Notes: This table reports the results for t-tests that investigate whether there are significant differences in the normalized rank improvement or the normalized initial list placements of female and male candidates. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***).

Table A.3: OLS ESTIMATIONS: RANK IMPROVEMENT OF FEMALE CANDIDATES

	(1)	(2)	(3)	(4)
Female mayor	0.941	0.846	-0.060	-0.259
	(0.596)	(0.532)	(0.363)	(0.300)
Year FE	No	Yes	No	Yes
Municipality FE	No	No	Yes	Yes
N	28480	28480	28480	28480
Municipalities	426	426	426	426
Mean (SD)	-0.46 (11.93)	-0.46 (11.93)	-0.46 (11.93)	-0.46 (11.93)

Notes: a) This table reports estimates from OLS regressions that relate the gender of the incumbent mayor to a measure for the performance of female candidates in the election for the local council in the same municipality.
b) See note (b) in Table 2.
c) The sample covers all female candidates for local council elections in Hessian municipalities.
d) The treatment variable is a dummy that is one if the incumbent mayor is female.
e) See note (f) in Table 2.

Table A.4: VALIDITY TEST I: DIFFERENCES IN MUNICIPALITY CHARACTERISTICS WITH FEMALE AND MALE MAYORS

	Female mayor	Male mayor	Diff.	Std. Error	Obs.
All mixed-gender elections					
Log(population)	9.384	9.211	0.173	0.122	268
Log(land area)	3.632	3.611	0.021	0.100	268
Log(debt p.c.)	-0.364	-0.513	0.148	0.118	268
Log(tax revenues p.c.)	-0.392	-0.430	0.039	0.053	268
Log(total employment p.c.)	-1.627	-1.540	-0.087	0.076	268
Log(female share, total employment)	-0.833	-0.850	0.017	0.029	268
Log(local gov. employment p.c.)	-5.129	-5.158	0.030	0.051	268
Log(female share, local gov. employment)	-1.076	-1.156	0.080*	0.047	265
Log(manufacturing / total employment)	-1.137	-1.060	-0.076	0.068	268
Log(female share, manufacturing)	-1.553	-1.471	-0.082**	0.041	268
Mixed-gender elections with MOV$<$ 10%					
Log(population)	9.821	9.219	0.602*	0.3054	55
Log(land area)	3.972	3.771	0.201	0.1966	55
Log(debt p.c.)	-0.264	-0.253	-0.011	0.2472	55
Log(tax revenues p.c.)	-0.306	-0.327	0.020	0.1169	55
Log(total employment p.c.)	-1.332	-1.490	0.158	0.1544	55
Log(female share, total employment)	-0.887	-0.885	-0.002	0.0594	55
Log(local gov. employment p.c.)	-4.929	-5.080	0.151	0.1477	55
Log(female share, local gov. employment)	-1.044	-1.146	0.102	0.0995	55
Log(manufacturing / total employment)	-1.042	-0.981	-0.062	0.1282	55
Log(female share, manufacturing)	-1.576	-1.484	-0.092	0.1007	55

Notes: This table reports the results for t-tests that investigate whether there are significant differences in the characteristics of municipalities with male and female mayors where one women and one man were in the top two ranked candidates. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***).

Table A.5: VALIDITY TEST I: DISCONTINUITY IN PREDICTED RANK IMPROVEMENT BASED ON MUNICIPALITY CHARACTERISTICS

	(1)	(2)	(3)	(4)	(5)
Female mayor	0.422	0.408	0.855*	0.847	0.114
	(0.776)	(1.086)	(0.500)	(0.516)	(1.000)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	18.81	9.40	37.61	35.68	24.76
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	71	44	143	136	101
Elections	71	44	143	136	101
Municipalities	52	35	96	94	74
Mean (SD)	-0.45 (1.18)	-0.52 (1.20)	-0.54 (1.16)	-0.53 (1.17)	-0.50 (1.17)

Notes: a) This table reports estimates from sharp regression discontinuity designs that relate the gender of the incumbent mayor to the predicted rank improvement of a candidate based on the characteristics of her municipality in local council elections in the same municipality. We estimate an OLS model that relates various municipality characteristics (demographic, fiscal, and gender composition of the labor force, etc. – see Table A.4 for a full list) to rank improvements and then calculate the predicted normalized rank improvement for each candidate. We want to establish to what extent imbalances in municipality characteristics can explain the rank improvements of women observed in Table 2.
b) The dependent variable is the predicted normalized rank improvement.
c) See notes (c)-(f) in Table 2.

