The Gender Recontest Gap in Elections

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Abstract

This paper documents an important but mostly overlooked reason for female underrepresentation in politics: gender gaps in the recontest likelihood of candidates. Using hand-collected data on 116,185 candidates in four consecutive local council elections (2001-2016) in a German state, we provide evidence for a gender recontest gap among both incumbent and non-incumbent candidates. Female candidates are 4 to 5 percentage points less likely than male candidates to run again conditional on previous candidacy. Studying mechanisms, we find that women are likely held back by incompatibilities between family obligations and political duties as well as a culture of male dominance in local politics.

Keywords: gender, political selection, persistence, local councils, candidacy.

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1 Introduction

Despite notable progress over the last few decades, women continue to be underrepresented in politics almost everywhere. In fact, according to the Global Gender Gap Index by the World Economic Forum gender disparities in politics are larger than in any other domain.[1] This is problematic as it has been shown that women's underrepresentation is not merely symbolic; it can have adverse substantive consequences on the welfare of women and children (Chattopadhyay and Duflo, 2004; Baskaran and Hessami, 2019; Hessami and Lopes da Fonseca, 2020).

Why is it so difficult to overcome gender disparities in politics? Previous literature studies various explanations: anti-female biases harbored by parties and voters, a limited supply of women willing to run in elections, and incumbency advantages traditionally held by men (Fox and Lawless, 2014; Casas-Arce and Saiz, 2015; Baskaran and Hessami, 2018; Gonzalez-Eiras and Sanz, 2021; Brown et al., 2019; Lippmann, 2019). In contrast, only few studies explore whether men and women, once they have entered politics, differ in their propensity to persist (Bernhard and de Benedictis-Kessner, 2021; Shair-Rosenfield and Hinojosa, 2014) and why gender gaps in political persistence might emerge (Wasserman, 2021; Bhalotra, Clots-Figueras and Iyer, 2018; Brown et al., 2019). It will be difficult to achieve an enduring increase in female representation if women who have shown some initial political ambition, e. g. by contesting an election for an important office, subsequently quit politics at a higher rate than men.

To study gender disparities in political persistence, we exploit unique hand-collected data derived from open-list local council elections in the German state of Hesse on 116,185 candidates in four consecutive open-list local elections across 426 municipalities. Local council elections are a typical gateway for political careers where entry barriers are low. In local elections, campaign donations play a much smaller role than for state- or federal-level elections and therefore gender differences in financial or similar institutional barriers are unlikely to affect candidacy. On the other hand, the open-list nature of elections awards both parties and vot-

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[1] According to the 2018 index, educational attainment as well as the health and survival gender gaps have shrunk to 4.4% and 4.6%, respectively. While the economic participation and opportunity gap remains at 41.9%, it is only about half as large as the gender disparity in political empowerment with a substantial 77% gap.

ers notable influence over the electoral fortunes of individual candidates, enabling us to study various possible mechanisms for the gender recontest gap in a unified setting.

Our data includes candidates' names, gender, party affiliation, initial list rank (determined by parties), final list rank (determined by personalized votes), and number of votes received. For a large subsample, we also have information on candidates' employment, education and age. This rich dataset allows us to follow candidates along their career trajectories over multiple elections and to track how they perform, whether they recontest, and how they are promoted by their parties conditional on their prior electoral performance. In addition, we collect minutes of council meetings and code the starting time of meetings, their frequency, the gender of the council chairperson as well as the speaking rates of female and male councilors.

OLS estimations show a raw gender recontest gap of 5 ppt, i.e. women are five percentage points less likely to recontest than men in the next election conditional on having been a candidate before. When including various fixed effects to identify the gender recontest gap using only variation among male and female candidates that were running in the same municipality, in the same election, and on the same party list, we estimate a gender recontest gap of 3.7 ppt. The recontest gap remains when we additionally control for observable individual characteristics. It also does not depend on the electoral performance of candidates. In particular, it does not differ between incumbent council members and non-incumbent candidates (i.e. candidates who were or were not elected to the council in the previous election).[2]

The recontest gap may reduce overall female representation for various reasons. It directly reduces the number of available female candidates for whom voters could cast their votes. Given that the recontest gap pertains to women who have already contested in an election, any possible replacements will also be, all else equal, less well-known and experienced, and thus less likely to be perceived as strong candidates by voters. Given increasing marginal costs of recruitment, it is also more difficult for parties to adequately replace non-recontesting women

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[2]While this analysis focuses on differences in gender recontest gaps between incumbent and non-incumbent candidates, Fiva and Røhr (2018) have shown for Norwegian local council elections that incumbents and non-incumbents recontest with the same probability in the next election without investigating the role of gender.

than men. Finally, the fact that women are less likely to recontest may have negative spillovers on the candidacy of prospective new female candidates, who may interpret the higher attrition rate of women as a negative signal about their chances in local politics.

Using our estimates for the size of the recontest gap, we calculate that for a single local election, the gender recontest gap reduces average female representation by about one percentage point. Accordingly, the cumulative effect of the recontest gap over a period of about 70 years (i.e. over the last 18 elections in Hesse since the first one in 1946) may have reduced the representation of women in local councils on average by up to 18 ppts.

Our evidence on mechanisms suggests that one reason for the recontest gap is the difficulty in combining gendered family duties and political obligations for women. The gender recontest gap is more pronounced among young female candidates, particularly when they are employed. The gender recontest gap vanishes among incumbent councilors when meetings start after 8pm, i.e. after the main household chores are done. In addition, it appears that the general male dominance in local politics in Germany contributes to the gender recontest gap as it is smaller in municipalities with relatively more female candidates and councilors. The recontest gap is also smaller in municipalities with a female council head. In contrast, a large speaking rate of female councilors, which might proxy more acrimonious gender relations in the council, increases the gender recontest gap among incumbent councilors.

We address two important alternative mechanisms. First, we find no evidence that parties discriminate against female candidates at the re-nomination stage, i.e. parties are not more likely to refuse to place women who ostensibly wishes to recontest on their ballot lists than men. The recontest gap is observable even among parties with incomplete ballot lists, i.e. lists that contain fewer than the maximum number of candidates. Having an incomplete ballot list can be electorally costly. A party with an incomplete list thus has strong incentives to add further candidates to its list irrespective of their gender. We also find that women are not more likely to be surplus candidates, i.e. to find themselves among those candidates who were on the preliminary (within-party) candidate lists but who were not put on the final ballot lists by their parties. That is, preliminary candidate lists include all candidates that expressed a willingness

to compete for a spot on their party's final list. Those candidates on the preliminary but not the final list were thus ostensibly refused a nomination by their party. Furthermore, we find that women who have performed well in the last election receive better list ranks from their parties in the next election than men with a comparable performance.

Second, we find no evidence that women decline to recontest due to a lack of success or grit. In our sample, women on average perform similarly in the elections as men. There is also no evidence that women are more discouraged to continue in politics after electoral defeats than men: the recontest gap is of similar magnitude not only among incumbent and non-incumbent women, it is even similarly large among those women who barely fail to win a seat in the council and those who barely succeed.[3]

This paper primarily contributes to the literature on female underrepresentation in politics. One strand of this literature explores statistical or taste-based discrimination of women by voters. Baskaran and Hessami (2018) find that exposure to female mayors in Germany makes voters more likely to vote for women running for local councils, suggesting that statistical discrimination among voters can be reduced via exposure to successful female leaders. Le Barbanchon and Sauvagnat (2021) report similar evidence for anti-female biases among voters in France. Gonzalez-Eiras and Sanz (2021) show for Spain that women witness better electoral outcomes when they run on closed lists where their rank placement is determined by the party.[4]

A second strand of this literature emphasizes a gender bias in candidate re-nominations. Casas-Arce and Saiz (2015) show that parties in Spain would have improved their electoral performance with a higher share of female candidates, indicating that the party leadership discriminates against women. Brown et al. (2019) find that female politicians are less likely to compete for higher offices in the US, suggesting the existence of a political glass ceiling. Shair-Rosenfield and Hinojosa (2014) show that political parties in Chile renominate incum-

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[3]On previous evidence regarding intra-party promotion and performance- and seniority-based nomination procedures, see Cirone, Cox and Fiva (2021). A related literature investigates how individual success in open-list elections leads to promotions to party leadership positions (see e.g. Folke, Persson and Rickne (2016).)

[4]Baltrunaite et al. (2019) offer similar evidence on the importance of electoral rules for female representation.

bent women at similar rates as incumbent men, but that they ostensibly discriminate against non-incumbent women. Smrek (2020) finds for the Czech national parliament that conditional on performance, parties display no re-nomination bias against women.[5]

A further explanation for female underrepresentation are gender differences in political ambition and grit. Fox and Lawless (2014) suggest that differences in socialization – e.g. parental encouragement, peer experiences – lower young women's interest in running for office, limiting the supply of suitable female candidates. Wasserman (2021) explores possible differences in persistence among men and women after they have entered politics. She finds that women are less likely to re-run for political offices after electoral setbacks than men. In contrast, Bernhard and de Benedictis-Kessner (2021) show that female and male candidates do not differ in their likelihood to recontest in US local and state races after close electoral defeats. Bhalotra, Clots-Figueras and Iyer (2018) show that women are more likely than men to continue in politics after electoral victories. These findings are partially consistent with behavioral explanations for gender differences in the willingness to enter and persist in competitive environments or gender-specific penalties/rewards by voters and other stakeholders (Niederle and Vesterlund, 2007; Buser and Yuan, 2019; Bohren, Imas and Rosenberg, 2019).[6]

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[5]Louwerse and van Vonno (2021), on the other hand, report suggestive evidence that male incumbents in the Dutch national parliament are more likely to be renominated by their parties. There is also broader evidence that parties discriminate against women in their (re-)nomination decisions. Clayton and Zetterberg (2021), for example, show that across African parties, party discipline appears to be a more important selection criterion for female legislators compared to male legislators. Yildirim, Kocapinar and Ecevit (2021) show that women legislators who displayed high engagement in parliamentary activities were less likely to be re-nominated by their parties in Turkey.

[6]There is also a related literature in political science studying gender differences in grit and ambition using interviews or surveys. Dolan and Shah (2020) conduct qualitative interviews with 53 women who unsuccessfully ran for US Congress in 2018. Exploring how these womens' future political career plans are affected by this particular electoral defeat, they find that most women appear to retain their political ambition. Fulton et al. (2006) conduct a survey among US state legislators regarding their ambition to run for Congress. They find that female and male state legislators differ in their political ambition. Overall, this literature is not conclusive on whether female politicians have more or less grit and ambition than their male counterparts.

Our paper adds to this literature on gender differences in political ambition and persistence. Unlike Fox and Lawless (2014), we focus on women who are political candidates, i.e. who have already expressed their political ambition. Unlike Wasserman (2021) and Bhalotra, Clots-Figueras and Iyer (2018), we establish that female candidates are less likely to persist in politics independent of their electoral performance. More generally, by showing that women are less likely to recontest along the entire spectrum of candidates and independent of their prior electoral performance, we identify a previously neglected cause for the political under-representation of women in politics.

Our results also point to different mechanisms than previous contributions for why women are less likely to persist in politics. Since we do not observe differential attrition rates for successful and unsuccessful female candidates, our findings do not confirm behavioral explanations for female underrepresentation in leadership positions.[7] We also do not find that parties are biased against recontesting women and refuse to renominate them at a higher rate than recontesting men. Instead, our results suggest that the formal and informal rules that govern local politics are an important reason why women may not continue their political careers, resulting in an implicit bias that holds women back.[8]

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[7]It is an interesting question why we obtain different results than the studies that confirm behavioral explanations. Naturally, there are many differences between the contexts studied by Bernhard and de Benedictis-Kessner (2021) (US) or Bhalotra, Clots-Figueras and Iyer (2018) (India) and ours (Germany). One possible explanation may lie in higher female representation at the local level in the US or stronger gender biases in India compared to Germany. The different levels of representation or gender biases may result in a different selection of female candidates and/or lead women to respond differently to electoral setbacks.

