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Impressum:

CESifo Working Papers

ISSN 2364-1428 (electronic version)

Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH

The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute

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Editor: Clemens Fuest

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Abstract

While still far from parity, female representation in politics has continuously increased over the last two decades worldwide. In light of this development, we analyze whether higher female representation has substantive effects on policy choices using the example of child care – a public good arguably valued by women. We hand-collect micro-data for 224,448 candidates running in the local council elections of 2002, 2008 and 2014 across 1,632 municipalities in the German state of Bavaria. Exploiting an open-list electoral system, we run RDD regressions centered around mixed-gender races for the last council seat that accrues to a party. We find that a female victory in a mixed-gender race accelerates the expansion of public child care provision by 40%. Our main strategy to explore mechanisms uses information from hand-collected minutes of 7,721 monthly council meetings. We show that an additional woman changes “the conversation”: female councilors speak up more often and child care is discussed more frequently in the council.

JEL-Codes: D720, D780, H700, J130, J160.

Keywords: female politicians, gender, political selection, child care provision, local councils.

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We are grateful for funding from the German National Science Foundation (DFG): project “Political selection in Germany” (Grant no. DFG-405960810). Audinga Baltrunaite, Pamela Campa, Davide Cantoni, Alessandra Casella, Christina Gathmann, Benny Geys, Eckhard Janeba, Tommaso Nannicini, Paola Profeta, Albert Solé-Ollé, Janne Tukiainen, Fabian Waldinger, Maurizio Zanardi, and participants at the 2019 EEA conference in Manchester, the 2019 IIPF conference in Glasgow, the 2019 EPCS conference in Jerusalem, the 2019 “Workshop for Women in Political Economics” in Mannheim, the 2018 “Regional Economics and Local Political Economy” Workshop in Siegen, the 2017 “Political Economy of Mixed-Member Systems” Workshop in Delmenhorst and seminars at Bocconi University, the Universities of Bochum, Bremen, Chemnitz, Freiburg, Graz, Göttingen, Hohenheim, Lancaster, Lucerne, Mannheim, Munich, Regensburg, Wuppertal, the IEB Barcelona and the ZEW Mannheim provided helpful comments and suggestions. Lars Büttner, Jessica Chadha, Daniel Flebbe, Maximilian Groß, Malte Herkströter, Sophia Herrmann, Patrick Hufschmidt, Jelena Kamenjasevic, Mark Kapteina, Danny Knauer, Natascha Konrad, Jonathan Konzelmann, Tim Kutscheidt, Vinzenz Mangold, Malte Nußberger, Philipp Pinggen, Tobias Rebholz, Florian Schäper, Alexander Stöcker and Benedikt Wachter provided excellent research assistance.

1 Introduction

One striking development in contemporary politics is the rising number of women elected to political offices: the worldwide average for the share of women in national parliaments, for instance, has doubled from 12% in 1997 to 23% in 2018.¹ In the United States, 2018 was even hailed as the “Year of the Woman” as a record number of women were elected to Congress.²

Even though evidence suggests that men and women have different policy preferences (Edlund and Pande, 2001; Lott and Kenny, 1999), it does not automatically follow that higher female representation will affect policy choices. In standard median voter models, electoral incentives will push all politicians towards policies preferred by the median voter (Downs, 1957), which implies that the gender of a politician is irrelevant for policy choices. In contrast, a more recent literature on political selection argues that elections not only serve to choose policy platforms but also to select individuals for public office (Besley, 2005). If electoral accountability is imperfect and politicians are able to inject their own preferences into public policies, the identity of a politician (including his/her gender) may matter for policy choices. Based on this theoretical ambiguity, the question whether higher female representation leads to different policy choices needs to be addressed by empirical research.

We are the first to study empirically whether women who are elected competitively (rather than through quotas) into a deliberative political body – and who thereby alter its gender composition – have a causal impact on policy choices.³ Previous evidence shows that gender quotas – typically inducing an abrupt, discontinuous increase in female representation – have substantive effects on policy choices (Chattopadhyay and Duflo, 2004). Yet, it is unclear whether we

¹See the Women in Politics database (<http://archive.ipu.org/wmn-e/classif-arc.htm>).

²101 women were elected to the House of Representatives (23.2%) and 25 women to the Senate (25%).

³Note that the imposition of gender quotas not only increases female representation but can also affect the quality of the candidate pool (Besley, Folke, Persson, and Rickne, 2017) or increase the number of politicians that newly enter a political office. This makes it difficult to empirically isolate the effect of an increase in female representation on policies when relying on the imposition of quotas as the exogenous source of variation in female representation.

would observe similar effects when female representation evolves alongside broader cultural progression and grows organically and slowly through women that one by one enter political offices competitively. Even with the secular upward trend in female representation described above, women remain almost everywhere a substantial minority in politics. Can one or a handful of women who enter office make a difference if the overall political environment is still dominated by men? That is, does a move from an extreme minority status of women in politics to a slightly weaker gender imbalance affect policy choices? Are quotas a necessary condition to achieve any shift in policymaking towards the needs and concerns of women?

We study these questions in the context of Bavarian municipalities which are a promising setting for at least three reasons. First, Bavaria encompasses 2,056 municipalities which hold council elections every six years, thus offering a potentially large source of variation and statistical power to yield precise estimates. Second, Bavarian municipalities use an open-list procedure for council elections which allows us to implement an identification strategy centered around unpredictable races for contested council seats.⁴ Given that the cutoff rank for (barely) entering the council is effectively unpredictable in open-list systems, it is plausibly quasi-random whether the woman or the man wins a mixed-gender race for the party-specific last seat. Thus, the overall share of female councilors will vary with women's success in these races. Third, Bavarian councils are typically small so that the gender of a single councilor substantially influences the overall share of female councilors.⁵

We hand-collect data for 224,448 council candidates that participated in 3,172 local council elections in 2002, 2008 and 2014 in 1,634 Bavarian municipalities. This data is not available from any centralized official sources and our data collection is therefore a unique effort in this

⁴In open-list systems voters cast preferential votes for individual candidates and thereby determine not only which parties but also which candidates receive a seat. Also note that there are potentially as many instances where a woman competes against a man (i.e. mixed-gender races) for the last seat that accrues to a party as there are parties that obtain council seats. Closed lists, which are used in a number of other German states, would also induce mixed-gender races for the last seat. However, as discussed later in Section 3.2.4, the degree to which the identity of the winner of such races is predictable is higher in closed-list compared to open-list systems.