Table A.6: VALIDITY TEST II: MIXED-GENDER MAYOR ELECTIONS AND FEMALE VICTORIES

	Mean	Std. Error	p-value	Obs.
Panel A: Full				
Female	0.313	(0.028)		
Male	0.687	(0.028)		
Diff	-0.373***	(0.057)	0.000	268
Panel B: Margin <= 25%				
Female	0.405	(0.044)		
Male	0.595	(0.044)		
Diff	-0.190**	(0.088)	0.032	126
Panel C: Margin <= 10%				
Female	0.527	(0.068)		
Male	0.473	(0.068)		
Diff	0.055	(0.136)	0.690	55

Notes: This table shows t-tests for whether women are more or less likely to win (close) mayoral elections. Panel A uses the full set of municipality-year pairs where the top-two candidates were of mixed gender, Panel B uses municipality-year pairs where the absolute margin of victory was below 25%, Panel C uses a margin of victory below 10%.

Table A.7: VALIDITY TEST III: DIFFERENCES IN IDEOLOGY OF FEMALE AND MALE MAYORS

	Female mayor	Male mayor	Diff.	Std. Error	Obs.
All mixed-gender elections					
CDU	0.310	0.315	-0.006	0.061	268
SPD	0.440	0.386	0.055	0.065	268
Other	0.250	0.299	-0.049	0.060	268
Mixed-gender elections with MOV$<$ 10%					
CDU	0.448	0.308	0.141	0.132	55
SPD	0.276	0.308	-0.032	0.125	55
Other	0.276	0.385	-0.109	0.128	55

Notes: This table reports the results for t-tests that investigate whether there are significant differences in the ideological alignment of male and female mayors in mayor elections where one women and one man were in the top-two ranked candidates. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). The "other" category comprises mostly mayors that have run as independents or were supported by municipality-specific voter initiatives.

Table A.8: ROBUSTNESS TEST I: RANK IMPROVEMENT OF FEMALE CANDIDATES IN PREVIOUS COUNCIL ELECTION

	(1)	(2)	(3)	(4)	(5)
Female mayor	0.800	-0.670	1.789	1.022	-0.870
	(1.348)	(1.758)	(1.151)	(1.334)	(1.889)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	15.71	7.85	31.42	17.22	17.73
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	1603	951	2662	1672	1737
Elections	55	31	101	59	61
Municipalities	43	28	76	46	47
Mean (SD)	0.49 (10.99)	0.58 (11.16)	0.02 (11.80)	0.45 (11.12)	0.50 (11.30)

Notes: a) This table reports estimates from sharp regression discontinuity designs that relate the gender of the incumbent mayor to a measure for the performance of female candidates in the previous election for the local council in the same municipality.
b) The dependent variable is the normalized rank improvement $\left(\frac{initial\ rank - final\ rank}{council\ size} \times 100\right)$ of a female council candidate in the previous local election.
c) The sample covers all female candidates for local council elections in Hessian municipalities where in the last mayor election the top-two candidates were of opposite gender (mixed-gender races).
d) The treatment variable is a dummy that is one if the margin of victory of the female candidate in the last mixed-gender mayor election was positive.
e) See notes (e)-(f) in Table 2.

Table A.9: EXTENSION IV: RANK IMPROVEMENT OF FEMALE CANDIDATES IN NEXT COUNCIL ELECTION

	(1)	(2)	(3)	(4)	(5)
Female mayor	5.037***	4.772***	3.256***	5.066***	5.168***
	(1.120)	(1.297)	(0.793)	(1.172)	(1.363)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	2092	1451	3892	2028	2386
Elections	51	32	100	47	58
Municipalities	43	27	71	40	46
Mean (SD)	0.40 (10.73)	0.53 (10.39)	0.30 (10.51)	0.50 (10.72)	0.41 (10.74)

Notes: a) This table reports estimates from sharp regression discontinuity designs that relate the gender of the incumbent mayor to a measure for the performance of female candidates in the election for the local council after the next election in the same municipality.
b) The dependent variable is the normalized rank improvement $\left(\frac{\textit{initial rank}-\textit{final rank}}{\textit{council size}} \times 100\right)$ of a female council candidate in the local election after the next election.
c) The sample covers all female candidates for local council elections in Hessian municipalities where in the mayor election in t-1 or t-2 (depending on the timing of mayor and council elections) the top-two candidates were of opposite gender (mixed-gender races).
d) The treatment variable is a dummy that is one if the margin of victory of the female candidate in the last mixed-gender mayor election was positive.
e) See notes (e)-(f) in Table 2.

Table A.10: ROBUSTNESS TEST II: ALTERNATIVE SCALINGS OF RANK IMPROVEMENT

	(1)	(2)	(3)	(4)	(5)
Panel A: Non-normalized rank improvement of women					
Female mayor	2.130***	1.365**	1.667***	2.058***	1.298*
	(0.627)	(0.621)	(0.442)	(0.606)	(0.723)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	19.31	9.66	38.63	17.35	15.49
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	2842	1767	5017	2574	2433
Elections	76	45	150	69	64
Municipalities	55	36	98	52	48
Mean (SD)	0.42 (4.63)	0.67 (4.81)	0.32 (4.62)	0.46 (4.59)	0.50 (4.58)
	(1)	(2)	(3)	(4)	(5)
Panel B: Dummy for positive rank improvement					
Female mayor	0.215***	0.109	0.188***	0.180***	0.103
	(0.074)	(0.074)	(0.056)	(0.066)	(0.090)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	18.11	9.05	36.21	14.24	14.81
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	2669	1650	4863	2406	2433
Elections	72	42	144	63	64
Municipalities	53	35	96	47	48
Mean (SD)	0.40 (0.49)	0.44 (0.50)	0.40 (0.49)	0.41 (0.49)	0.41 (0.49)