[8]This is in line with recent survey evidence by Bernhard, Shames and Teele (2021) from the US showing that employed, young mothers are particularly unlikely to (re)enter electoral races.

2 Background

2.1 Local governments in Hesse

The federal state of Hesse has 426 municipalities which decide on local regulations (e.g. closing hours, traffic rules) and provide various public goods (e.g. municipal daycare, civil protection, social services). While there are some state-level mandates, local governments have substantial autonomy regarding regulations and their provision of local public goods. Local public goods as well as the general local administration of each municipality are mostly financed with a mix of state-level transfers and own-source revenues (e.g. from local taxes).

The council supervises the local administration and is responsible for locally important political decisions. Council members thus dispose of significant political power. Local councilorships, while typically the first step in a political career, are honorary positions; councilors receive only a comparatively small compensation (between 100-300 Euros per month depending on the size of the municipality). Therefore, councilors typically keep their regular employment while in office (or receive pensions, remain housewives, students, etc).

The mainstream national parties – CDU (socially and fiscally conservative), SPD (left-wing), Greens (socially liberal), FDP (fiscally conservative, socially liberal), Left Party (socialists) – as well as various small and/or municipality-specific parties or voter associations compete in local council elections.[9] The number of seats in the council increases with population size as per state law and runs from 11 to 105 seats. Each council elects a chairperson who is (de jure) the highest representative of the municipality.

The other important local office in Hesse is the mayor as the head of the local administration and is directly elected by voters (Hessami, 2018). Mayor elections do not coincide with council elections. During her term, the mayor is usually a full-time official who is present at the council meetings and is entitled to speak up even though she does not have a vote.

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[9]Voter associations are local groups of voters that may submit candidate lists for elections but that do not have the status of a party. For simplicity, we do not make a distinction and refer to both as parties.

2.2 Local council elections in Hesse

Council elections in Hesse are held every five years in March across the entire state. Councils are elected according to an open-list rule (i.e. preference or preferential voting).[10] 79 days prior to a council election the election supervisor announces an official invitation to submit ordered candidate lists. All documents (including preliminary candidate lists) must be submitted 69 days prior to the election. The official final candidate lists, each containing at most as many candidates as there are council seats, are announced by the election supervisor at the latest 48 days before the election.

These candidate lists (who is put on the list and at which rank) are determined three to six months before the election in member's assemblies. There are no codified rules on the voting procedure. The only requirement is that a democratic and secret vote has to be taken. An assembly's vote is considered as secret and thus valid if a minimum of three members are present. Any party member can nominate a candidate and any eligible candidate can present him-/herself. There are no quotas (gender or otherwise). An eligible candidate must be at least 18 years old and must have had his residence in the municipality at least during the last six months before the election.

Since no specific voting procedure is required by law, different voting procedures are used in practice. Common procedures are: (i) two or more candidates run against each other for a given rank and the winner is put on the list; the ones who lost the vote may compete against other candidates for lower ranks; (ii) the first procedure is only applied to the first few ranks; for less prominent ranks (e. g. ranks 4-10 or 11-15), party leaders provide proposals for on which members can vote yes or no; (iii) party leaders draft the full candidate list and members approve or reject the full list at once.

In the local election, voters have as many votes as there are council seats and face several options in how to cast them. *Option 1* is to make one cross for an entire party list. All votes would be distributed to the candidates on this list in the order of their ranking. In a municipality

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[10]Hesse introduced open-list elections in 2001 and had closed lists before. Electoral formulas for local council elections differ widely across German states (closed-vs. open-list elections, how many votes per voter, etc.).

with 25 seats, each candidate on a party list that has 25 candidates would receive one vote. If the list has fewer than 25 candidates, the top-placed candidates would receive additional votes.[11] *Option 2* is to select a party list but to cross individual candidates off that list. For the final vote tally, crossing-out a candidate works as if the party did not field these candidates. If there are 25 candidates on the list and a voter crosses out two candidates (e.g. placed on ranks nine and ten) the two top-placed candidates would receive two votes and all other remaining candidates would receive one vote. *Option 3* is to vote for specific candidates. Voters can assign up to three votes to each candidate (cumulating votes) and candidates can be from different lists (cross-voting).[12]

While votes are assigned to candidates, seats are distributed across parties in proportion to the total number of votes gained by all candidates on a list. That is, if all candidates on a party list jointly receive 30% of all votes, the party would gain about 30% of the council seats. Which candidates from that party fill the seats will depend on the number of votes per candidate.[13]

3 Data and empirical model

3.1 Data

The Hessian State Statistical Office only provides candidate-level data on electoral results for 2016. We therefore hand-collected candidate-level data for the Hessian local council elections in 2001, 2006, and 2011. We also collect information on the personal characteristics of candidates (age, occupation, education, etc.) for all four elections.

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[11]For example, if a party list in a municipality with 25 council seats has only 20 candidates, the first five candidates would receive two votes while the other 15 candidates would receive one vote.

[12]The restriction that only up to three votes can be cumulated on one candidate implies that parties should field lists where the number of candidates is at least one third of the number of seats. If a party fields fewer candidates, it will not receive all votes if a voter chooses to vote for the list in its entirety.

[13]Note that, therefore, both the performance of the list as a whole as well as the performance of the individual candidate matters for whether a given candidate receives a seat. Candidates who gained many personal votes may still end up with no seat if their list performed poorly and vice versa.

Our sample covers 116,185 individual candidates. The data includes the name and gender and party of a candidate, the initial list rank (determined by the party), and the final rank (based on candidates' electoral performance), the number of preferential votes, and whether a candidate was elected to the council. For a subset of candidates, we also have information on employment, education and age. Baskaran and Hessami (2018) describe in detail how this extensive dataset was collected and cleaned.[14]

Figure 1 illustrates our data coverage. Using hand-collected data for elections prior to 2016, our coverage is incomplete and declines the further we go into the past. We have complete data on all 426 Hessian municipalities for 2016, 288 for 2011 (67.6%), 234 for 2006 (54.9%) and 206 for 2001 (48.4%). For 288 municipalities (67.6%) we have data for at least two consecutive elections. The number of candidates per election evolves similarly.[15]

[Figure 1 goes here]

23.2% of council members are female in 2016, up from 19.7% in 2001 (see Subfigure (a) of Figure 2). Most councils have a female share below 30% (see Subfigure (b)). During our sample period, 20 councils include no women and no council has a female majority.[16]

[Figure 2 goes here]

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[14]See Table B.1 for summary statistics on female and male candidates.

[15]One obvious concern is that we do not have data on the universe of Hessian municipalities in 2011 and before. Table B.2 compares the characteristics (as of 2016) of the 288 municipalities for which we have at least two consecutive elections with those of the 121 municipalities not in our sample. While there are significant differences, these are relatively small. The main difference appears to be that included municipalities are larger.

[16]While this lack of female representation in German local politics is well known (Lukoschat and Belschner, 2014), no official measures such as quotas have so far been introduced.

3.2 Empirical design

3.2.1 Specification

We want to explore whether women are less likely to recontest in the next election compared to men. For this, we identify recontesting candidates by their names and party lists.[17] The sample is restricted to the 288 municipalities for which we have at least data on two consecutive elections. The number of candidate-level observations in the estimation sample is 74,839.

The most basic specification is:

$$Recontest_{i,m,t+5} = \alpha + \beta \text{Female candidate}_{i,m,t} + \varepsilon_{i,m,t}, \tag{1}$$

where $Recontest_{i,m,t+5}$ is a dummy variable that indicates whether a candidate i in municipality m recontests in year $t+5$ after having been a candidate in year t. *Female candidate* is a dummy variable that indicates whether a candidate is female or not.[18]

Gender gaps in the propensity to recontest may be confounded by various (unobserved) variables. Women may be more likely to run for the council in larger, urban municipalities. The candidate pool may change between two elections with women becoming more likely to run for office over time. There may be systematic developments, such as changing economic conditions, that affect the willingness or ability of (male and female) candidates to re-run. Finally, women may be more likely to run for large parties that overall gain more seats. In a small party that usually gains only one seat, women may therefore be less willing to recontest.

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[17]We rely on names and party lists to identify recontesting candidates as there are no unique person identifiers available in our data. We explore the robustness of our results to this approach in Section 4.3.

[18]The recontest dummy in principle captures a combination of a candidate's own willingness to re-run and her party's willingness to re-nominate her. However, given the low stakes as well as other institutional features of local elections in Hesse, it is reasonable to assume that the candidate's decision carries substantially more weight for the recontestation than that of her party. In any case, we explore party bias against women in re-nomination decisions as possible explanation of the recontest gap in Section 5.3.

At the same time, local parties may be more likely to dissolve as they have no traditional party organizations. This would make it more difficult for women to recontest.

Hence, we also estimate a specification that includes municipality fixed effects α_m, election year fixed effects γ_t, and party fixed effects δ_p:

$$Recontest_{i,m,t+5} = \alpha_m + \gamma_t + \delta_p + \beta \text{Female candidate}_{i,m,t} + \varepsilon_{i,m,t}. \qquad (2)$$

While this specification accounts for observed and unobserved municipality, election year, and party characteristics, it does not factor in that e.g. local branches of a certain party may vary in their openness toward (recontesting) female candidates. Election-year specific shocks may also differ across municipalities. Results may also be confounded by factors that are not constant within municipalities. To account for such issues, our preferred specification includes municipality- and election-specific party list fixed effects, i.e. an interaction between the municipality, election year, and party fixed effects:

$$Recontest_{i,m,t+5} = \alpha_m \times \gamma_t \times \delta_p + \beta \text{Female candidate}_{i,m,t} + \varepsilon_{i,m,t}. \qquad (3)$$

We are thus comparing recontest rates of men and women who run for a council seat in the same municipality, in the same election, and for the same party. Note that the fixed effects in this specification encompass all the fixed effects listed in Equation (2).

4 Results

4.1 Gender recontest gap

Do male and female candidates differ in their likelihood of recontesting in the next election? Subfigure (a) of Figure 3 indicates that the share of female candidates among all new candidates (that never contested before) is 29.2%, while the share of female candidates among all recontesting candidates is only 23.3%. This suggests that while about one-third of new candidates are female, it appears more difficult to retain women as candidates. This can be interpreted as

first evidence that the pipeline for women in local councils is leaking in the candidacy stage. Subfigure (b) tells a similar story. About 51% of all male candidates recontest in the next election five years later, compared to only 46% of female candidates.

[Figure 3 goes here]

As a next step in documenting the gender recontest gap, we run estimations based on the empirical model discussed in Section 3.2 with the recontest dummy as the dependent variable. Table 1 collects the results of our baseline estimations for five estimations that differ with respect to the type of fixed effects included. Model (1) includes no fixed effects. Model (2) includes municipality fixed effects, Model (3) additionally includes year fixed effects, Model (4) additionally includes party fixed effects, and Model (5) includes list fixed effects. Thus, the identifying variation is consecutively narrowed down. Model (5) compares male and female candidates running in the same municipality and year, and on the same candidate list (i.e. it is our preferred specification as defined in Equation (3)).

[Table 1 goes here]

Model (1) indicates a raw gender recontest gap of 5 ppt (significant at 1% level). The recontest gap slightly shrinks with each set of dummies that is added. In Model (5), the raw gender gap remains at 3.7 ppt with a t-statistic larger than 5. Overall, these first results indicate an economically and statistically large and robust gender recontest gap.

4.2 Gender recontest gap conditional on incumbency

Next, we investigate whether the gender recontest gap documented in the previous section differs for candidates who were successful in entering the council and those who were not. Figure 4 below provides descriptive evidence.

[Figure 4 goes here]

The two bar charts on the left-hand side indicate that male incumbents have a recontest likelihood of 68%. Female incumbents only have a 64% likelihood of recontesting. The same 4 ppt gender recontest gap can be observed for non-incumbent candidates with 43% versus 39%. Based on these preliminary findings, incumbency seems not to be a key driver for the gender recontest gap.

To further investigate the role that incumbency plays for recontest rates, we conduct a series of estimations. The results are collected in Table 2. Model (1) includes only the sub-sample of incumbent candidates. Model (2) includes the subsample of non-incumbent candidates. Model (3) includes the full sample and interacts the *Female candidate* dummy with an *Incumbent* dummy.