⁵53.1% of all Bavarian municipalities have 8 to 14 council seats and 89% have 8 to 20 council seats.

respect. Our data includes the candidates' names, gender, party affiliation, initial list rank, final list rank, and number of votes received. For a large subset, we also have information on candidates' employment, education and age.

To study whether women have substantive effects on policy choices, we focus on public child care provision. Since the benefits and costs of most local public goods are shared by both genders, it is usually difficult to identify differences in policy preferences between men and women at the local level.⁶ For child care, however, survey evidence from Germany indicates that it is clearly a higher priority for women than for men (Wippermann, 2016).⁷ Such evidence is in line with the fact that in Germany (as in most other countries) women continue to be the primary caregivers and thus are typically unable to participate in the labor market without adequate child care. As professional careers have become more important for women, demand for public child care has grown as well (Monitor Familienforschung, 2005). In line with this, recent evidence from Germany confirms that the availability of affordable child care has a significant impact on female labor supply (Gathmann and Sass, 2018). While men may also benefit from child care, both directly and indirectly (if e. g. their spouse consequently earns a (higher) salary), men arguably do so to a lesser degree than women.

We obtain administrative data on the number of available child care spots in Bavarian municipalities from 2006 to 2017.⁸ Child care provision is an important responsibility of local governments and is a frequent topic of discussions in council meetings.⁹ As there is virtually no private market for child care in Germany, there is a persistent shortage of child care spots across

⁶Another reason why we do not use for example social, education and health care policy as the outcome variable is that in Germany these policies are largely determined by tiers of government other than the local tier.

⁷In a similar vein, Slegten and Heyndels (2019) provide survey evidence for Belgium showing that within parties female representatives self-report stronger preferences for child care than male representatives.

⁸Note that our choice of this sample period is solely determined by the availability of data on child care provision from the Bavarian Statistical Office.

⁹Other tiers of government (federal, state, county) are also involved, but this mainly covers providing the legal framework and offering special funds (federal and state governments) or the coordination of child care provision across different local governments (counties). We elaborate on such institutional details in Section 2.1.

the country, indicating that demand has outpaced supply.¹⁰ Supply is constrained by various factors, particularly by relatively strict regulatory demands on child care providers, a lack of suitable building spaces, limited funding and shortage of trained staff.¹¹ Local governments can hence raise child care availability by providing plots for new facilities, adjusting regulatory details, allocating more resources to child care, and improving wages and working conditions.

Our results suggest that municipalities in which a woman rather than a man entered the council (by winning a party-specific mixed-gender race for the last seat) expand child care by 0.37 spots per 1000 inhabitants more in a given year than municipalities in which the winner of the mixed-gender race was a man. This effect is substantial given that during the sample period, the average expansion rate of child care provision per year was 0.8 spots per 1000 inhabitants in Bavaria (increase from 37.5 in 2006 to 46.7 spots in 2017).¹²

In a second step, we investigate mechanisms. We hand-collect, code and analyze the official minutes of monthly council meetings. The minutes provide little evidence that a higher share of women tilts contested votes on specific matters. Most decisions are reached unanimously (or with overwhelming majorities) and hence a woman that enters the council by winning a mixed-gender race is non-pivotal for the outcomes of council votes.¹³

¹⁰See Figure A.1 in the online appendix for survey evidence on child care shortages in Germany based on Alt, Gedon, Hubert, Huesken, and Lippert (2018). In 2017, the share of parents who report a lack of child care for children below 3 years ranges from 17% to 36%, for children aged 3 to 6 from 6% to 18%, and for children older than 6 from 6% to 20%. Thus, in none of the 16 states is available child care sufficient for any age bracket.

¹¹There are, for example, regulations on the minimum number of kindergarten teachers per child, maximum group sizes, available space in the child care institutions, and safety regulations.

¹²These estimates can also be scaled by the increase in the share of female councilors due to a woman winning a mixed-gender race for the last seat: a female victory in such a race increases the female councilor share by 6.1 percentage points on average. This implies that a one percentage point increase in the share of women causes the expansion of child care spots to accelerate by 0.06 spots per 1000 inhabitants.

¹³This finding is in line with anecdotal evidence that local government politics in Germany is by and large cooperative and devoid of the ideological divisions that characterize politics at higher levels of government. Before a vote on a given topic is taken, the councilors discuss the issues and typically reach a common position.

Another potentially important channel is that the presence of one additional woman in the council influences policies by changing the dynamics of council meetings and by changing “the conversation”. One additional woman diminishes the (at times substantial) minority status of women in Bavarian local councils. In turn, each female councilor may feel more confident to voice her opinion on (potentially controversial and gender-specific) issues as she can now count on more support from fellow women. Having more women participate in a discussion may, in turn, steer the deliberations of the council along a different path and towards different decisions.¹⁴

We confirm the importance of this channel by making use of 7,721 hand-collected and carefully coded council minutes from 177 municipalities. We find that in response to a woman winning a mixed-gender race average speaking rates of women in council meetings rise by 11 percentage points and the share of council meetings in which child care is discussed rises by 6.8 percentage points.¹⁵

We explore this channel further by studying whether the effect of an additional female councilor varies with the number of other women in the council. Our results suggest that even if this additional woman is the only woman in the council she has a strong effect on the expansion rate of child care. This underlines the importance of having a seat at the table for one woman to push for pro-female policies.¹⁶ Any additional female councilor has a significant effect on child care expansion if there are less than three other women, but not thereafter. Overall, these results

¹⁴This is in line with recent experimental evidence indicating that women are less confident and more easily swayed in group decisions in heavily male-dominated group settings (Born, Ranehill, and Sandberg, 2018).