Notes: a) This table reports estimates from sharp regression discontinuity designs that relate the gender of the incumbent mayor to two alternative measures for the performance of female candidates in the election for the local council in the same municipality.
b) The dependent variable in Panel A is the (non-normalized) rank improvement (*initial rank* − *final rank*) of a female council candidate. The dependent variable in Panel B is a dummy that is one if a candidate experiences a positive rank improvement.
c) See notes (c)-(f) in Table 2.

Table A.11: ROBUSTNESS III: PRO-FEMALE TRENDS AND RANK IMPROVEMENTS OF FEMALE CANDIDATES

	(1)	(2)	(3)	(4)	(5)
Female mayor	3.095***	3.220**	2.091***	2.425***	3.172**
	(1.061)	(1.380)	(0.673)	(0.718)	(1.467)
Average female rank improvement $_{t-1}$	0.228*	0.244	0.273***	0.248***	0.229**
	(0.118)	(0.159)	(0.072)	(0.073)	(0.114)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	20.10	10.05	40.20	35.59	19.93
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	1852	1060	3347	3084	1852
Elections	54	31	104	91	54
Municipalities	40	26	69	63	40
Mean (SD)	0.32 (11.26)	0.31 (10.88)	0.06 (11.52)	0.04 (11.38)	0.32 (11.26)

Notes: a) See notes (a)-(f) in Table 2.
b) We account in these regressions for differences in trends in the openness toward female politicians across municipalities by controlling for the average normalized rank improvement of female candidates in the previous local election.

Table A.12: MECHANISM I: DISCONTINUITY IN PREDICTED RANK IMPROVEMENT BASED ON INITIAL LIST RANK

	(1)	(2)	(3)	(4)	(5)
Female mayor	0.221	0.648	0.125	0.138	0.273
	(0.601)	(0.755)	(0.432)	(0.582)	(0.679)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	14.52	7.26	29.04	17.17	26.12
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	2406	1434	3807	2574	3721
Elections	63	36	113	69	110
Municipalities	47	30	79	52	78
Mean (SD)	0.04 (2.76)	0.01 (2.77)	0.09 (2.78)	0.04 (2.77)	0.08 (2.79)

Notes: a) This table reports estimates from sharp regression discontinuity designs that relate the gender of the incumbent mayor to the predicted rank improvement of a candidate based on her initial list placement in local council elections in the same municipality. We estimate an OLS model that relates the initial normalized list placement to normalized rank improvements and then calculate the predicted normalized rank improvement for each candidate. We want to establish to what extent changes in initial list placements can explain the rank improvements of women observed in Table 2.
b) The dependent variable is the predicted normalized rank improvement.
c) See notes (c)-(f) in Table 2.

Table A.13: MECHANISM III: CHARACTERISTICS OF FEMALE CANDIDATES

Panel A: Age & highest educational attainment

	(1)	(2)	(3)	(4)
	Age	High school	University	Phd
Female mayor	-1.334	-0.084	0.061	0.028
	(3.334)	(0.093)	(0.062)	(0.044)
Bandwidth type	CCT	CCT	CCT	CCT
Bandwidth size	22.18	18.39	18.69	19.37
Polynomial	Linear	Linear	Linear	Linear
N	1675	1157	1157	1213
Elections	63	60	60	63
Municipalities	46	46	46	47
Mean (SD)	51.48	0.67	0.26	0.07
	(13.71)	(0.47)	(0.44)	(0.25)

Panel B: Type of employment

	(1)	(2)	(3)	(4)	(5)	(6)
	Architect	Businesswoman	Engineer	Lawyer	Civil administration	Teacher
Female mayor	0.005	-0.066	-0.013	0.064**	-0.013	-0.015
	(0.007)	(0.047)	(0.028)	(0.026)	(0.027)	(0.030)
Bandwidth type	CCT	CCT	CCT	CCT	CCT	CCT
Bandwidth size	19.44	19.75	17.76	13.97	17.92	24.03
Polynomial	Linear	Linear	Linear	Linear	Linear	Linear
N	1220	1220	1162	1037	1163	1501
Elections	63	63	59	51	60	81
Municipalities	47	47	45	40	46	62
Mean (SD)	0.01	0.06	0.02	0.04	0.05	0.08
	(0.08)	(0.24)	(0.13)	(0.20)	(0.23)	(0.27)