[Table 2 goes here]

For the subsamples of incumbent and non-incumbent candidates the gender recontest gap amounts to 3.8 and 3.2 ppt, respectively. In Model (3), the interaction effect is insignificant, while the gender recontest gap indicated by the *Female candidate* coefficient is 3.2 ppt. We conclude that the gender recontest gap does not rely on incumbency.[19]

4.3   Robustness & Generality

This section briefly describes the results for six robustness tests. The regression tables are reported in Section C of the online appendix.

Gender vs. other candidate characteristics. Is the gender recontest gap confounded by other observable candidate characteristics? Female and male candidates may differ systematically beyond gender and this may explain why women happen to be on average less likely to recontest in the next election. Table C.6 collects the results from five different specifications, where each model re-estimates Model (5) from Table 1 including different covariates.[20] With

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[19]In Section 4.2, we consider previous electoral success in a more general sense using different indicators and investigate whether there is heterogeneity with respect to the existence or the size of the gender recontest gap.

[20]Note that sample sizes differ when including additional covariates as they are not available for the full sample.

the inclusion of dummies for age, employment status, education levels, and occupational background, the gender recontest gap amounts to 4.4, 3.7, 4.1 and 2.7 ppt. When all covariates are included, we obtain a gap of 4.9 ppt. Overall, while the size of the gap varies somewhat with the inclusion of additional covariates (probably to a large degree due to varying samples), it is always significant at the 1 percent level.

Heterogeneity across parties. Is the gender recontest gap specific to only one or two parties? In Table C.7, we estimate Equation (3) for candidates in each party separately. We find a significant gender recontest gap of almost similar magnitude (4 to 5 ppt) in the main center-left (SPD) and center-right (CDU) party as well as among voter initiatives and smaller parties. For the Greens, we observe a significant (albeit slightly smaller) recontest gap, while only for the (market-)liberal FDP and the (socialist) Left Party, no gender recontest gap appears.[21] Overall, the gender recontest gap is observable across most of the political spectrum.

Longer time horizon for recontest decision. The third robustness test investigates whether the results are robust to using a broader definition of recontesting. In the baseline estimations in Section 4.1, we only consider the recontest decision in $t + 5$. What happens if we code the recontest dummy as 1 if the candidate recontested in at least one of the next two elections (in $t + 5$ or $t + 10$)? The results collected in Table C.8 are in line with the baseline results with 3.6 ppt in Model (5).

Recontesting on a different list. Does the gender recontest gap only arise because women switch parties more often than men? In the baseline specifications, we define the recontest dummy such that it is 1 only if a candidate with the same first and last name appears on the same party list for the next election. If a candidate changes parties, he/she would be classified as non-recontesting. To address this concern, we define a new recontest dummy that is 1 if a candidate with the same name appears on the list of any party for the next election and re-

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[21]Note that the Left Party is a relatively fringe party in Western-Germany, and as such their (female) candidates may not be representative of the broader pool of (female) candidates. The FDP, too, is a relatively small party in Hesse and its candidates likely represent a specific selection.

estimate the baseline regressions.[22] The results are collected in Table C.9 and confirm the baseline estimates with a gap of 4.4 ppt in Model (5).

Recontesting under a different surname. Is the gender recontest gap an artifact of women changing their surnames because of marriage? Given that we identify recontesting candidates by their full names (as well as their party list), candidates who change their surname would be coded as non-recontesting. To address this concern, we identify recontesting candidates only by first names and year of birth.[23] We define a new recontest dummy that is 1 if a candidate with the same first name and year of birth appears on any party list for the next election. We then re-estimate the baseline regressions. The results are collected in Table C.10 and confirm the baseline estimates with a gap of 3.3 ppt in Model (5).

Election to county council. Does the gender recontest gap emerge because women are promoted to higher-level offices and therefore do not re-run for the local council? If this were the case, the recontest gap would not imply a higher attrition rate, but rather a higher success rate in climbing up the political ladder for women. To study this question, we have collected information on whether local council candidates were elected to the county council and estimated additional models (see Table C.11).[24]. In Model (1), we find that councilors elected to the county council in $t+5$ were 27 ppts more likely to re-run for the local council in $t+5$. Rather than substitutes, county and local politics thus appear to be complements – i.e., county councilors continue to be involved at the local level. In Model (2), we add the female candidate dummy. In Model (3), we interact the dummy for winning a county seat and the female candi-

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[22]We drop all candidates with duplicates of the first and last name combination in a given municipality-legislative term pair to avoid ambiguous cases.

[23]We do not use the year of birth in the baseline models because we know it only for a subset of candidates. Note also that before identifying recontesting candidate as described above, we drop all candidates who have the same first name and year of birth in a given municipality-legislative term pair to avoid ambiguous cases.

[24]The county is the tier of government immediately above municipalities and obtaining a seat in the county council after running for the local council is the typical progression of a political career. Other higher-level offices are quantitatively unimportant. While there are about 1500 county council seats, there are less than 120 seats in the state parliament and only 21 county governor positions in Hesse.

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date dummy. For women who were elected to the county council, the recontest gap at the local level disappears, i. e. the interaction effect is positive and of the same order of magnitude as the female candidate dummy. Rather than being less likely to recontest, women who succeed at the county level are more likely to recontest than other women. In fact, they display no recontest gap to male candidates. Overall, the gender recontest gap in our baseline estimations appears not to be a result of women exiting local politics to move to higher-level political offices.

5   Mechanisms

5.1   Incompatibilities between gendered family duties and local politics

A possible mechanism for the lower recontest rate of women, particularly for younger women, are time constraints due to gendered family obligations. In Germany, as arguably in most other societies, women are still disproportionately responsible for taking care of children and household chores. As such, many female candidates, once they have competed in local elections, may realize that local politics is incompatible with such gendered familial duties, and thus decline to recontest.

Ideally, we would use information on whether councilors have spouses and children. Such data is not available in Hesse. We therefore explore treatment heterogeneity along candidates' age. Women who have small children (or are thinking about having them) are relatively young. If young women are less likely to recontest than older women, this pattern would suggest that it is, at least in part, indeed incompatibilities between family duties and those obligations that come with a career in local politics that prevent young women from recontesting.

We report the results in Table 3. We estimate Equation (3) for a subsample consisting of (male and female) candidates aged 18-34 in Model (1). In Model (2), we use a subsample of candidates aged 35-44, and so forth for the remaining models up to Model (5).

[Table 3 goes here]

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The gender recontest gap indeed exhibits an age-specific pattern. It is noticeably larger for women aged below 45 years than for older women. However, there remains a statistically significant recontest gap for older women as well. Only women who are older than 65 (official retirement age in Germany) exhibit no recontest gap when compared to similarly aged men.

Of course, this age-pattern in recontest gaps does not necessarily suggest that family obligations is a relevant channel. Younger female candidates might be less likely to recontest for other reasons as well (e. g. they might be more likely to move to a different municipality than similarly aged male candidates). In order to explore the relevance of the family obligations channel further, we report in Table 4 results from specifications where we estimate Equation (3) for subsamples of candidates with a different employment status: (i) employed, (ii) self-employed, (iii) students, and (iv) retired. We find that the gender recontest gap is observable for employed candidates (4.2 ppt, Model 1a) and candidates who are students (13.8 ppt, Model 3), i.e. candidates with significant time constraints. When differentiating by age, we find that it is in particular younger employed women who exhibit a recontest gap in Model (1b): 9.6 ppt for young employed female candidates compared to 2.6 ppt for relatively older employed female candidates. We observe no recontest gap for self-employed candidates (Model 2a and 2b) and retired candidates (Model 4). These candidates in general have more flexible schedules.

[Table 4 goes here]

While consistent with the family obligations channel, the results for employment status allow for other interpretations. That is, employed women might be less likely to recontest for other reasons than time constraints due to the need to combine employment and family duties. To provide further evidence on the importance of gendered family duties for the recontest gap, we collect and analyze the minutes of council meetings for as many municipalities as possible (and corresponding meetings).[25] The coverage of this data can be inferred from Figure D.2. In general, council minutes were easier to obtain for more recent years. Our sample covers 16 municipalities with (at least a few) minutes for the legislative period 2001-2005, 47 munici-

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[25]See Section D in the online appendix for more details on how we collect the minutes.

palities for the legislative period 2006-2010, and 159 municipalities for the legislative period 2011-2015.[26] We code for each legislative term the average starting time of meetings and the average number of meetings per year. We then estimate specifications where we interact the female councilor dummy with each of these two council meeting characteristics.

In Panel A of Table 5, we find that the recontest gap vanishes among elected councilors when meetings are held relatively late, i.e. after 8pm. This result is consistent with the interpretation that incompatibilities between household and council duties prevent particularly (young) incumbent women from recontesting. If council meetings are held after the main household chores are done and – most importantly – supper is finished, female councilors show no recontest gap to their male colleagues. In contrast, the frequency of meetings appears not to be important for women's decision to recontest (Panel B). Overall, these results are consistent with the notion that women who were elected to the council are less likely to recontest because of competing family duties.

[Table 5 goes here]

5.2 Male dominance in local politics

Another reason for the recontest gap may be male dominance in local politics, and the resulting (in)formal rules that prevail in council meetings and campaigns. One obvious determinant of the formal rules and the implicit gender-specific culture in the local politics of a given municipality is the share of male or female candidates for the local council. The aggregate share of women who participate in local politics is likely to affect the electoral campaign, meetings of the local party chapter, the content of the local party platform, and potentially the confidence that female candidates have in succeeding to gain a council seat.

In Figure 6, we analyze whether the gender recontest gap varies with the share of female candidates running for a council seat in a municipality. We find that for a candidate pool with

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[26]Table B.3 compares municipalities for which we were able to obtain minutes with the other municipalities included in our sample. While a few differences appear, these are relatively small.

less than 15% women, the gender recontest gap amounts to 6.1 ppt, whereas for a candidate pool with 30% or more women, the gender recontest gap is as low as 2.4 ppt.

[Figure 6 goes here]

In Figure 7, we conduct a similar exercise but instead focus on the gender imbalance among council members. Overall, we detect a similar pattern: the more women are in the council, the lower the gender recontest gap. When at least 30% of the councilors are female, the gender recontest gap is not significantly different from zero, whereas in councils with at most 15% women, the gender recontest gap amounts to 9 ppt.

[Figure 7 goes here]

These results indicate that the female share in local politics is negatively correlated with the gender recontest gap. Naturally, one shortcoming of these regressions is that there may be various omitted variables that jointly influence the share of female candidates and councilors and the gender-specific recontest rates of candidates in a given municipality.

In a second step, therefore, we analyze the role of gender relations in local politics using further information from the council minutes. A subset of the council minutes discussed in Section 5.1 include information on the identity (and thus the gender) of the chairperson of the council as well as on who spoke during a particular meeting. We code this information to study whether the recontest gap varies according to the gender of the chairperson or the difference in average speaking rates of male and female councilors. A female chairperson may serve to reduce male dominance in councils and gender gaps in speaking rates of councilors may be indicative of underlying imbalances in the deliberative process.

The results are collected in Table 6. In Panel A, we estimate a variant of Equation (3) that additionally includes an interaction between the female councilor dummy and a dummy for female council heads. We find that a female council head reduces the gender recontest gap among all candidates (Model 1) to a large extent. Differentiating between incumbent and non-incumbent candidates (Models 2 and 3), it appears that this effect originates from non-incumbent candidates. For non-incumbent women, observing a woman in a powerful position

appears to be important for the recontest decision, possibly because this reduces the perceived male dominance in local politics in the relevant municipality.

[Table 6 goes here]

The results in Panel B further illustrate that gender relations influence the recontest gap. Here, we estimate a variant of Equation (3) that includes an interaction between the female councilor dummy and the gender gap (female - male) in average speaking rates of councilors. While there is no difference when we study all candidates (Model 1) or only non-incumbent candidates (Model 3), we find that the recontest gap among incumbent candidates is larger when the speaking gap between women and men is larger (Model 2). That is, in councils where women speak relatively more than men, women are less likely to recontest.