¹⁵We have also explored the effect of a female victory on 52 other topics and found that none are discussed less often, indicating that an added focus of the council on child care does not come at the expense of other topics. We find that, in addition to child care, churches, utilities, road security, sewage disposal and street cleaning are also discussed more often. We discuss these results in more detail in Section 5.2.

¹⁶The importance of having a seat at the table has also been confirmed in other contexts: Pildes and Donoghue (1995) describe how in Chilton County, Alabama the election of the first black County Commissioner led to the implementation of an objective and transparent (as opposed to informal and ad-hoc) decision-making procedure for road pavements. As a consequence, the share of roads in black communities that were paved increased.

reaffirm that additional women make a difference with regard to policy choices particularly in councils where the share of women is otherwise low.

This paper is primarily related to the literature on women as policymakers. Various studies show that the gender of a politician may indeed influence policy choices: female politicians invest more into children and prefer higher welfare spending (Andersen, Bulte, Gneezy, and List, 2008; Chattopadhyay and Duflo, 2004; Clots-Figueras, 2011, 2012; Dollar, Fisman, and Gatti, 2001).¹⁷ This literature, however, exhibits important gaps. To begin with, much of the literature focuses on executive offices, e. g. mayors or village heads. Evidence on the impact of women within the legislative branch of government is relatively rare.¹⁸ This is problematic for at least two reasons. First, executive offices are powerful and generally allow wide autonomy in influencing policy. It is unclear whether female politicians are able to influence policies only in such positions or whether they can be equally effective in more deliberative (i. e. legislative) bodies where they have to contend with and convince fellow (male) politicians, especially given that they are typically a substantial minority in such deliberative bodies (Osborne and Slivinski, 1996; Besley and Coate, 1997, 2003). Second, despite the power that executive positions offer, truly fundamental political decisions require legislative action. That is, the relative lack of evidence for women in the legislative branch of government contrasts sharply with the importance of this branch.

In addition, much of the few quasi-experimental studies on women in legislatures and policy choices focus on broad spending items. For example, Clots-Figueras (2011, 2012) analyzes the impact of female representation in Indian legislatures on various spending items such as education and social policy. It is not immediately clear how women should influence these broad items as gender-specific preferences for these are unknown (they are the result of many

¹⁷For a more detailed overview of the literature, see Hessami and Lopes da Fonseca (2019).

¹⁸To the extent that members of the legislative branch are studied, it is the quasi-executive role that legislators can have which is emphasized. That is, authors focus on how female legislators affect outcomes within their electoral constituencies, for example by providing better (or worse) local leadership or attracting more (or less) pork than their male counterparts (Baskaran, Bhalotra, Min, and Uppal, 2018). Less attention has been devoted to how the policy choices of the legislature depend on the share of female legislators.

individual policies). Indeed, these studies find no systematic effects of female representation and it appears that the impact of women depends particularly on their caste background.

Studies set in industrialized countries also focus on broad spending variables (total or current and capital local spending). The implicit assumption here appears to be that any impact on spending by female politicians reflects gender differences in underlying preferences (Baltrunaite, Casarico, Profeta, and Savio, 2019; Bagues and Campa, 2017).¹⁹ It is, however, unclear from merely observing differences in broad spending items (without observing gender-specific preferences) whether they signify that women pursue pro-female policies.²⁰

Most of the literature on industrialized countries (but also studies on developing countries, e. g. Chattopadhyay and Duflo (2004)) relies on women who enter legislatures due to quotas or other government interventions.²¹ As argued above, the effects from such exogenous interventions to increase female representation may differ from the effects of an organic increase in the share of women by winning competitive elections. On this question, our results suggest that a woman who enters office through a competitive election can have substantive effects on policies, primarily by reducing the minority status of women in local councils and thus changing “the conversation” in council meetings.

This paper also speaks to the literature on the reasons for female underrepresentation which finds that female candidates are less successful in voting systems centered around indi-

¹⁹Svaleryd (2009) uses survey evidence on preferences of Swedish local council members. She finds that the share of women in the council is positively correlated with policy choices preferred by female councilors, but she does not explore whether female council members share the same preferences as generic female voters.

²⁰For example, women who enter the legislature may advocate in practice fiscal policies that disadvantage women in order to avoid stereotype threats. In any case, these studies, too, do not suggest a clear effect of female legislative representation (Baltrunaite, Casarico, Profeta, and Savio, 2019; Bagues and Campa, 2017). This is in contrast to studies that explore the impact of female voters (rather than politicians) on fiscal outcomes. A large body of evidence indicates that the expansion of the franchise of women led to an increase in the size of the welfare state (Aidt and Dallal, 2008) or of government more generally (Lott and Kenny, 1999).

²¹One exception are studies focusing on the executive branch which make use of RD designs using competitive mixed-gender elections rather than relying on explicit interventions (Brollo and Troiano, 2016).

vidual candidates rather than parties (in open-lists compared to closed-lists and in proportional compared to majoritarian systems (Profeta and Woodhouse, 2018)). Evidence suggests that this relative lack of success of women in personalized voting systems is due to voters harboring anti-female biases (Baskaran and Hessami, 2018; Le Barbanchon and Sauvagnat, 2018). Our results show that the underlying reason for the perception that women are less effective politicians may not be inherent gender differences in assertiveness and effectiveness, but rather the political environment in which male and female politicians have to operate. As in many comparable contexts, women are almost always a small minority in Bavarian local councils. Accordingly, any single female councilor expects less support if she raises issues in which primarily women are interested. Lower perceived effectiveness of female politicians and low female representation in political offices may thus be a self-perpetuating cycle.²²

The remainder of this paper is structured as follows. Section 2 describes the institutional background. Section 3 discusses the data and empirical model. Section 4 reports the main results, validity and robustness tests as well as extensions. Section 5 studies mechanisms. Section 6 discusses external validity. Section 7 concludes.