Panel C: Employment status

	(1)	(2)	(3)	(4)	(5)
	Employed	Self-employed	Student	Retired	Housewife
Female mayor	-0.085	-0.044**	0.032	0.047	0.006
	(0.079)	(0.019)	(0.054)	(0.049)	(0.041)
Bandwidth type	CCT	CCT	CCT	CCT	CCT
Bandwidth size	18.92	21.21	15.35	20.60	21.50
Polynomial	Linear	Linear	Linear	Linear	Linear
N	1401	1626	1288	1530	1626
Elections	51	63	47	59	63
Municipalities	37	46	35	42	46
Mean (SD)	0.67	0.04	0.06	0.11	0.10
	(0.47)	(0.20)	(0.23)	(0.32)	(0.30)

Notes: a) This table reports estimates from sharp regression discontinuity designs that relate the gender of the incumbent mayor to measures for the characteristics of female candidates in the election for the local council in the same municipality. The purpose of this results is to establish whether female mayors lead to different types of candidates running for office.
b) The dependent variables are: age (in years), educational attainment (dummy variables for the highest degree), the type of employment (dummy variables for different jobs), and the employment status (dummy variables for a given status).
c) The sample covers all female candidates for local council elections in Hessian municipalities where in the last mayor election the top-two candidates were of opposite gender (mixed-gender races).
d) We report local linear regressions using CCT optimal bandwidths.
e) See notes (d) and (f) in Table 2.

Table A.14: MECHANISM III: CHARACTERISTICS OF MALE CANDIDATES

Panel A: Age & highest educational attainment

	(1)	(2)	(3)	(4)
	Age	High school	University	Phd
Female mayor	-1.710	-0.004	-0.002	0.018
	(2.388)	(0.087)	(0.053)	(0.084)
Bandwidth type	CCT	CCT	CCT	CCT
Bandwidth size	21.75	17.28	23.02	16.69
Polynomial	Linear	Linear	Linear	Linear
N	4045	2919	3775	2840
Elections	65	65	88	63
Municipalities	47	50	67	48
Mean (SD)	52.69	0.61	0.31	0.09
	(14.33)	(0.49)	(0.46)	(0.29)

Panel B: Type of employment

	(1)	(2)	(3)	(4)	(5)	(6)
	Architect	Businessman	Engineer	Lawyer	Civil administration	Teacher
Female mayor	0.016*	0.063*	-0.011	0.049**	-0.007	-0.047*
	(0.008)	(0.033)	(0.025)	(0.022)	(0.023)	(0.027)
Bandwidth type	CCT	CCT	CCT	CCT	CCT	CCT
Bandwidth size	14.94	16.81	18.67	13.83	23.93	12.39
Polynomial	Linear	Linear	Linear	Linear	Linear	Linear
N	2837	2871	3081	2760	3988	2540
Elections	61	63	68	58	90	53
Municipalities	46	48	51	44	69	43
Mean (SD)	0.01	0.08	0.08	0.04	0.07	0.04
	(0.10)	(0.28)	(0.27)	(0.19)	(0.26)	(0.20)

Panel C: Employment status

	(1)	(2)	(3)	(4)
	Employed	Self-employed	Student	Retired
Female mayor	-0.085	0.004	0.012	0.049
	(0.059)	(0.035)	(0.016)	(0.044)
Bandwidth type	CCT	CCT	CCT	CCT
Bandwidth size	13.85	17.65	14.70	12.08
Polynomial	Linear	Linear	Linear	Linear
N	3092	3445	3179	2745
Elections	45	51	47	39
Municipalities	34	37	35	32
Mean (SD)	0.70	0.07	0.05	0.17
	(0.46)	(0.25)	(0.22)	(0.38)

Notes: a) This table reports estimates from sharp regression discontinuity designs that relate the gender of the incumbent mayor to measures for the characteristics of male candidates in the election for the local council in the same municipality. The purpose of this results is to establish whether female mayors lead to different types of candidates running for office.
b) The dependent variables are: age (in years), educational attainment (dummy variables for the highest degree), the type of employment (dummy variables for different jobs), and the employment status (dummy variables for a given status).
c) The sample covers all male candidates for local council elections in Hessian municipalities where in the last mayor election the top-two candidates were of opposite gender (mixed-gender races).
d) We report local linear regressions using CCT optimal bandwidths.
e) See notes (d) and (f) in Table 2.