Different explanations for this result come to mind in line with male dominance in local politics. Women might feel compelled to speak up more often in councils where their interests are not sufficiently considered by their (male) colleagues. This may eventually lead to frustration with local politics in general, which then would contribute to the recontest gap. This interpretation is consistent with previous evidence suggesting that elected women are often excluded from decisive committees and, more generally, from real authority (Heath, Schwindt-Bayer and Taylor-Robinson, 2005; Kathlene, 1994). Frequent experiences of ineffectiveness during their time in the council can cause many women to drop out of (local) politics (Folke and Rickne, 2012).

Alternatively, each female councilor might need to speak up more frequently than male councilors given the lack of women in local politics. That is, female councilors may need to raise their voice on topics for which they have no particular expertise or interest, simply because it is expected that a woman voices her opinion on such topics, too. This would increase the overall workload for female councilors and, in turn, might discourage them from recontesting.

5.3 Party bias in renominating male and female candidates

Another possible mechanism is that women do come forward for a recontest candidacy as frequently as men but then the party leadership refuses women at a higher rate as candidates. This mechanism would suggest anti-female party bias in the renomination of candidates for council elections. We explore this channel with three empirical strategies.

First, we exploit the fact that prior to the publication of the final candidate lists, a preliminary version of candidate lists are circulated. The final candidate list can have at most as many candidates as there are seats in the council. The preliminary candidate lists, however, are typically longer, i.e. include a number of excess candidates that were willing to serve as candidates but were not included in the final version of the candidate list. As discussed in Section 2.2, any eligible candidate can present him-/herself as a candidate. Thus, candidates appearing on the preliminary but not on the final list were ostensibly willing to (re-)contest for the council but were not (re-)nominated by their party.

We study whether women are more likely to be excess candidates, i.e. among those candidates who have ostensibly signaled a willingness to run for the council but who were not put on the final ballot by their parties. The dependent variable in Table 7 captures failed recontest attempts, i.e. it is a dummy that is 1 if a candidate was included in the preliminary candidate list but not in the final list. We find that candidate gender has no effect on the likelihood of a failed recontest attempt in all three specifications (differing in fixed effects included). We conclude that there is no evidence for a systematic party bias against women to include candidates on the final candidate list.[27]

[Table 7 goes here]

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[27]Table B.4 in the online appendix shows that the subsample of municipalities with at least one surplus candidate is not significantly different in its characteristics than the estimation sample as of 2016. Table B.5 reports a replication of the baseline results with the subsample of elections with at least one surplus candidate. We continue to find a negative recontest gap in this subsample.

As a second strategy, we estimate specifications that only include candidates that were running on candidate lists where the number of candidates turns out to be strictly smaller than the maximum number of candidates allowed (which as mentioned is equal to the total number of seats in the council). There is no cost to parties to include additional women on this list. In fact, parties would be strictly better off to add any additional candidates – irrespective of gender – on incomplete lists given that every personalized vote also counts for the overall distribution of seats across parties. That is, if party bias would be the reason for the gender recontest gap, we would expect the estimate for the recontest gap to be significantly smaller in this subsample. Apart from this sample restriction, the regressions correspond to the baseline specifications reported in Table 1. The results are collected in Table 8.

[Table 8 goes here]

The gender recontest gap in this subsample amounts to 3.9 to 4.4 ppt, depending on the type of fixed effects included and confirming the baseline results. We conclude that in a setting where adding another woman to the candidate list would not impose any costs on the party or fellow candidates from the same party, we still observe the gender recontest gap. Thus, women do not seem to be held back from recontesting by the party leadership.

As a third strategy, we study how recontesting female and male candidates are rewarded or demoted by their parties in the next election based on their performance in the prior election. It seems plausible that candidates who have performed well with voters relative to their initial list placement, i.e. who witnessed rank gains by obtaining many preferential votes, should be rewarded with a better list placement in the next election, conditional on recontesting. If women advance less in their initial rank from one election to the next than men who have performed similarly, this could be interpreted as party bias against female candidates.

[Table 9 goes here]

In Table 9, we start out by relating the female candidate dummy to the improvement in list ranks between the elections in t and $t+5$, conditional on recontesting but without conditioning

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on electoral performance in the election in t (see Model 1). We find that conditional on recontesting, women are placed about 0.4 to 0.5 ranks higher than men. In Model (2), we condition on electoral performance in t, i.e. by a candidate's rank gain according to his or her preferential votes in t. Again, we find that recontesting women improve by about 0.4 to 0.5 ranks more than men. It is also apparent that (female and male) candidates who perform well in t get promoted by their party: a gain of one rank improves the list placement in $t + 5$ by about 0.24 ranks.

In Model (3), we interact the female candidate dummy with a candidate's rank gain in t. The results suggest that while candidates who perform well improve in their initial ranks, female candidates improve more than male candidates who have performed similarly in the election in t. Overall, these results suggest that rather than discriminating against women at the nomination stage, parties favor recontesting women in their list rank placements, particularly those who have performed well in the previous election.[28]

5.4   Gender differences in electoral performance and grit

Another possible mechanism is that female candidates perform on average worse with voters than male candidates and therefore refuse to recontest at a higher rate. Alternatively, women may be as successful as men but on average react to an unsuccessful electoral performance more negatively than men (or less positively to a good performance), and refuse to recontest for this reason at a higher rate.

We first analyze whether women in general perform differently in local council elections than men. We run a series of estimations that use three different electoral performance measures as the dependent variable and include the female candidate dummy as a covariate. Model (1) uses the absolute rank improvement (initial rank - final rank), i.e. a positive value indicates a better performance than a negative value. Model (2) divides this difference by the council

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[28]However, that parties do not display an anti-female bias at the renomination stage does not imply that parties do not discriminate against women at all. It is possible that parties display an anti-female bias when initially selecting candidates. If this were the case, it is possible that the recontesting women are of a higher quality than recontesting men. This in turn might result in a similar or even better list placement for the recontesting women.

size to normalize rank improvements. Model (3) uses a dummy variable that is 1 if the rank improvement is positive or zero. The results are summarized in Table 10.

[Table 10 goes here]

In all three estimations, the female candidate dummy is insignificant suggesting that on average female and male candidates do not differ in their electoral performance. However, even if women and men do not perform differently, they may, as discussed above, differ in how they respond to electoral setbacks. Women who fail to gain a seat may be more likely to quit than men who perform similarly, while there may be no difference between successful women and men (or vice versa).

Our previous estimates on the gender recontest gap for incumbent and non-incumbent candidates in Table 2 already indicate that such gendered heterogeneity in response to similar electoral performance is not a relevant mechanism: the gender recontest gap is similar among incumbent and non-incumbent candidates.

To explore the importance of gender-specific heterogeneity in response to electoral feedback further, we estimate the gender recontest gap for candidates who were up to three ranks below or above the seat threshold of their respective party. More specifically, we estimate Equation (2) for subsamples of candidates with a list rank that was x={-1,-2,-3,0,1,2,3} ranks below or above the threshold rank to gain a seat within their respective parties.[29] Differences in the gender-specific response to electoral disappointment and success are likely particularly pronounced among marginal candidates. The results are collected in Figure 5.

[Figure 5 goes here]

Each dot in this figure represents the point estimate for the recontest gap at the respective distance x={-1,-2,-3,0,1,2,3} from the seat threshold. We find no meaningful difference in the recontest gap between women who barely fail to win a seat (i.e. who are -1,-2, or -3 ranks

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[29]Note that we cannot estimate Equation (3), i.e. include list-specific fixed effects, as each regression for this specification only includes one candidate per list.

below the seat threshold of their party) and women who barely win a seat (i.e. who have a rank that is exactly at the seat threshold or 1, 2, or 3 ranks above). In other words, we find no evidence that the recontest gap is due to women having less grit than men.

5.5 Discussion

Our above analysis on mechanisms suggests that the gender recontest gap does not emerge because of party-level discrimination against women at the renomination stage or because women are more likely to face electoral setbacks or lack perseverance and grit. Instead, incompatibilities between gendered family and council duties and the specific gender relations in local politics with its characteristic male dominance appear to be important.

These findings have implications for strategies to increase female representation in politics. Such strategies should, first, focus on reducing incompatibilities between family and political duties. As per our results, holding meetings later in the day seems effective. Policy makers might consider also alternative formats, such as online or hybrid meetings, that would ease the time-related burdens on women.[30] Second, strategies to reduce male dominance in local politics and improving gender imbalances in council meetings can also be helpful.[31] Meeting times that are incompatible with family obligations and, more generally, male dominance ostensibly serve as an implicit biases in local politics that hold back women.

Naturally, there may be various other mechanisms that could also contribute to the recontest gap. Most prominently, there may be gender differences in private costs of success in politics. Folke and Rickne (2020), for example, find that women that have a successful career in politics are more likely to be divorced. However, while we lack the data to explore this channel

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[30]Such reforms may not only lead to more women, but could also affect the selection of women who enter politics. For example, previous evidence from Finland indicates that educated women are more likely to come forward as political candidates if the monetary compensation for council duties is higher (Kotakorpi and Poutvaara, 2011). Educated women might value temporal flexibility similarly to monetary compensation.

[31]Previous evidence suggests that one successful strategy to increase female representation in local councils is to introduce gender quotas (Baltrunaite et al., 2014; Besley et al., 2017).

explicitly, this is unlikely to be an important explanation in our context of local politics in small towns. While state- or federal-level career in politics come with such extensive time-demands and prominence that they may threaten marital stability, this is less relevant for local offices.

A related mechanism is that women may face more adversity than men when entering politics. For example, Håkansson (2021) shows that in Swedish local politics, women are more likely to be victims of violence than men. While we have no information on violence committed against local politicians in Hesse, it is possible that the Swedish findings are relevant in the Hessian context as well and contribute to part of the recontest gap.

6   Implications of the recontest gap for female representation

Is the gender recontest gap that we estimate a relevant detriment to female political representation in practice? To assess this, we relate, first, list-specific recontest gaps to the representation of women on party lists in the next election. Second, we relate municipality-specific recontest rates to the share of women elected to the council in the next election.

More specifically, we calculate for each list the average rate at which female and male candidates recontest and then take the difference between these two rates as a measure for the list-specific recontest gap. Similarly, we calculate for each municipality the difference in the average recontest rates of all female and male candidates. We then relate the party-level recontest gap to the (i) share of women on each party list and (ii) the share of women among all elected candidates of a given party. Similarly, we relate the municipality-level recontest gap to (i) the share of women among all candidates in a given municipality and (ii) the share of women among all elected candidates.

In Table 11, the party-level results are reported in Models (1)-(2) and the municipality-level results appear in Models (3)-(4). For ease of interpretation, we rescale the female recontest gap by multiplying it by minus one (such that the recontest gap has a positive value unlike in

the previous regressions where the gap was negative).[32] Models (1) and (2) suggest that a 100 ppt recontest gap – i.e. all women do not recontest while all men do – would reduce female representation on party lists by almost 14 ppt and the share of elected women within each list by almost 16 ppt. The estimates for the effects on representation at the municipality-level are slightly larger. According to Models (3) and (4), a 100 ppt recontest gap would reduce the shares of female candidates and of female councilors by 17 and 20 ppt, respectively.

[Table 11 goes here]

Given that the recontest gap estimated in the previous sections as well as the average party- and municipality-level recontest gaps in the samples used for the regressions in Table 11 is about five percentage points, it follows that in our context, the recontest gap contributes up to one percentage point to the lower female representation in local politics in a single election.

While this may appear as a relatively small effect, note that female representation has only increased by 3.0 to 3.5 ppts over 15 years in Hesse (see Figures 2 and A.1). That is, the negative implications of the recontest gap on female representation in one election are similarly large as the generic increase in the share of women in Hessian local politics from one election to the next. In addition, this estimated effect only pertains to a single election. The cumulative effect over several elections are naturally larger. Assuming constant recontest gaps and calculated over the 18 local elections held between 1946-2016 in Hesse, the recontest gap might have reduced female representation by about 18 ppts.[33]

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[32]Note also that the party-level regressions omit the list-specific fixed effects as these are perfectly collinear with the list-specific recontest gap. The municipality-level regressions omit the municipality-specific fixed effects given the limited within-municipality variation in our sample (party- and list-specific fixed effects are also omitted since there are no party-specific observations in the municipality-level regressions).