2 Background

2.1 Public child care in Germany and Bavaria

2.1.1 Official regulations

Child care in Germany is characterized by strong public involvement with virtually no private market (Spieß, Kreyenfeld, and Wagner, 2001). Typically this means that local govern-

²²By studying the impact of women on policy choices, this paper also contributes to the broader literature on political selection which argues that the individual characteristics of policymakers may have a significant effect on policy choices as long as electoral incentives do not induce a complete policy convergence to the median voter preferences. Studies have found that characteristics as diverse as caste (Pande, 2003), ethnicity (Franck and Rainer, 2012), employment (Hyytinen, Meriläinen, Saarimaa, Toivanen, and Tukiainen, 2018), hometowns and regional origin (Hodler and Raschky, 2014; Fiva and Halse, 2016) are significant predictors of policy choices.

ments run their own facilities. In addition, local governments heavily subsidize private or semi-public institutions (churches, firms, student unions, other welfare associations) that operate government-recognized facilities (local governments typically negotiate contracts with such non-public institutions that specify the amount of subsidies).²³

Parental child care fees fall well short of the full costs of a child care spot and the gap is covered by subsidies from the county government for parents who send their children to publicly recognized facilities (in a few German states child care is free of charge). Officially, the number of child care spots in a municipality is required to satisfy demand. Therefore, Bavarian municipalities have to assess the number of “necessary” child care spots (*örtliche Bedarfsplanung*) as per Article 7 of the Bavarian Child Care legislation (*Bayerisches Kinderbildungs- und -betreuungsgesetz*). Yet, as there is no codified procedure to determine this number, local officials have significant leeway in this matter. The planning committees may also evaluate independently to what extent they succeed in matching assessed demand.²⁴

Since 2013, parents in Germany have a statutory right to public (and hence subsidized) child care for children older than one.²⁵ In practice, however, there are severe supply constraints (see Figure A.1 in the online appendix). Many municipalities ostensibly struggle to satisfy demand for reasons such as difficulties in fulfilling regulatory requirements set by the state and federal governments, lack of building spaces and trained personnel, and funding constraints.²⁶

²³Generally, local governments should operate facilities by themselves only if insufficient spots from non-public providers are available (*subsidiarity principle*), but they are always involved in planning and financing child care, specifically the overall number of spots and facilities, and their specific locations. Planning of child care is overseen by committees that include representatives from local governments and the semi-public institutions.

²⁴As mentioned, county governments are also involved in child care provision. However, the counties mainly coordinate and plan child care provision (both by local governments as well as other institutions) across the municipalities located within their jurisdiction.

²⁵As of 1996, parents were entitled to a child care spot for children older than three years.

²⁶Parents may sue their county government if it is unable to provide a child care spot. However, parents have only the right to *some* spot, and the county government may allocate a spot in a facility that is at the other end of town or has insufficient opening hours. Even when such lawsuits are successful, courts award compensation payments to parents, but are unable to grant actual child care spots (as there are none available). Courts sometimes

This undersupply implies significant room for local governments to increase child care provision through appropriate policy measures. Such an expansion of supply would not only increase the overall number of spots but would also increase the likelihood that parents have choices for child care close to their home/workplace and would raise the quality of child care if the additional spots are not filled (higher effective child-staff-ratio and more space per child).²⁷

2.1.2 Provision and use of child care

Our sample period was characterized by an expansion of public child care both in Germany and specifically in Bavaria. Spots per 1000 inhabitants increased on average from about 37.5 in 2006 (the first year for which we have data on child care provision) to 46.7 (i.e. by 24.5%) in 2017 across Bavarian municipalities (see Figure 1). The evolution in terms of places per 1000 children below 14 years is even more pronounced (from 226.3 to 341.7 spots). Due to newly approved federal- and state-level programs (BStMAS, 2013), funding constraints were eased during the sample period and the creation of additional child care spots was mostly a matter of how much urgency local politicians ascribed to child care expansion.

[Figure 1 goes here]

The age groups of children looked after in child care facilities ranges from 6 months to 14 years. Important administrative cutoffs are at age 3 (when children enter kindergarten) and age 6 (when they enter school). Different regulations (e. g. regarding child-staff-ratios) are applied at each of these cutoffs. Children below 6 can stay at the facility for the full day (typically 8am to up to 5pm). Children above 6 typically go first to school until noon or 1pm and then transfer to the child care facility for the afternoon. For school-aged children, the facility can be either within the child's school (all-day school) or at a different place (after-school care club).

also obligate municipalities to cover expenses that parents incur if they are able to find a child care spot in the private sector. However, as there is virtually no private sector for child care in Germany, this is rare.

²⁷These circumstances have the methodological advantage that we can interpret any changes in child care provision as changes in supply (determined by local councils) rather than in demand.

Figure A.2 in the online appendix shows the rate at which children in different age brackets attend child care facilities across Bavaria. Attendance has generally increased for all children below 11 years. In 2017, the attendance rate was 26% for children below 3 years (9% in 2006), 95% for children between 3 and 6 (85% in 2006), 25% for children between 6 and 11 years (16% in 2006), and 0.8% for children above 11 years (0.9% in 2006).

The low attendance rate for children below 3 reflects both the lack of supply as well as low demand. The high attendance rate for children above 3 indicates that demand for child care is practically universal for older children. While supply of such places is ostensibly substantially larger than for places for children below 3, it is still insufficient to cover all children for this age bracket even in 2017 (see also Figure A.1). The low attendance rates for children in primary school again likely reflects a lack of supply (see Figure A.1). The low attendance rate for children above 11, in contrast, is likely to be due to low demand, as older children require less care.