Table A.15: EXTENSION III: CHARACTERISTICS OF MIXED-GENDER AND SINGLE-GENDER ELECTION MUNICIPALITIES

	Mixed-gender	Single-gender	Diff.	Std. Error	Obs.
Log(population)	9.250	8.902	0.349***	0.082	426
Log(land area)	3.646	3.699	-0.053	0.068	426
Log(debt p.c.)	-0.410	-0.379	-0.032	0.068	426
Log(tax revenues p.c.)	-0.458	-0.569	0.111***	0.034	426
Log(local gov. employment p.c.)	-5.138	-5.228	0.090***	0.033	426
Log(female share, local gov. employment)	-1.157	-1.294	0.137***	0.040	421
Log(total employment p.c.)	-1.578	-1.703	0.125**	0.055	426
Log(female share, total employment)	-0.842	-0.890	0.048**	0.021	426
Log(manufacturing / total employment)	-1.013	-0.907	-0.106**	0.042	426
Log(female share, manufacturing)	-1.455	-1.475	0.020	0.029	426

Notes: This table compares characteristics of municipalities that had at least one mixed-gender mayor election during the sample period with municipalities that had only single-gender (typically male vs. male candidate) elections. The statistics are calculated based on the average of each characteristics in a given municipality across all mayor election years in the period 1993-2015.

Table A.16: EXTENSION IV: RANK IMPROVEMENT OF FEMALE CANDIDATES AND TENURE OF MAYORS

	(1)	(2)	(3)	(4)	(5)
Female mayor	2.623*	1.089	4.055***	4.184***	0.136
	(1.578)	(1.724)	(1.190)	(1.284)	(1.549)
Tenure	0.122	0.030	0.148*	0.157*	0.060
	(0.107)	(0.147)	(0.085)	(0.092)	(0.176)
Female mayor × Tenure	0.286	0.645***	-0.214	-0.213	0.962***
	(0.255)	(0.240)	(0.151)	(0.161)	(0.267)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	20.10	10.05	40.20	35.59	19.93
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	2878	1784	5232	4803	2842
Elections	77	46	155	139	76
Municipalities	56	37	102	94	55
Mean (SD)	0.41 (10.95)	0.73 (10.75)	0.27 (11.33)	0.21 (11.37)	0.41 (11.00)

Notes: a) See notes (a)-(c) in Table 2.
b) The treatment variable is a dummy that is one if the margin of victory of the female candidate in the last mixed-gender mayor election was positive. To study effect heterogeneity, we interact the treatment dummy as well as the control function with a count variable capturing the length of tenure (in years) of the mayor.
c) See notes (e)-(f) in Table 2.

Table A.17: EXTENSION V: RANK IMPROVEMENTS OF FEMALE CANDIDATES AND PERSONAL CHARACTERISTICS OF (FEMALE) MAYORS

	(1)	(2)	(3)	(4)	(5)
Panel A: Age					
Female mayor	13.310***	11.589	12.327***	13.289***	22.238**
	(4.767)	(7.131)	(3.542)	(4.086)	(9.298)
Age	0.072	0.025	0.051	0.074	0.228
	(0.068)	(0.119)	(0.056)	(0.068)	(0.154)
Female mayor × Age	-0.197**	-0.154	-0.194***	-0.209***	-0.361**
	(0.100)	(0.145)	(0.072)	(0.081)	(0.182)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	20.10	10.05	40.20	35.59	19.93
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	1951	1095	3418	3169	1915
Elections	57	34	116	103	56
Municipalities	40	28	76	67	39
Mean (SD)	0.21 (11.38)	0.22 (11.66)	0.02 (12.03)	-0.01 (11.96)	0.20 (11.46)
Panel B: University degree					
Female mayor	3.383**	3.023	1.737	1.860	4.255**
	(1.503)	(1.842)	(1.122)	(1.201)	(2.144)
University degree	1.107	0.722	0.188	0.133	2.038
	(1.127)	(1.323)	(0.843)	(0.895)	(1.634)
Female mayor × University degree	0.633	2.242	1.011	1.079	0.727
	(1.741)	(2.233)	(1.366)	(1.453)	(2.522)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	20.10	10.05	40.20	35.59	19.93
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	1886	1000	3295	3032	1850
Elections	53	30	111	97	52
Municipalities	38	25	74	65	37
Mean (SD)	0.27 (11.25)	0.35 (11.08)	0.10 (11.90)	0.08 (11.83)	0.26 (11.32)
Panel C: Prior civil administration experience					
Female mayor	2.748*	3.530*	2.267**	2.507**	3.188
	(1.598)	(1.933)	(1.082)	(1.177)	(1.982)
Administration	-1.000	-0.941	0.437	0.681	-3.173
	(1.419)	(1.448)	(0.889)	(0.943)	(2.132)
Female mayor × Administration	1.857	2.784	0.186	0.047	5.449**
	(2.074)	(2.189)	(1.346)	(1.399)	(2.705)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	20.10	10.05	40.20	35.59	19.93
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	2000	1114	3475	3212	1964
Elections	58	35	117	103	57
Municipalities	41	29	77	68	40
Mean (SD)	0.21 (11.54)	0.25 (11.63)	0.05 (12.07)	0.02 (12.01)	0.21 (11.61)

Notes: a) See notes (a)-(c) in Table 2.
b) The treatment variable is a dummy that is one if the margin of victory of the female candidate in the last mixed-gender mayor election was positive. To study effect heterogeneity, we interact the treatment dummy as well as the control function with a count variable capturing the age (in years) of the mayor (Panel A), a dummy variable for whether she has a university degree (Panel B), and a dummy variable for whether she has prior civil administration experience.
c) See notes (e)-(f) in Table 2.