[33]Naturally, these are only suggestive calculations. On the one hand, female representation was lower in general in the past, which implies that the effect of any recontest gap on female representation was likely lower in absolute terms in earlier elections. On the other hand, the size of the recontest gap may have been larger given the more adverse environment women had to face in past decades when attempting to participate in local politics.

Finally, note that our estimates of the recontest gap in Hesse likely represent a lower bound on an international scale. Local politics in German states during the period 2001-2016 is presumably a comparatively benign environment for female politicians given the relatively equitable gender relations (as compared to other contexts), the conscious effort made by several parties to increase female representation, and the relatively low stakes at play in local politics.

7 Conclusion

Women are on average 3.7 to 5.0 percentage points less likely to re-run than men. This recontest gap is a phenomenon that prevails irrespective of the electoral performance of candidates and across almost all parties. We also show that this gap is presumably an important reason for women's underrepresentation in politics.

To advance female representation, it is important to understand why the recontest gap exists. We find no evidence that parties are less likely to renominate women who intend to recontest than men or that women perform worse than men in council elections. Our results also do not suggest that women abstain from recontesting more often than men when experiencing a disappointing electoral performance. Instead, we find that gendered family duties may partially explain the recontest gap. In addition, our results indicate that the recontest gap may be driven by male dominance in local politics and the ensuing gender dynamics, which ostensibly result in an implicit anti-female bias even if parties do not explicitly discriminate against recontesting women in their (re-) nomination decisions.[34]

The rules of procedure in local politics, notably the organization of council meetings, arguably follow the preferences of men, given that men have for a long time constituted an overwhelming majority of councilors in most municipalities. Male dominance in local politics and its consequences seem to have negative implications for female political participation and representation. To advance the political participation of women at the local level and beyond,

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[34]Other such subtle forms of party bias may involve assigning women to less desirable comittees, giving them less speaking time, and more generally providing them with less support.

policy makers should ensure that compulsory meetings such as those of local councils are scheduled in a way to accommodate the specific constraints that women may face. This can be either organically achieved by increasing the share of female councilors through e.g. quotas, or by legislation that regulates political meetings according to the gender-specific preferences of both male and female representatives.

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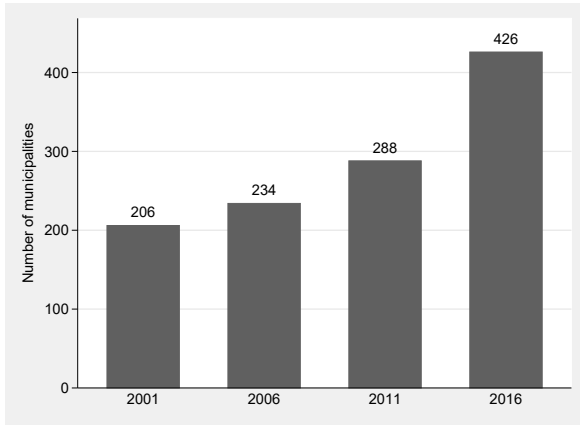
(a) Municipalities
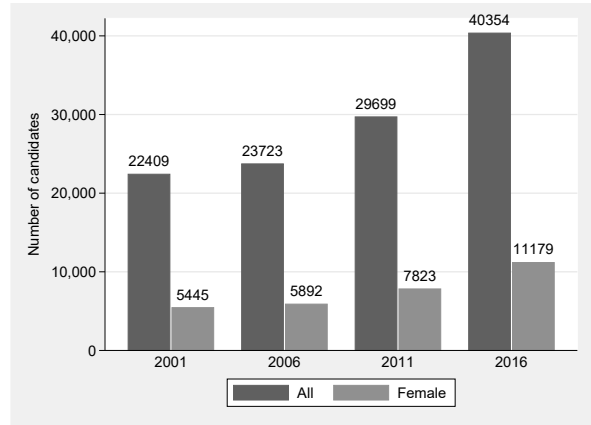
(b) Candidates

Figure 1: Data coverage. The bar charts show the coverage of our dataset in terms of municipalities and candidates. Subfigure (a) shows the number of municipalities included in our sample in each legislative period (which corresponds with the number of elections for which we have data). Subfigure (b) shows the total number of (female) candidates included in our sample per legislative period.
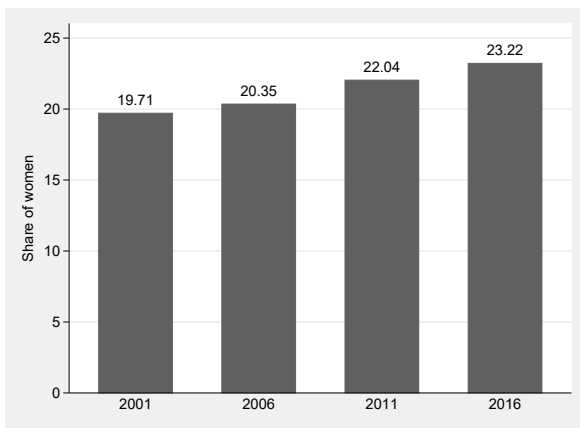
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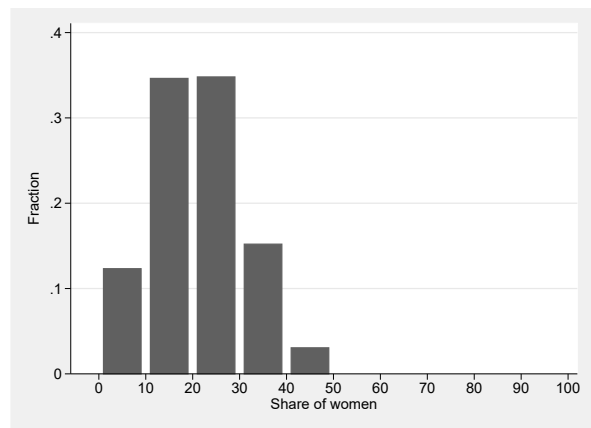
(b) Across councils

Figure 2: Share of female councilors. This figure illustrates that the share of women in Hessian local councils has increased slightly over time, while there is substantial variation across councils. Subfigure (a) depicts a bar chart on the average share of female candidates in Hessian municipalities during each of the four legislative periods. Subfigure (b) shows in a histogram the distribution for the share of female candidates in Hessian councils during all four legislative periods. The figure is based on official data from the State Statistical office of Hesse and covers the universe of Hessian municipalities for all four elections.

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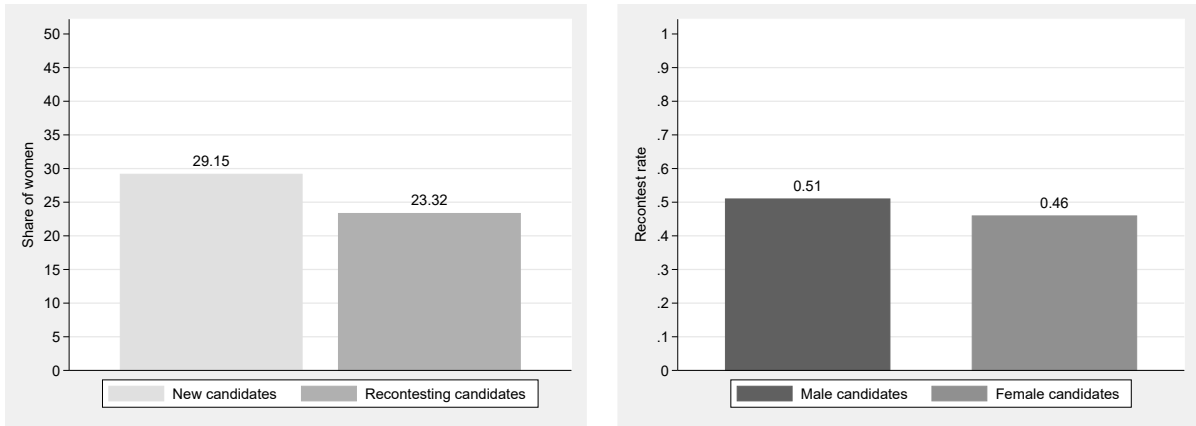
(a) Share of women, recontesting vs. new candidates

(b) Likelihood of recontesting, male vs. female

Figure 3: The gender recontest gap. This figure shows that female candidates are less likely to recontest in the next local council election than male candidates. In subfigure (a), we depict the share of women among all new and among all recontesting candidates. New candidates are those who did not run in the previous local election. In subfigure (b), we depict the average rate at which male and female candidates who run in the election in t run again in the election in $t + 5$.
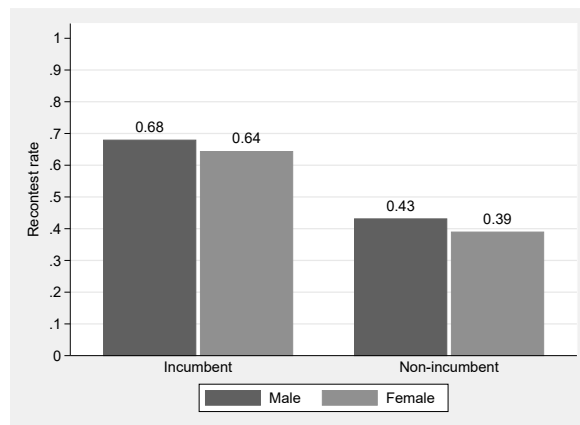
Figure 4: The gender recontest gap, incumbent vs. non-incumbent candidates. This figure illustrates that female candidates are on average less likely to recontest in the next local council election than male candidates – regardless of whether they were elected to the council or not. In addition, this figure shows that incumbents are more likely to recontest in the next election than non-incumbents.
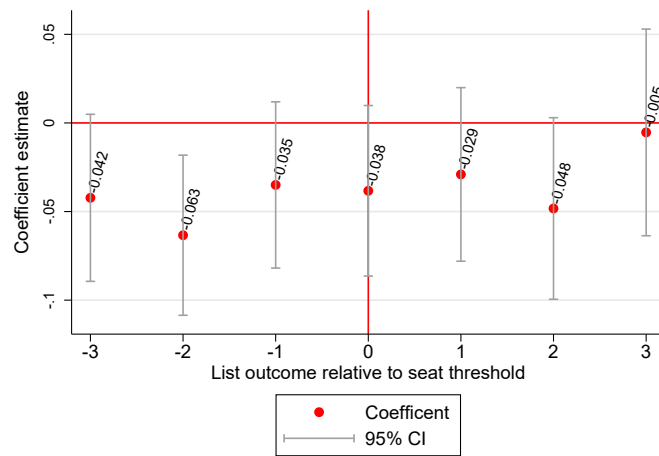
Figure 5: Mechanism IV: Gender gap in recontest rates, by performance in last election. This figure shows the recontest gap of female candidates when they are x={-3,-2,-1,0,1,2,3} ranks below or above the threshold rank within their party to gain a seat.
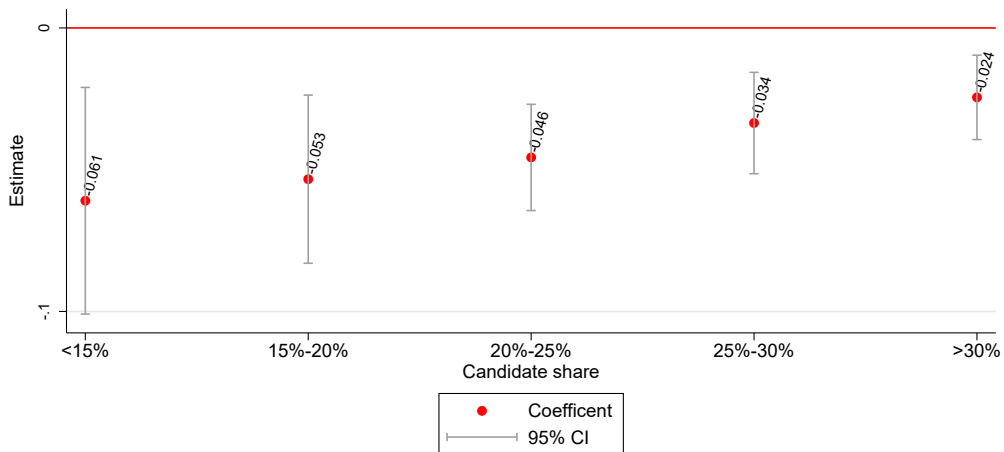
Figure 6: Mechanism IV: Gender recontest gap and male dominance in local politics (share of female candidates). This figure shows that the gender recontest gap declines with the share of female candidates running in the previous local election. The red dots are point estimates for regressions of Equation (3) with subsamples consisting of all municipalities with a female candidate share below 15%, between 15%-20%, etc.
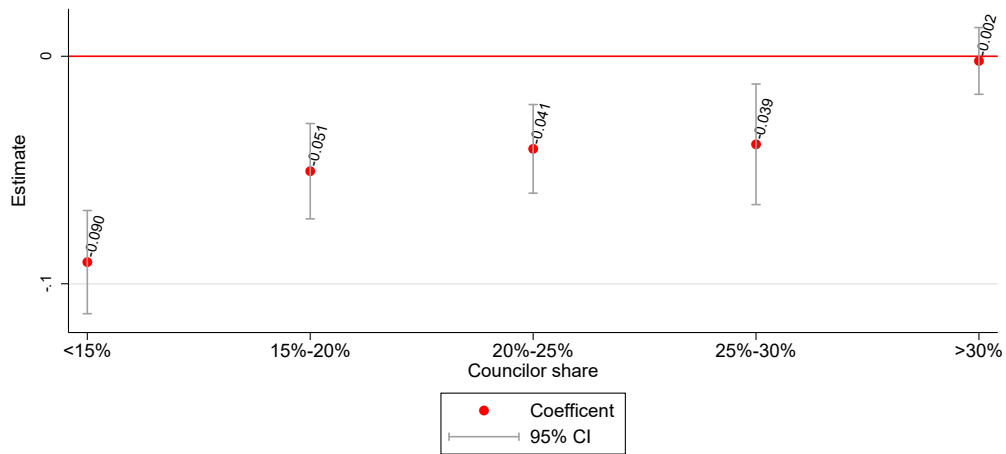
Figure 7: Mechanism IV: Gender recontest gap and male dominance in local politics (share of female councilors). This figure shows that the gender recontest gap declines with the share of female councilors in the previous council. The red dots are point estimates for regressions of Equation (3) with subsamples consisting of all municipalities with a female councilor share below 15%, between 15%-20%, etc.