2.2 Local governments in Bavaria

2.2.1 Tasks and responsibilities

There are 2,056 municipalities in Bavaria which decide on various regulations (e.g. closing hours, speed limits) and provide a broad range of public goods (e.g. child care, civil protection, various social services). While there are federal and state mandates, municipalities generally enjoy wide autonomy regarding their policy choices: they can independently determine the type and amount of local public goods they supply to residents as long as minimum amounts of key services (as defined by federal and state legislation) are guaranteed.

Municipal expenditures are mainly financed by local taxes, fees, and grants from state governments. Municipalities set local tax rates as well as fees independently. Grants can be either rule-based or discretionary. Discretionary grants are typically awarded for specific projects or tasks while rule-based grants tend to be unconditional.

2.2.2 Mayors and local councils

Mayors are the head of the administration, draw up the annual budget, and are directly elected by the inhabitants of their municipality. Mayor elections are personalized campaigns, even though the candidates are usually supported by one or several parties. Mayors participate in council deliberations and votes and have a veto over council decisions.²⁸

The local council approves the budget and decides on a large array of policy issues. While the council is constitutionally classified as part of the executive branch, it is effectively the legislative counterpart to the mayor.²⁹ Council members are elected in regular elections (every six years in March). Council size is defined by state law and generally increases with the population of a municipality. Specifically, council size (without counting the mayor) varies between 8 (small village) to 80 (large city). Table 1 lists the distribution of council sizes in Bavaria in 2014 and shows that 53.1% of municipalities had at most 14 seats and about 89% had at most 20 seats.

[Table 1 goes here]

Various parties compete in local council elections. In most municipalities, the major national parties (SPD (center-left), CSU (center-right), Greens, etc.) field lists of candidates. In addition, several citizens' initiatives not aligned with any major party (as well as many smaller and relatively unknown parties) participate in the election.

2.2.3 Open-list elections of councils

Local councilors in Bavaria are elected according to an open-list electoral rule (also sometimes called preference or preferential voting). The main feature of this system is that parties field lists

²⁸Note that the mayor's role in political decision-making is more important in Bavaria than in other German states such as Hesse (Hessami, 2018).

²⁹Specifically, only bodies that can pass laws are legally part of the legislative branch in Germany (i.e. the state and federal parliaments). Councils cannot pass proper laws but can decide on statutes and other regulations (i.e. effectively local laws). Another similarity between local councils and parliaments in the usual sense is, as mentioned, that councils have the final say over the municipal budget.

of candidates where each candidate has an initial rank (as determined by the party organization and notably the leaders). Voters can change this list ordering, however, by casting preferential votes for individual candidates. They have as many votes as there are seats in the council and they can freely distribute their votes to candidates across different lists (*Panaschieren*) and give up to three votes to a single candidate (*Kumulieren*).

Seats are allocated to lists according to the total number of votes that all candidates on the list have received. For example, if a list receives 25% of votes, it is entitled to about 25% of the council seats. Candidates are ranked according to their preferential votes and all candidates with a post-election rank that is lower or equal to the number of seats to which a party is entitled receive a seat (the pre-election rank is not decisive for seat allocations).

Preferential voting gives rise to candidate-level races for the last seat that accrues to a party. The candidate with a final list rank just below the number of seats to which a party is entitled barely fails to get elected to the council while the candidate with a final list rank equal to the party's number of seats is barely elected. In those cases where these two candidates are of different genders, the gender of the winner is plausibly unpredictable and thus quasi-random. Our identification strategy relies on this feature of open-list elections (see Section 3.2).³⁰

2.2.4 Women in Bavarian local councils

Women are underrepresented in local councils in Bavaria. Only about 18.4% of council members are female as of 2014, up from 15.7% in 2002 (see Subfigure (a) of Figure 2).³¹ Subfigure

³⁰An additional source of exogenous variation in the female share in local councils exists at the party level, i. e. we could exploit variation in the proportional seat allocation according to the vote distribution across parties (Folke, 2014; Curto-Grau, Solé-Ollé, and Sorribas-Navarro, 2018). However, parties are allowed to and do form electoral alliances in order to take advantage of the d'Hondt method for seat allocations. These alliances are not indicated in the official data.

³¹The representation of women is even lower for the mayor's office with a share of less than 10%.

(b) illustrates that the majority of councils has a female share that is lower than 20%. 457 councils (7.4%) even have no women and only three councils have a female majority.³²

[Figure 2 goes here]

3 Data and empirical model

3.1 Data

3.1.1 Candidate-level data

We collect data on 224,448 female and male candidates who participated in Bavarian local council elections in 2002, 2008 and 2014. Figure 3 details the number of municipalities on which we have data. As we hand-collect the candidate-level data, coverage is incomplete and declines the further we go into the past. Specifically, we have complete candidate-level data on 1,581 of all 2,056 Bavarian municipalities for 2014 (76.9%), 1,009 for 2008 (49.1%), and 582 (28.3%) for 2002 (Subfigure a). For 1,632 municipalities (79.4% of all Bavarian municipalities) we have data for at least one of the three elections. The coverage with respect to the number of candidates per election exhibits a similar pattern (Subfigure b).³³

³²While this lack of female representation in German local politics is widely considered to be problematic (Lukoschat and Belschner, 2014), no effective measures have yet been taken to increase the share of women in office. In particular, no official quotas have been introduced.