Table A.18: EXTENSION VI: RANK IMPROVEMENTS OF FEMALE CANDIDATES AND DENSITY OF FEMALE MAYORS IN NEIGHBORING MUNICIPALITIES

	(1)	(2)	(3)	(4)	(5)
Female mayor	4.964***	5.501***	3.148***	3.366***	5.788***
	(0.928)	(1.343)	(0.641)	(0.675)	(1.453)
Share female-led neighbors	-0.036	-0.007	-0.049*	-0.061*	-0.012
	(0.049)	(0.065)	(0.028)	(0.032)	(0.068)
Female mayor × Share female-led neighbors	-0.034	-0.065	0.006	0.014	-0.068
	(0.051)	(0.068)	(0.037)	(0.041)	(0.070)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	20.10	10.05	40.20	35.59	19.93
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	2878	1784	5232	4803	2842
Elections	77	46	155	139	76
Municipalities	56	37	102	94	55
Mean (SD)	0.41 (10.95)	0.73 (10.75)	0.27 (11.33)	0.21 (11.37)	0.41 (11.00)

Notes: a) See notes (a)-(c) in Table 2.
b)The treatment variable is a dummy that is one if the margin of victory of the female candidate in the last mixed-gender mayor election was positive. To study effect heterogeneity, we interact the treatment dummy as well as the control function with a variable capturing the share of all neighboring municipalities that have female mayors.
c) See notes (e)-(f) in Table 2.

Table A.19: EXTENSION VII: PARTY VOTE SHARE AND INTERACTIONS BETWEEN MAYOR GENDER AND THE SHARE OF WOMEN ON THE PARTY LIST

	(1)	(2)	(3)	(4)	(5)
Female mayor	-4.112	-8.800	-2.395	-1.693	-7.074
	(7.240)	(11.589)	(4.383)	(5.453)	(10.419)
List share female	-0.291**	-0.241	-0.257***	-0.256**	-0.298
	(0.137)	(0.246)	(0.080)	(0.102)	(0.207)
Female mayor × List share female	-0.017	0.079	-0.055	-0.097	0.068
	(0.188)	(0.317)	(0.113)	(0.136)	(0.281)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	21.32	10.66	42.65	28.48	26.93
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	423	257	783	544	535
Elections	85	51	164	113	111
Municipalities	63	40	108	79	78
Mean (SD)	20.09 (14.80)	19.84 (14.44)	20.95 (15.26)	20.77 (14.84)	20.75 (14.86)

Notes: a) This table reports estimates from sharp regression discontinuity designs that relate the gender of the incumbent mayor to party-level outcomes in the election for the local council in the same municipality.
b) The dependent variable is the vote share of a party in the local election.
c) The sample covers all parties participating in local council elections in Hessian municipalities where in the last mayor election the top-two candidates were of opposite gender (mixed-gender races).
d) The treatment variable is a dummy that is one if the margin of victory of the female candidate in the last mixed-gender mayor election was positive. To study effect heterogeneity, we interact the treatment dummy as well as the control function with a variable that captures the share of women on the respective party list.
b) See notes (e)-(f) in Table 2.

A.5 Appendix Figures

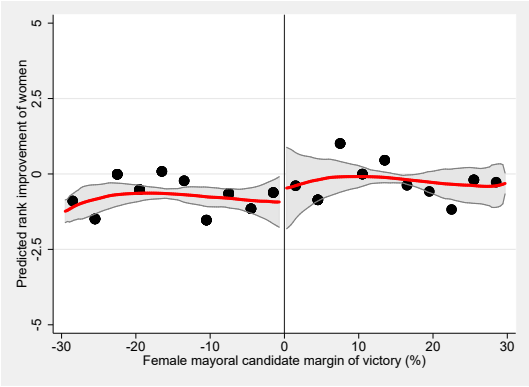


Figure A.1: Validity test I: Predicted (normalized) rank improvement based on municipality characteristics. This graph shows a RDD plot of predicted normalized rank improvement based on various municipality characteristics (demographic, fiscal, and gender composition of the labor force, etc. – see Table A.4 for a full list). The running variable is the margin of victory of a female candidate for the mayor's office in mixed-gender races (where the top two candidates are female and male). Observations to the right of the threshold are under a female mayor. Each dot is the local average of the gains of women in bins of three percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded area are the 95 percent confidence intervals.