Table 1: GENDER RECONTEST GAP

	(1)	(2)	(3)	(4)	(5)
Female candidate	-0.050***	-0.042***	-0.042***	-0.040***	-0.037***
	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
Municipalities	288	288	288	288	288
Lists	3260	3260	3260	3257	3253
N	74839	74839	74839	74836	74832
Municipality FE	No	Yes	Yes	Yes	(Yes)
Year FE	No	No	Yes	Yes	(Yes)
Party FE	No	No	No	Yes	(Yes)
List FE	No	No	No	No	Yes

Notes: This table reports results from regressions that relate candidate gender in a local election in t to a dummy that indicates whether the candidate is recontesting in the next election in $t+5$. Model (1) presents a simple bivariate regression. Model (2) additionally controls for municipality fixed effects. Model (3) adds year fixed effects. Model (4) adds party fixed effects. Model (5) includes list fixed effects (which incorporate municipality, year, and party fixed effects and thus compare candidates from the same list in the same election and municipality). Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table 2: GENDER RECONTEST GAP, INCUMBENTS VS. NON-INCUMBENTS

	(1) Incumbents	(2) Non-incumbents	(3) All
Female candidate	-0.038***	-0.032***	-0.032***
	(0.008)	(0.005)	(0.005)
Incumbent			0.229***
			(0.005)
Female × Incumbent			-0.000
			(0.009)
Municipalities	288	288	288
Lists	2872	3244	3253
N	22640	51880	74832
List FE	Yes	Yes	Yes

Notes: This table reports results from regressions that relate candidate gender in a local election in t to a dummy that indicates whether the candidate is again on the ballot in the next election in $t+5$. Model (1) uses a sample with only incumbent candidates (i. e. candidates who were elected in the previous election). Model (2) uses a sample with only non-incumbent candidates. Model (3) uses the full sample of candidates and includes an interaction effect between the female and elected dummies. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table 3: MECHANISM I: GENDER RECONTEST GAP, FAMILY OBLIGATIONS PROXIED BY AGE

	(1) aged 18-34	(2) aged 35-44	(3) aged 45-54	(4) aged 55-64	(5) aged over 65
Female candidate	-0.158***	-0.116***	-0.040***	-0.052***	-0.018
	(0.025)	(0.021)	(0.013)	(0.013)	(0.013)
Municipalities	125	135	139	139	138
Lists	567	832	1192	1198	1096
N	1965	3558	7432	7953	8042
List FE	Yes	Yes	Yes	Yes	Yes

Notes: This table reports results from regressions that relate candidate gender in a local election in t to a dummy that indicates whether the candidate is again on the ballot in the next election in $t+5$. Model (1)-(5) use samples of candidates in different age brackets. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table 4: MECHANISM I: GENDER RECONTEST GAP, FAMILY OBLIGATIONS PROXIED BY AGE AND EMPLOYMENT STATUS

	(1) Employed		(2) Self-employed		(3) Student	(4) Retired
	(a)	(b)	(a)	(b)		
Female candidate	-0.042***	-0.026**	-0.029	-0.016	-0.138***	-0.021
	(0.007)	(0.010)	(0.036)	(0.057)	(0.039)	(0.021)
Young candidate		-0.039***		0.068*		
		(0.009)		(0.036)		
Female × Young		-0.070***		-0.125		
		(0.017)		(0.103)		
Municipalities	231	143	167	116	129	207
Lists	2333	1352	611	417	415	1195
N	30912	21763	1776	1267	1247	5113
List FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports results from regressions that relate candidate gender in a local election in t to a dummy that indicates whether the candidate is again on the ballot in the next election in $t+5$. Model (1 a-b) uses a sample that only includes candidates that were employed during the election in t, Model (2 a-b) uses a sample with candidates who were self-employed, Model (3) uses a sample with candidates who were students, and Model (4) uses a sample of candidates who were retired. In Models (1b) and (2b) we interact the female dummy with a dummy for candidates who are younger than 45 years, i. e. a young candidate dummy. Note that we have information on age only for a subset of candidates. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table 5: MECHANISM I: GENDER RECONTEST GAP, FAMILY OBLIGATIONS AND CHARACTERISTICS OF COUNCIL MEETINGS

	(1) All	(2) Incumbents	(3) Non-incumbents
Panel A: start of meetings			
Female candidate	-0.028***	-0.039***	-0.026***
	(0.008)	(0.015)	(0.008)
Female candidate × Late meetings	0.012	0.089**	-0.007
	(0.021)	(0.043)	(0.020)
Municipalities	125	125	125
Lists	899	764	895
N	22779	6224	16450
List FE	Yes	Yes	Yes
Panel B: frequency of meetings			
Female candidate	-0.049	-0.019	0.022
	(0.072)	(0.144)	(0.080)
Female candidate × Number of meetings	0.012	-0.005	-0.022
	(0.033)	(0.069)	(0.037)
Municipalities	115	115	115
Lists	833	706	829
N	21411	5783	15530
List FE	Yes	Yes	Yes

Notes: This table reports results from regressions that relate candidate gender in a local election in t to a dummy that indicates whether the candidate is again on the ballot in the next election in $t+5$. In panel A, we interact the female candidate dummy with a dummy for late meetings. This dummy equals 1 for councils where meetings on average start after 8 pm. In panel B, we interact the female candidate dummy with the log of the average number of meetings per year during the legislative term. Model (1) includes all candidates, Model (2) all incumbent candidates, and Model (3) all non-incumbent candidates. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table 6: MECHANISM II: GENDER RECONTEST GAP, MALE DOMINANCE IN LOCAL COUNCILS

	(1) All	(2) Incumbents	(3) Non-incumbents
Panel A: Gender of chairperson			
Female candidate	-0.041***	-0.024	-0.047***
	(0.012)	(0.019)	(0.014)
Female × Female council head	0.034*	0.001	0.055**
	(0.019)	(0.039)	(0.023)
Municipalities	75	75	75
Lists	477	411	477
N	12051	3364	8634
List FE	Yes	Yes	Yes
Panel B: Difference in female-male speaking rates			
Female candidate	-0.044***	-0.056***	-0.045***
	(0.011)	(0.018)	(0.014)
Female × Gender speaking rate gap	-0.147	-0.450**	-0.113
	(0.149)	(0.215)	(0.180)
Municipalities	58	58	58
Lists	385	336	385
N	10101	2790	7273
List FE	Yes	Yes	Yes

Notes: This table reports results from regressions that relate candidate gender in a local election in t to a dummy that indicates whether the candidate is again on the ballot in the next election in $t+5$. In panel A, we interact the female candidate dummy with a dummy for a female council chairperson. In panel B, we interact the female candidate dummy with the difference in the average share of women and men who spoke on any topic during each of the council meetings during a legislative term. Model (1) includes all candidates, Model (2) all elected candidates, and Model (3) all unelected candidates. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table 7: MECHANISM III: GENDER GAP IN FAILED RECONTEST ATTEMPTS

	(1)	(2)	(3)
Female candidate	0.005	0.007	0.008
	(0.014)	(0.008)	(0.007)
Municipalities	62	62	62
Lists	311	311	311
N	7100	7100	7100
Municipality FE	No	Yes	(Yes)
Year FE	No	Yes	(Yes)
Party FE	No	Yes	(Yes)
List FE	No	No	Yes

Notes: This table reports results from regressions that relate candidate gender in a local election in t to a dummy that indicates whether the candidate has attempted but failed to be put again on the ballot in the next election in $t+5$. The sample is restricted to municipalities with data on the current and the next election as well with data on excess candidates (i.e. candidates who were not on the ballot even though they had attempted this). Model (1) presents a simple bivariate regression. Model (2) additionally controls for municipality, year, and party fixed effects. Model (3) controls for list fixed effects (which incorporate municipality, year, and party fixed effects). Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table 8: MECHANISM III: GENDER RECONTEST GAP, INCOMPLETE LISTS

	(1)	(2)	(3)
Female candidate	-0.044***	-0.039***	-0.039***
	(0.006)	(0.007)	(0.006)
Municipalities	282	282	282
Lists	2042	2042	2039
N	41047	41047	41044
Municipality FE	No	Yes	(Yes)
Year FE	No	Yes	(Yes)
Party FE	No	Yes	(Yes)
List FE	No	No	Yes

Notes: This table reports results from regressions that relate candidate gender in a local election in t to a dummy that indicates whether the candidate is again on the ballot in the next election in $t + 5$. The sample is restricted to municipalities with data on the current and next election. Out of these municipalities, these regressions only include parties with lists that are incomplete, i.e. where the number of candidates is lower than the maximum number permitted (i.e. number of seats in the council). Model (1) presents a simple bivariate regression. Model (2) additionally controls for municipality, year, and party fixed effects. Model (3) controls for list fixed effects (which incorporate municipality, year, and party fixed effects). Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table 9: MECHANISM III: GENDER GAP IN Δ INITIAL LIST RANKS BETWEEN TWO ELECTIONS

	(1)	(2)	(3)
Female candidate	-0.454***	-0.431***	-0.421***
	(0.109)	(0.103)	(0.101)
Rank gain in t		-0.238***	-0.228***
		(0.013)	(0.013)
Female candidate × Rank gain in t			-0.048*
			(0.028)
Municipalities	288	288	288
Lists	2842	2829	2829
N	36516	35736	35736
Municipality FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Party FE	Yes	Yes	Yes
List FE	Yes	Yes	Yes
List Rank FE	Yes	Yes	Yes