³³One obvious concern is that we do not have data on the universe of Bavarian municipalities. On this, see Table A.12 which compares the characteristics of the 1,632 municipalities for which we have candidate-level data for at least one election with those of the 424 municipalities not in our sample. While there are significant differences between the municipalities in our sample and the omitted municipalities, these are relatively small. The main difference is that included municipalities have about 28% more inhabitants. Other differences appear to be a direct consequence of the differences in population sizes. For example, the larger seat share of the major parties (CSU and SPD) can be explained by the fact that municipality-specific citizen groups (*Wählervereinigungen*) are more popular in smaller municipalities. Second, as we have data on almost 80% of municipalities for at least one legislative period, our sample covers large parts of Bavaria. Finally, note that the OLS regressions in Table A.2 indicate that the bivariate correlation between the share of women in the council and the expansion of child care

[Figure 3 goes here]

The data includes the name and gender of a candidate, his or her party, the initial list rank, and the final rank (after the election based on the number of preferential votes), and the number of preferential votes. For a subset of these candidates, we also have information on their employment, education and age.³⁴ This data also allows us to identify, based on their final list ranks, those candidates who barely entered and barely failed to enter the council. Official data on local elections from the Bavarian State Statistical Office, on the other hand, only covers information on the final seat distributions across parties and the aggregate shares of women, but no information on the identity of councilors or on candidates who were not elected. We discuss how we collected and cleaned this data in more detail in Section A.3 of the online appendix.

3.1.2 Outcome variable

We obtain data on the number of approved child care spots for all 2,056 Bavarian municipalities for the period 2006-2017 from the Bavarian State Statistical Office. We rely in our main estimations on the change in child care spots per 1000 inhabitants rather than its growth rate for two reasons. First, we avoid losing observations for municipalities that have zero child care spots (typically at the beginning of the sample period). Second, given that many municipalities have only relatively few child care spots, small absolute expansions may lead to large swings in calculated growth rates. Yet, in Section 4.4 we test the robustness of our results to different forms of scaling of child care spots.

3.1.3 Further variables

We collect further municipality-level variables for robustness and validity tests. Notably, we obtain a wide range of data on municipality characteristics from the Bavarian State Statistical Office in a sample covering the universe of Bavarian municipalities and our hand-collected sample is very similar. See also our discussion in Section A.3 in the online appendix.

³⁴See Table A.1 for summary statistics on the characteristics of female and male candidates.

Office, on demographic (total population, population below 15 years, between 15 and 65 years, above 65 years) and fiscal characteristics (total revenues and transfer receipts).

3.2 Empirical design

3.2.1 Specification

The structural relationship we want to estimate is:

$$y_{i,t} = \alpha + \beta \text{Female councilor share}_{i,t} + \delta \mathbf{X}_{i,t} + \varepsilon_{i,t}. \quad (1)$$

$y_{i,t}$ is the change in the number of child care spots per 1000 inhabitants in municipality i in year t , *Female councilor share* is the share of women in the council (same value for all years of a given legislative period), and $\mathbf{X}_{i,t}$ are further potential determinants of child care provision.

OLS estimation of β may be biased because municipalities with a higher share of female councilors may also differ in other characteristics. More urbanized or populous municipalities may have more women in the council and at the same time find it harder to provide additional child care spots because of difficulties in obtaining building space. Alternatively, the inhabitants may have different policy priorities and prefer to use scarce local funds for the provision of other public goods. In general, it is unlikely that all relevant determinants of child care provision can be observed and included in $\mathbf{X}_{i,t}$.

Therefore, we implement RD estimations centered around unpredictable mixed-gender races for a party's last seat. In open-list elections, seats are awarded to individual candidates based on their number of preferential votes. Accordingly, for each list that receives at least one seat in the council, there will be one candidate who has a post-election rank that is exactly equal to the total number of seats to which a party is entitled according to its vote share (and hence barely enters the council), while some other candidate will have a rank that is just one rank below the threshold (and thus barely fails to enter the council).³⁵

³⁵Note that we use "election" to refer to the entire election held in a municipality at the beginning of a given legislative period and "race" to refer to contests between two candidates for the last seat that accrues to a party.

It is plausible that the identity (and hence gender) of the candidate who wins a mixed-gender race for the last seat is essentially quasi-random as a victory depends on small differences in the number of preferential votes. Thus, among those municipalities with the same share of candidates elected in mixed-gender races, some municipalities will coincidentally end up with more women in the council.

Using a sample that includes municipality-year pairs that in the last election had at least one mixed-gender race for the last seat (see Section 3.2.2 for more details on this sample), we estimate the following sharp RD specification:

$$y_{i,t} = \alpha + \beta \text{female winner}_{i,t} + f(\text{vote margin})_{i,t} + \text{female winner}_{i,t} \times g(\text{vote margin})_{i,t} + \varepsilon_{i,t}, \quad (2)$$

with $y_{i,t}$ as the change in child care spots per 1000 inhabitants, *female winner* is 1 when in a mixed-gender race the last seat that accrues to a party is filled by a woman and *vote margin* as the margin of victory of the female candidate. $f()$ and $g()$ are linear or quadratic functions of *vote margin* whose slope may vary at the RDD threshold, i.e. when the vote margin is 0. We estimate this specification for different bandwidths and polynomials. All models use heteroscedasticity-robust and municipality-level clustered standard errors for hypothesis tests.

The above specification has the following noteworthy features. First, while the outcome variable varies every year, the female winner dummy and the vote margin remains constant during a legislative period. Our sample runs from 2006-2017 and hence covers three legislative periods. It covers two years for the legislative period 2002-2007, six years for the legislative period 2008-2013, and four years for the legislative period 2014-2019.

Second, we estimate with Equation 2 the reduced-form effect of a female winner for a last seat by means of a sharp RD design while the structural relationship as specified in Equation 1 relates the overall share of female councilors to the change in child care spots. We opt for a sharp rather than a fuzzy design due to the simplicity and transparency of the sharp design. However, we will scale the reduced form effect on child care provision by the impact of a woman winning a mixed-gender race on overall female representation in the council in the

spirit of a fuzzy design.³⁶ We also show in Section 4.1 that a female winner in a mixed-gender race has a discontinuous and large effect on the overall share of female councilors.