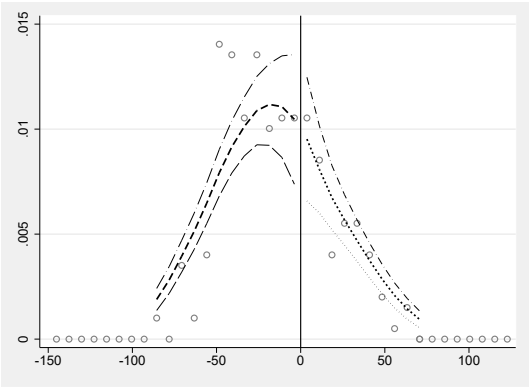


Figure A.2: Validity test II: McCrary density plot. This figure presents a McCrary plot to test whether there is a discontinuity in the margin of victory at zero.

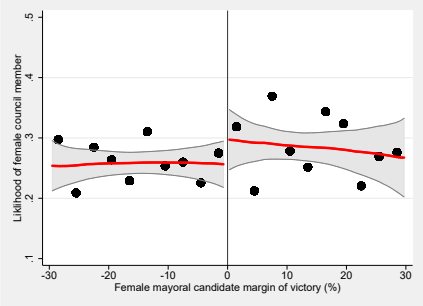


Figure A.3: Share of women among candidates elected to the council. This graph shows a RDD plot for the likelihood that a candidate elected to the council is female when the current mayor is female or male. The running variable is the margin of victory of a female candidate for the mayor's office in mixed-gender races (where the top two candidates are female and male). Observations to the right of the threshold are under a female mayor. Each dot is the local average of the gains of women in bins of three percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded area are the 95 percent confidence intervals.

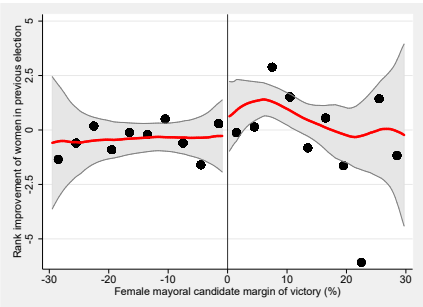
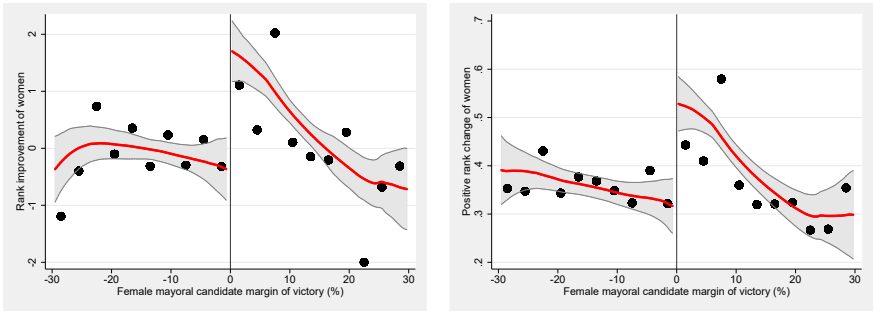


Figure A.4: Robustness test I: Rank improvement of female candidates in the previous election. This graph shows a RDD plot for the (normalized) rank improvement of female candidates in the previous council elections when the current mayor is female or male. The running variable is the margin of victory of a female candidate for the mayor's office in mixed-gender races (where the top two candidates are female and male). Observations to the right of the threshold are under a female mayor. Each dot is the local average of the gains of women in bins of three percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded area are the 95 percent confidence intervals.



(a) NONNORMALIZED RANK IMPROVEMENT OF WOMEN

(b) DUMMY FOR POSITIVE RANK IMPROVEMENT

Figure A.5: Robustness II: Alternative scalings of rank improvements. This figure shows a RDD plot with alternative scalings for rank improvements of women. Subfigure (a) uses the un-normalized (raw) rank improvement of a female council candidate and subfigure (b) a dummy for whether a female council candidate had a positive rank improvement. The running variable is the margin of victory of a female candidate for the mayor's office in mixed-gender races (where the top two candidates are female and male). Observations to the right of the threshold are under a female mayor. Each dot is the local average of the gains of women in bins of three percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded area are the 95 percent confidence intervals.

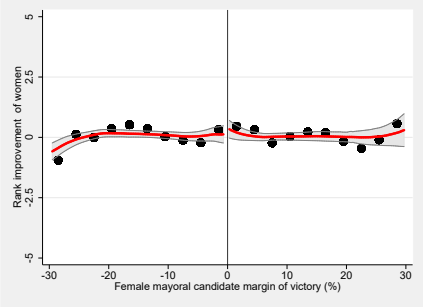


Figure A.6: Mechanism I: Predicted (normalized) rank improvement based on initial list rank. This graph shows a RDD plot relating the predicted normalized rank improvements of female council candidates based on their initial placement to the gender of the current mayor. This figure tests whether adjustments in initial rank in municipalities with female mayors lead to discontinuities in rank improvements at the threshold. The running variable is the margin of victory of a female candidate for the mayor's office in mixed-gender races (where the top two candidates are female and male). Observations to the right of the threshold are under a female mayor. Each dot is the local average of the gains of women in bins of three percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded area are the 95 percent confidence intervals.