Notes: This table reports results from regressions that relate the gender of a candidate in a local election in t to her improvement in inital ranks between the elections in t and $t + 5$, conditional on being on the ballot in the election in $t + 5$. The sample is restricted to municipalities with data on the current and the next election. The dependent variable in all models is the difference in initial list ranks between two consecutive elections. Model (1) compares the unconditional rank improvement of women and men between two elections. Model (2) controls for the rank gain of candidates in the election in t (initial rank on the party list - rank after the election). Model (3) interacts the rank gain in t variable with the female candidate dummy. All models control for list fixed effects (which incorporate municipality, year, and party fixed effects). All models also include separate fixed effects for the initial list ranks of candidates. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table 10: MECHANISM IV: GENDER GAP IN ELECTORAL PERFORMANCE

	(1) Absolute rank gain	(2) Absolute rank gain / council size	(3) Rank gain dummy
Female candidate	0.089	-0.331	0.017
	(0.151)	(0.243)	(0.017)
Municipalities	288	288	288
Lists	3209	3209	3209
N	71143	71143	71143
List FE	Yes	Yes	Yes

Notes: This table reports results for regressions that relate candidate gender in a local election in t to her performance in that election. The dependent variable in Model (1) in the rank gain (initial rank - final rank). The dependent variable in Model (2) is the rank gain divided by the number of seats in the council. The dependent variable in Model (3) is a dummy that is 1 if the candidate did not lose ranks in the election. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table 11: IMPLICATIONS OF GENDER RECONTEST GAP FOR FEMALE REPRESENTATION

	Party level		Municipality level	
	(1) Candidate share	(2) Elected share	(3) Candidate share	(4) Elected share
Recontest gap	-14.086***	-15.502***	-17.463***	-19.615***
	(0.868)	(1.523)	(2.173)	(2.394)
Mean (SD)	0.05 (0.28)	0.04 (0.28)	0.05 (0.15)	0.05 (0.15)
Municipalities	287	287	288	288
N	2744	2732	722	722
Municipality FE	Yes	Yes	No	No
Year FE	Yes	Yes	Yes	Yes
Party FE	Yes	Yes	No	No
List FE	No	No	No	No

Notes: This table reports results from regressions that relate the recontest gap aggregated to the party- (Models 1-2) and municipality-level (Models 3-4) to the share of women candidates (Models 1 and 3) and of elected women (Models 2 and 4) in the next election. These regressions explore the wider implications of the recontest gap on female representation. The dependent variable in Model (1) is the share of female candidates on each party list participating in the local election held in a given municipality, in Model (2) the share of women among all elected candidates from a given party list, in Model (3) the share of women among all candidates in a municipality, and in Model (4) the share of women among all elected candidates of a given municipality. The row Mean (SD) reports the mean and the standard deviation of the recontest gap variable in the respective samples. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

The Gender Recontest Gap in Elections

Supporting material for online publication

Contents

A Additional figures

(a) Over time
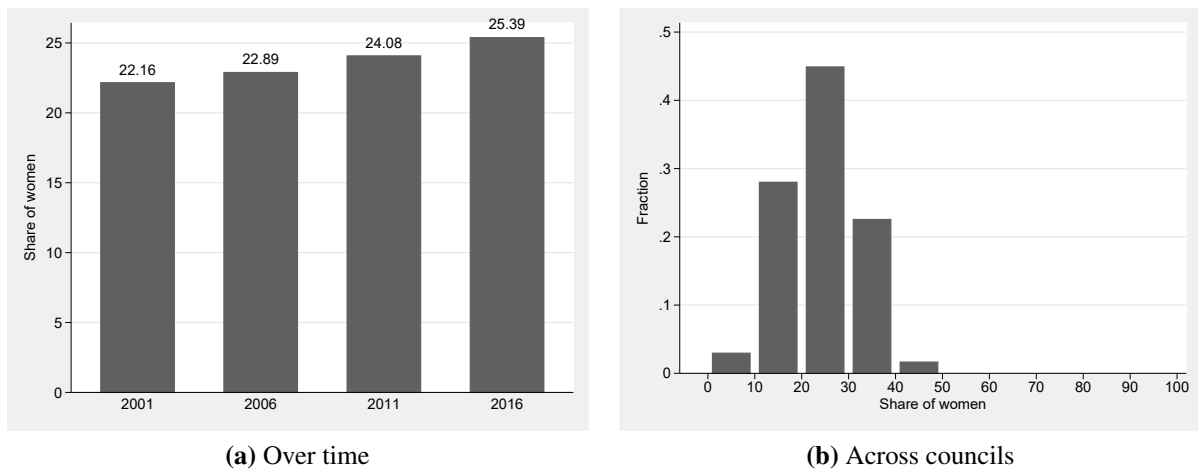
(b) Across councils

Figure A.1: Share of female council candidates. This figure illustrates that the share of female candidates for Hessian local councils has increased slightly over time, while there is substantial variation across councils. Subfigure (a) depicts a bar chart on the average share of female candidates in Hessian municipalities during each of the four legislative periods. Subfigure (b) shows in a histogram the distribution for the share of female candidates in Hessian councils during all four legislative periods.

B Additional tables

Table B.1: SUMMARY STATISTICS: CANDIDATE CHARACTERISTICS, BY GENDER

Variable	Female	Male	Diff	Std Error	Obs
Recontest	0.459	0.510	-0.050***	0.004	74839
New candidate	0.556	0.479	0.078***	0.004	84757
List rank	40.619	42.539	-1.920***	0.201	115005
List result	39.386	40.488	-1.102***	0.182	112617
SPD	0.273	0.285	-0.012***	0.003	116185
CDU	0.238	0.291	-0.053***	0.003	116185
Greens	0.141	0.067	0.073***	0.002	116185
FDP	0.088	0.086	0.002	0.002	116185
Left	0.026	0.017	0.009***	0.001	116185
Age	50.847	51.940	-1.094***	0.143	51353
Employed	0.702	0.720	-0.018***	0.004	66553
Self-employed	0.034	0.065	-0.031***	0.002	66553
Student	0.049	0.042	0.007***	0.002	66553
Retired	0.110	0.158	-0.048***	0.003	66553
Highschool	0.652	0.632	0.020***	0.005	57920
University	0.303	0.302	0.001	0.004	57920
PhD	0.044	0.065	-0.021***	0.002	57920
Architect	0.007	0.009	-0.003***	0.001	58660
Businessman/-woman	0.065	0.079	-0.014***	0.003	58660
Public administrator	0.058	0.082	-0.024***	0.003	58660
Craftsman/-woman	0.011	0.109	-0.097***	0.003	58660
Physician	0.026	0.013	0.014***	0.001	58660
Engineer	0.014	0.068	-0.054***	0.002	58660
Farmer	0.005	0.036	-0.031***	0.002	58660
Lawyer	0.035	0.030	0.005***	0.002	58660
Police officer	0.001	0.018	-0.017***	0.001	58660
Teacher	0.078	0.044	0.034***	0.002	58660

Notes: This table reports summary statistics on the characteristics of female and male council candidates. The share of recontesting and new (female and male) candidates do not sum up to 100% as they are calculated using different samples.

Table B.2: MUNICIPALITY CHARACTERISTICS, FULL VS. ESTIMATION SAMPLE

	Not in sample	In sample	Diff	Std Error	Obs
Log(Population)	8.802	9.132	-0.330***	0.089	426
Log(Density)	5.129	5.451	-0.322***	0.100	426
Log(Population share < 6)	-3.059	-3.016	-0.043***	0.015	426
Log(Population share 6-14)	-2.531	-2.516	-0.015	0.010	426
Log(Population share 14-65)	-0.427	-0.428	0.000	0.003	426
Log(Population share > 65)	-1.519	-1.534	0.014	0.011	426
Log(Current revenues pc.)	0.504	0.558	-0.054**	0.023	426
Log(Current expenditures pc.)	0.466	0.518	-0.052**	0.022	426
Log(Debt pc.)	0.014	-0.122	0.135	0.083	426
Log(Revenues pc.)	-0.155	-0.060	-0.095**	0.037	426
Log(Employment share)	-4.612	-4.608	-0.003	0.034	426
Log(Business tax rate)	5.917	5.908	0.009	0.008	426
Log(Property tax B rate)	5.988	5.950	0.039	0.025	426

Notes: This table compares the characteristics (in 2016) of the 288 municipalities for which we have at least two consecutive elections and the remaining 138 municipalities.

Table B.3: MUNICIPALITY CHARACTERISTICS, ESTIMATION VS. MINUTES SAMPLE

	Not in sample	In sample	Diff	Std Error	Obs
Log(Population)	8.926	9.400	-0.474***	0.104	288
Log(Density)	5.212	5.764	-0.552***	0.111	288
Log(Population share < 6)	-3.029	-2.999	-0.030*	0.017	288
Log(Population share 6-14)	-2.519	-2.513	-0.007	0.012	288
Log(Population share 14-65)	-0.428	-0.427	-0.001	0.004	288
Log(Population share > 65)	-1.526	-1.544	0.018	0.013	288
Log(Current revenues pc.)	0.549	0.570	-0.020	0.029	288
Log(Current expenditures pc.)	0.497	0.546	-0.050*	0.028	288
Log(Debt pc.)	-0.054	-0.210	0.156*	0.094	288
Log(Revenues pc.)	-0.100	-0.008	-0.092**	0.046	288
Log(Employment share)	-4.635	-4.574	-0.062	0.040	288
Log(Business tax rate)	5.910	5.907	0.003	0.010	288
Log(Property tax B rate)	5.946	5.954	-0.008	0.030	288

Notes: This table compares the characteristics (in 2016) of the 125 municipalities for which we have information on council minutes during the period 2001-2011 and the remaining 163 municipalities from the estimation sample.

Table B.4: MUNICIPALITY CHARACTERISTICS, ESTIMATION VS. SUBSAMPLE WITH PREIMINARY LISTS

	Not in sample	In sample	Diff	Std Error	Obs
Log(Population)	9.153	9.056	0.097	0.130	288
Log(Density)	5.441	5.489	-0.048	0.139	288
Log(Population share < 6)	-3.016	-3.013	-0.003	0.020	288
Log(Population share 6-14)	-2.515	-2.520	0.005	0.015	288
Log(Population share 14-65)	-0.427	-0.432	0.005	0.004	288
Log(Population share > 65)	-1.538	-1.519	-0.018	0.016	288
Log(Current revenues pc.)	0.557	0.563	-0.007	0.035	288
Log(Current expenditures pc.)	0.520	0.513	0.007	0.034	288
Log(Debt pc.)	-0.126	-0.107	-0.019	0.114	288
Log(Revenues pc.)	-0.067	-0.035	-0.031	0.056	288
Log(Employment share)	-4.599	-4.643	0.044	0.049	288
Log(Business tax rate)	5.907	5.914	-0.007	0.012	288
Log(Property tax B rate)	5.947	5.957	-0.010	0.036	288

Notes: This table compares the characteristics (in 2016) of the 62 municipalities for which we have data on preliminary lists for at least one election and remaining 226 municipalities in the estimation sample.