Finally, as will be discussed in more detail in Section 3.2.2, note that there can be several mixed-gender races per local election given that mixed-gender take place within parties (and several parties typically win seats in a council). Hence, for municipality-year pairs that had several mixed-gender races in the last election, we include in the RD regressions as many observations as there were mixed-gender races. These observations have the same value for the outcome variable but different values for the independent variables (the female winner dummy and the vote margin), depending on the vote margin of the female candidate in a given party with a mixed-gender race for the last seat. To account for the fact that the same municipality-year pairs can appear several times in the estimation sample, we weight each observation by the inverse of the total number of observations from that municipality-year pair. We also explore the robustness of the results to this approach in Section 4.4.³⁷

3.2.2 RD sample

The sample with which we estimate Equation 2 includes all municipality-year pairs where in the last election at least one party had a mixed-gender race for the last seat (RD sample). There are altogether 3,756 such races in our sample, originating from 2,173 individual elections in 1,287 municipalities. Figure 4 shows the number of municipalities with at least one mixed-gender race across the three legislative periods included in our sample. Table 2 provides summary statistics on local elections with at least one mixed-gender race.

³⁶We also report in Table A.3 in the online appendix results from proper fuzzy RDD estimations for the baseline specification. The results are qualitatively similar to the sharp RDD results in Section 4.

³⁷Note that in elections with e. g. two races, one can be won by the male and the other by the female candidate. It may seem that in these cases, male and female victories cancel each other out, with no effect on the share of women in the council. This, however, is not the case. As long as the overall share of women in the council is below 50% (which is virtually the case in all elections in our sample), a female victory in half of the mixed-gender races that take place within a single election will always increase the overall share of female councilors.

[Figure 4 goes here]

[Table 2 goes here]

1,102 elections had exactly one mixed-gender race. These are ostensibly held in relatively small towns (on average less than 5,000 inhabitants) with small councils and few parties (recall that the number of parties is directly related to the likelihood of observing a mixed-gender race for the last seat that accrues to a party). Since these towns have small councils, the relative impact of one woman winning a mixed-gender race is large. One additional woman increases the share of female councilors on average by 6.3 percentage points or, alternatively, by 36%.

3.2.3 Discontinuity in density

We next explore whether the RD design is appropriate in our context. In particular, we investigate whether the gender of the winners in mixed-gender races are indeed quasi-random. If the outcomes of these races were not random, we would expect that, on average, either men or women would be more likely to win a close race. Subfigure (a) of Figure 5 shows the distribution of the winning margin of female candidates in mixed-gender races. We find that while women are less likely to win mixed-gender races by a wide margin than men, they are neither significantly more nor less likely to win close races. We offer more formal evidence on this in Subfigure (b) by means of a McCrary plot, which also shows no discontinuity.³⁸

[Figure 5 goes here]

3.2.4 Unpredictability of final ranks

The RD design relies on the assumption that the winner of a mixed-gender race for the last seat in open-list elections is unpredictable. A natural concern against the notion of quasi-randomness of such races is that party leaders can predict how many seats their party will win

³⁸We also observe that of the 3,756 mixed-gender races in the RD sample, 1,745 were won by women (46.5% winning rate). Of the 1,686 mixed-gender races where the margin of victory of the winning candidate was within 5%, 823 races were won by women (48.8% female winning rate).

and place candidates accordingly. For example, party leaders in more conservative municipalities may systematically place women on ranks where they barely fail to win a seat. These conservative municipalities may also provide fewer public child care spots. Thus, any correlation between the likelihood of women winning a race for the last seat and child care provision may be due to cultural norms rather than the causal effect of (barely elected) female councilors.

Predictability of final seat distributions, however, is more of a concern in closed-list systems, where there are no preferential votes and hence the rank of a candidate is determined by the leadership only.³⁹ In the Bavarian open-list system, the popularity of individual candidates determines party-level seat allocations since the number of votes that accrues to a party is the aggregate of all preferential votes. It is arguably more difficult for party leaders to accurately forecast the relative popularity of a large number of candidates placed on several party lists.

Second, while the party leadership determines in open-list systems the initial list rank of candidates, it cannot accurately predict the candidates' final (post-election) rank. Even though there is typically a positive correlation between initial and final list rank even in open-list systems, it is far from perfect.⁴⁰ Accordingly, even if party leaders could accurately predict how many seats their party will receive, they cannot ensure that a particular candidate receives the last seat by manipulating the initial ranking.⁴¹ This is confirmed by Figure A.3 in the online appendix, which shows the distribution of rank changes for all candidates for which we have data on both initial and final list ranks. About 86% of these 175,632 candidates end up with a final rank that is different from their initial rank. About 47% of these candidates even witness a change of at least 3 ranks.

³⁹In closed-list systems, voters essentially vote for parties. As voters' preferences for parties change only slowly, it may be feasible for party leaders to predict the seat distribution in the council.

⁴⁰In particular, voters appear to cast more preferential votes for candidates with higher pre-election ranks for "psychological" reasons (Chen, Simonovits, Krosnick, and Pasek, 2014).

⁴¹For the same reason, strategic voting on part of voters for individual candidates is unlikely to be relevant.

4 Results

4.1 Female victories and share of female councilors

We first validate within the RD framework that a female victory in a mixed-gender race significantly increases the share of female councilors by estimating a variant of Equation 2. Table 3 collects the regression results for the impact of a female victory on overall female representation. Female representation is on average 6.14 percentage points (or 30%) higher in councils where a woman has won a mixed-gender race.⁴²

[Table 3 goes here]

4.2 Female victories and child care provision

We next report the baseline results for the effect of female councilors on child care provision. Specifically, we compare the change in aggregate child care spots per 1000 inhabitants in municipalities where a woman rather than a man has won a close mixed-gender race.⁴³ In Figure 6, we observe a visible discontinuity at the threshold for a female victory.