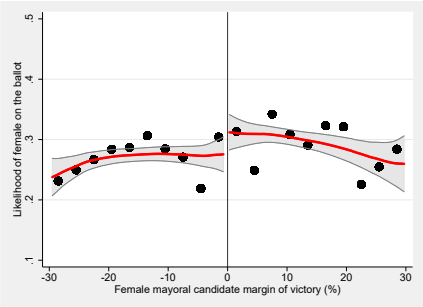
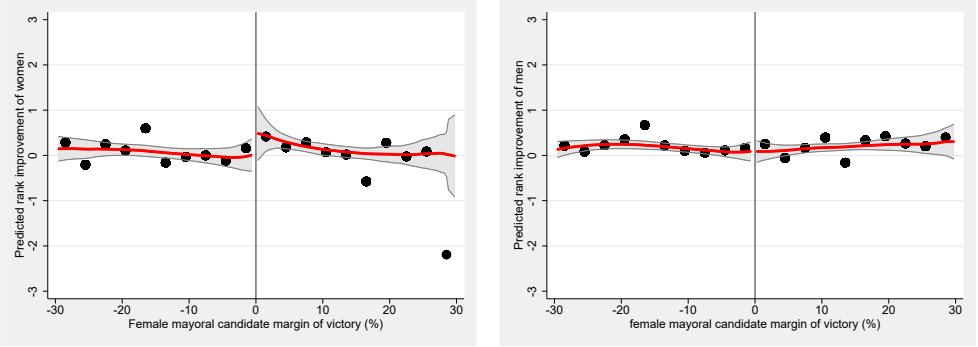


Figure A.7: Mechanism II: Share of women on party lists. This graph shows a RDD plot relating the gender of a council candidate to the gender of the current mayor. The running variable is the margin of victory of a female candidate for the mayor's office in mixed-gender races (where the top two candidates are female and male). Observations to the right of the threshold are under a female mayor. Each dot is the local average of the gains of women in bins of three percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded area are the 95 percent confidence intervals.



(a) FEMALE CANDIDATES **(b)** MALE CANDIDATES

Figure A.8: Mechanism III: Female and male candidate characteristics and rank improvements of female candidates under female mayors. These two RDD plots explore whether changes in female or male candidate characteristics can explain the rank improvements of female candidates in municipalities with female mayors. We calculate predicted (normalized) rank improvements for female and male candidates based on candidate characteristics (age, education, employment – see Table A.13 and A.14 for a full list of characteristics) and study whether these predicted rank improvements show a discontinuity at a margin of victory of zero for the female mayor candidate. Subfigure (a) pertains to female candidate characteristics and subfigure (b) to male candidate characteristics.

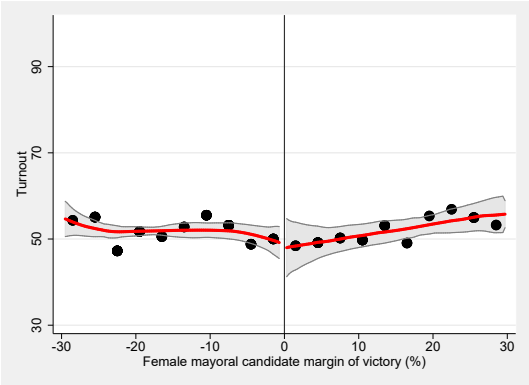


Figure A.9: Mechanism IV: Voter turnout. This figure shows a RDD plot for voter turnout. The running variable is the margin of victory of a female candidate for the mayor's office in mixed-gender races (where the top two candidates are female and male). Observations to the right of the threshold are under a female mayor. Each dot is the local average of the gains of women in bins of three percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded area are the 95 percent confidence intervals.

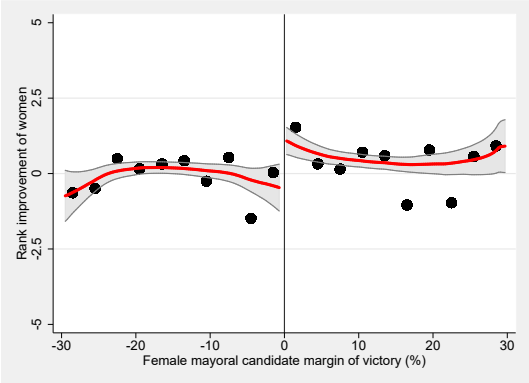


Figure A.10: Extension II: Spillovers in rank improvement to neighboring municipalities. This graph shows a RDD plot for the (normalized) rank improvement of female candidates in the council elections in neighboring municipalities when the current mayor in a given municipality i is female or male. The running variable is the margin of victory of a female candidate for the mayor's office in mixed-gender races (where the top two candidates are female and male). Observations to the right of the threshold are under a female mayor. Each dot is the local average of the gains of women in bins of three percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded area are the 95 percent confidence intervals.