Table B.5: GENDER RECONTEST GAP, REPLICATION OF BASELINE RESULTS USING SUBSAMPLE WITH AVAILABLE PRELIMINARY CANDIDATE LISTS

	(1)	(2)	(3)	(4)	(5)
Female candidate	-0.030*	-0.028*	-0.027	-0.019	-0.018
	(0.017)	(0.016)	(0.016)	(0.015)	(0.015)
Municipalities	62	62	62	62	62
Lists	311	311	311	311	311
N	7100	7100	7100	7100	7100
Municipality FE	No	Yes	Yes	Yes	(Yes)
Year FE	No	No	Yes	Yes	(Yes)
Party FE	No	No	No	Yes	(Yes)
List FE	No	No	No	No	Yes

Notes: This table reports results from regressions that relate the gender of a candidate in a local election in t to a dummy that indicates whether the candidate is again on the ballot in the next election in $t+5$. In these regresions, we use a sub-sample of elections for which we have preliminary candidate lists. Model (1) presents a simple bivariate regressions. Model (2) additionally controls for municipality fixed effects. Model (3) adds year fixed effects. Model (4) adds party fixed effects (thus comparing candidates from the same party but across different elections). Model (5) includes list fixed effects (which incorporate municipality, year, and party fixed effects and thus compare candidates from the same list in the same election). Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

C   Robustness

Table C.6: Robustness I: Gender recontest gap, individual-level controls included

	(1) Age	(2) Employment	(3) Education	(4) Profession	(5) All
Female candidate	-0.044***	-0.037***	-0.041***	-0.027***	-0.049***
	(0.007)	(0.006)	(0.006)	(0.006)	(0.008)
Municipalities	148	232	249	249	146
Lists	1371	2380	2465	2467	1362
N	29979	42582	37134	37537	25629
List FE	Yes	Yes	Yes	Yes	Yes

Notes: This table reports results for regressions that relate candidate gender in a local election in t to a dummy that indicates whether the candidate is again on the ballot in the next election in $t+5$. All models control for list fixed effects (which incorporate municipality, year, and party fixed effects). Model (1) additionally controls for age, Model (2) for employment status (employed, self-employed, student, retired), Model (3) for educational attainment (highschool, university, PhD), Model (4) for occupation (architect, businessman/-woman, civil administration, craftsman, doctor, engineer, farmer, lawyer, police officer, teacher), and Model (5) for all characteristics together. All covariates besides age are dummy variables which are 1 if a candidate exhibits a given characteristic. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table C.7: Robustness II: Gender recontest gap, heterogeneity across parties

	(1) SPD	(2) CDU	(3) Greens	(4) FDP	(5) Left Party	(5) Independent
Female candidate	-0.041***	-0.049***	-0.028**	-0.001	0.017	-0.041***
	(0.010)	(0.009)	(0.013)	(0.015)	(0.027)	(0.009)
Municipalities	285	285	173	176	49	264
Lists	711	708	386	406	68	974
N	21222	20705	6293	6778	1304	18530
List FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports results from regressions that relate candidate gender in a local election in t to a dummy that indicates whether the candidate is again on the ballot in the next election in $t+5$. Model (1) uses a sample that only includes candidates from the SPD, Model (2) only includes candidates from the CDU, Model (3) only includes candidates from the Greens, Model (4) only includes candidates from the FDP, Model (5) only includes candidates from the Left party, and Model (6) only includes candidates from voter initatives (Independents), smaller parties, and all other candidates. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table C.8: ROBUSTNESS III: GENDER RECONTEST GAP, RECONTESTING IN ANY OF NEXT TWO ELECTIONS

	(1)	(2)	(3)	(4)	(5)
Female candidate	-0.050***	-0.041***	-0.040***	-0.039***	-0.036***
	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
Municipalities	289	289	289	289	289
Lists	3291	3291	3291	3288	3284
N	75782	75782	75782	75779	75775
Municipality FE	No	Yes	Yes	Yes	(Yes)
Year FE	No	No	Yes	Yes	(Yes)
Party FE	No	No	No	Yes	(Yes)
List FE	No	No	No	No	Yes

Notes: This table reports results for regressions that relate candidate gender in a local election in *t* to a dummy that indicates whether the candidate is again on the ballot in the next election in *t* + 5 or in *t* + 10, or both. Model (1) presents a simple bivariate regression. Model (2) additionally controls for municipality fixed effects. Model (3) adds year fixed effects. Model (4) adds party fixed effects (thus comparing candidates from the same party but across different elections). Model (5) includes list fixed effects (which incorporate municipality, year, and party fixed effects and thus compare candidates from the same list in the same election). Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table C.9: ROBUSTNESS IV: GENDER RECONTEST GAP, CANDIDATES MATCHED ONLY BY NAME (TO ACCOUNT FOR CANDIDATES WHO CHANGE PARTIES)

	(1)	(2)	(3)	(4)	(5)
Female candidate	-0.057***	-0.049***	-0.049***	-0.047***	-0.044***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Municipalities	288	288	288	288	288
Lists	3260	3260	3260	3257	3253
N	74772	74772	74772	74769	74765
Municipality FE	No	Yes	Yes	Yes	(Yes)
Year FE	No	No	Yes	Yes	(Yes)
Party FE	No	No	No	Yes	(Yes)
List FE	No	No	No	No	Yes

Notes: This table reports results from regressions that relate candidate gender in a local election in *t* to a dummy that indicates whether the candidate is again on the ballot in the next election in *t* + 5. In these regressions, we identify recontesting candidates only by their names (given name and surname) but ignore their partisan affiliation to account for recontesting candidates who switch parties. We drop all candidates with identical names who run in the same local elections before identifying recontesting candidates. Model (1) presents a simple bivariate regression. Model (2) additionally controls for municipality fixed effects. Model (3) adds year fixed effects. Model (4) adds party fixed effects (thus comparing candidates from the same party but across different elections). Model (5) includes list fixed effects (which incorporate municipality, year, and party fixed effects and thus compare candidates from the same list in the same election). Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table C.10: ROBUSTNESS TEST V: GENDER RECONTEST GAP, CANDIDATES MATCHED BY FIRST NAME AND YEAR OF BIRTH (TO ACCOUNT FOR CANDIDATES WHO CHANGE THEIR SURNAMES)

	(1)	(2)	(3)	(4)	(5)
Female candidate	-0.043***	-0.038***	-0.037***	-0.035***	-0.033***
	(0.011)	(0.007)	(0.007)	(0.007)	(0.007)
Municipalities	158	152	152	150	148
Lists	1436	1430	1430	1423	1371
N	29281	29275	29275	29268	29216
Municipality FE	No	Yes	Yes	Yes	(Yes)
Year FE	No	No	Yes	Yes	(Yes)
Party FE	No	No	No	Yes	(Yes)
List FE	No	No	No	No	Yes

Notes: This table reports results from regressions that relate candidate gender in a local election in t to a dummy that indicates whether the candidate is again on the ballot in the next election in $t+5$. In these regressions, we identify recontesting candidates by their given names and their year of birth but ignore their surnames (and partisan affiliation) to account for recontesting candidates who change their surnames due to e.g. marriage. We drop all candidates with identical names who run in the same local elections before identifying recontesting candidates. Model (1) presents a simple bivariate regression. Model (2) additionally controls for municipality fixed effects. Model (3) adds year fixed effects. Model (4) adds party fixed effects (thus comparing candidates from the same party but across different elections). Model (5) includes list fixed effects (which incorporate municipality, year, and party fixed effects and thus compare candidates from the same list in the same election). Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

Table C.11: ROBUSTNESS TEST VI: GENDER RECONTEST GAP, CANDIDATES ELECTED TO COUNTY COUNCIL

	(1)	(2)	(3)
Female candidate		-0.044***	-0.046***
		(0.006)	(0.006)
Elected to county council in $t+5$	0.269***	0.272***	0.250***
	(0.012)	(0.012)	(0.014)
Female × Elected to county council in $t+5$			0.068***
			(0.026)
Municipalities	283	283	283
Lists	2266	2266	2266
N	49357	49357	49357
Municipality FE	(Yes)	(Yes)	(Yes)
Year FE	(Yes)	(Yes)	(Yes)
Party FE	(Yes)	(Yes)	(Yes)
List FE	Yes	Yes	Yes

Notes: This table reports results from regressions that relate a dummy that indicates whether the candidate is again on the ballot in the next local council election in $t+5$ to candidate gender and to a dummy that indicates whether they were elected to the county council in $t+5$. Model (1) controls for a dummy that is 1 if a local council candidate in t was elected to the county council $t+5$. It thus explores whether local council candidates in the election held in t who were elected to the county council in $t+5$ were more or less likely to run for a local council seat in $t+5$. Model (2) adds a female candidate dummy. Model (3) interacts the dummy for election to the county council with the female candidate dummy. All models include list fixed effects (which incorporate municipality, year, and party fixed effects and thus compare candidates from the same list in the same election). Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality of the candidate.

D Collection of the council meetings data

Our research assistants searched the official websites of all Hessian municipalities for downloadable minutes (in pdf, word, html or other formats). Municipalities often post at least the minutes of the most recent meetings, but some make them available for several years in the past. Council meetings typically take place once a month, but there is some heterogeneity among municipalities and legislative periods.

The minutes are not standardized and hence are formatted differently in each municipality. Therefore, we had to code the minutes by hand (rather than for instance by using machine learning algorithms for probabilistic topic modeling such as LDA (see Hansen, McMahon and Prat (2018)).

The research assistants retrieved from the minutes the number of meetings per year, the starting time of the meetings, the gender of the council chairperson, and whether or not a councilor spoke up during a meeting. We then make use of this data to calculate the average number of meetings per year in a municipality during a legislative term, the average starting time of meetings, and the average rate at which male and female councilors spoke during meetings. We also code a dummy variable indicating whether the council chairperson was female at least in one meeting during a given term (sometimes chairpersons change mid-term).

Table D.12: SUMMARY STATISTICS ON COUNCIL MINUTES DATA

Variable	Mean	SD	Min	Max	Obs.
Late meeting	0.076	0.267	0	1	105
Start of meeting	19:14	3.1e+06	16:01	20:06	105
Number of meetings	7.643	1.289	5	11	97
Female council head	0.19	0.395	0	1	105
Female speaking rate	0.14	0.176	0.001	0.889	87
Male speaking rate	0.186	0.154	0.004	0.919	92
Female-Male speaking rate difference	-0.052	0.1	-0.251	0.529	86

Notes: This table reports summary statistics on the council minutes data. *Late meeting* is a dummy that is if meetings start on average after 8pm during a legislative term. *Start of meeting* is a clock variable measuring the average starting time of meetings during a legislative term.

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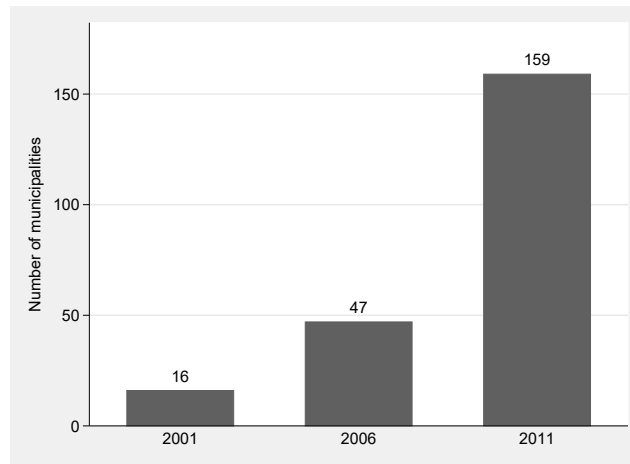
Figure D.2: Coverage of municipalities with council minutes. This figure shows the number of municipalities for which we were able to obtain council minutes in each of the three legislative terms included in our sample.
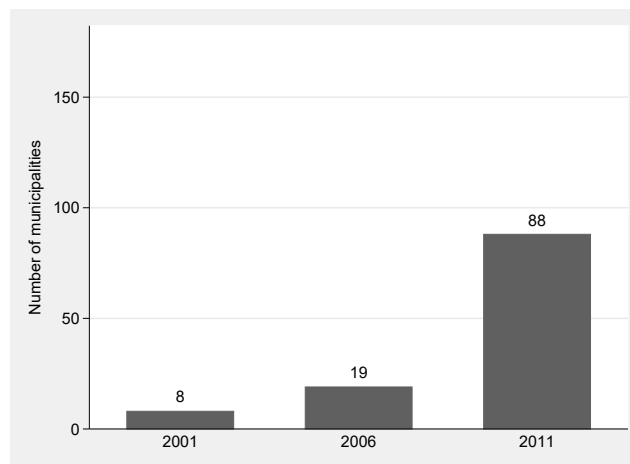
Figure D.3: Coverage of municipalities with council minutes including topics and chairpersons. This figure shows the number of municipalities for which we were able to obtain council minutes in each of the three legislative terms included in our sample that also include data on topics brought up by councilors and the gender of the chairperson.