[Figure 6 goes here]

The corresponding RD regression results are collected in Table 4. According to the estimates for the optimal CCT bandwidth (Model 1), treated municipalities expand child care spots per 1000 inhabitants by 0.37 units more than control municipalities. This result is robust to increasing the degree of the polynomial to quadratic as well as varying the bandwidth.⁴⁴

[Table 4 goes here]

⁴²The corresponding RD plot can be found in Figure A.4 in the online appendix.

⁴³We disentangle the effect of female councilors on spots for children in different age brackets in Section A.6 of the online appendix.

⁴⁴We also ran alternative regressions to study the impact of female councilors on the stock (rather than the change) of child care spots. We find a positive but statistically insignificant effect, which ostensibly reflects the fact that stocks are strongly determined by past decisions and exhibit significant variability across municipalities.

To assess the magnitude of this estimate, we report at the bottom of Table 4 the average change in child care spots in the estimation sample (as well as the standard deviation). In Model 1, the average change per 1000 inhabitants is 0.90 spots. One additional woman thus increases the expansion rate of child care spots by about 40% above the average growth rate. Second, we can also compare the estimate of 0.37 to the 6.14 percentage point increase in the share of female councilors due to the female candidate winning a close mixed-gender race. This suggests that a one percentage point increase in female representation increases the expansion rate of child care by slightly more than 0.06 spots per 1000 inhabitants.⁴⁵

This effect corresponds to the fuzzy-RDD estimate for female representation as reported in Table A.3 in the online appendix. Note also that this estimate is noticeably larger than the OLS estimates using the universe of Bavarian municipalities, the full hand-collected sample, and the RD sample. The OLS results suggest that a rise in female representation increases the expansion rate by only 0.01 (see Table A.2 in the online appendix). Thus, OLS underestimates the impact of female representation on child care provision.⁴⁶

⁴⁵Since we rely on hand-collected data, we do not observe the universe of Bavarian municipalities. Would our results generalize to the municipalities not included in our sample? The main difference is that the municipalities omitted from our sample are smaller (see Section A.3 in the online appendix). In view of our finding in Section A.6.4 that the effect of female winner is stronger in municipalities with smaller councils (recall that council size is a function of population size), it is plausible that our main results generalize to the omitted municipalities. In fact, it is likely that sample attrition attenuates our baseline results and that the estimated coefficients are lower bounds.

⁴⁶OLS is likely biased for various reasons. Municipalities with higher female representation may also be less attached to traditional views about the role of women in society. They may thus have had more child care facilities to begin with and less need to quickly expand its provision during the sample period. Alternatively, municipalities with more female councilors tend to be more urbanized and densely populated, making it more difficult to find building spaces and construct facilities that both conform to regulations and have suitable locations.

4.3 Validity

4.3.1 Balance in pre-treatment characteristics

One assumption underlying the RD design is that the reliance on close elections ensures that in treated and control municipalities the dependent variable (child care provision) would evolve similarly in the absence of treatment. This assumption can be validated by exploring whether treated and control municipalities are balanced with respect to observable pre-treatment municipal characteristics. We hence estimate a variant of Equation 2 where we relate the victory margin of the female candidate in legislative period p to municipality-level variables in the years during the previous legislative period $p - 1$.⁴⁷

The results are collected in Tables A.4 and A.5 in the online appendix. Table A.4 collects results for variables that change per year while Table A.5 focuses on (council-level) variables that change per legislative term. Table A.4 displays no imbalance in the pre-treatment period for the change of child care spots per 1000 inhabitants (which is the dependent variable in our RD regressions). There is also no imbalance in the stock of child care spots or in municipality characteristics such as population size, inhabitants below 14 years, inhabitants above 65 years, inhabitants between 14 and 65 years, local government revenues, and local government transfer receipts. We obtain similar results for the variables explored in Table A.5: there are no imbalances in council size, the seat share of women, and the seat share of the two major parties.

4.3.2 Confoundedness with ideology

An additional concern about the validity of the design is that female winners of mixed-gender races may be more concentrated within certain parties. If this were the case, the effect of women could not be separately identified from the effect of ideology. Of course, given that in our within-party design, winners and losers of a mixed-gender race are from the same party,

⁴⁷That is, we lag all observations by six years such that the female winner dummy in year t is matched with the value of the outcome in year $t-6$. For outcomes that do not vary over the term (the council level variables such as council size or the seat share of women and the various parties), we use the value in the previous legislative period and run the regression with legislative period rather than individual years.

the ideological composition of the council should in theory not be affected by the gender of the winner. However, in finite samples this may still be the case.

We hence explore explicitly the impact of a female victory on the contemporaneous seat shares of the major Bavarian parties in Table A.6 in the online appendix (we ignore the independents since they do not run in all of Bavaria and are named differently across municipalities). We find no imbalances in the seat distribution of the CSU, the Social Democrats (SPD) and the Greens in municipalities with a female winner compared to municipalities with a male winner. The estimates are insignificant and numerically small. For example, municipalities with a female victory have a 1.1 percentage point higher CSU seat share (Model 1). This should be compared to the average seat share of the CSU in the estimation sample, which is 29.31%.

4.4 Robustness

This section briefly describes the results for two robustness tests. The full results as well as a more comprehensive discussion can be found in Section A.5 in the online appendix.

First, we study whether the results are robust to different scalings of the dependent variable: the growth rate of child care spots per 1000 inhabitants and the change in child care spots per 1000 children. We find that the results are qualitatively the same. When a woman wins a mixed-gender race, child care spots per 1000 inhabitants significantly grow by 0.8 percentage points more and child care spots per 1000 children increase by 2.455 units more than when a man wins a mixed-gender race.

Second, with our design in the baseline estimations we account for the fact that there can be several mixed-gender races per local election. This implies that the same municipality-year pair can appear several times in the RD sample and may also find itself both to the left and the right of the RD threshold, depending on the gender of the winner of a given party-level contest.⁴⁸ To explore whether our results are robust to this approach, we re-estimate the baseline specification with a sample of elections where there was exactly one mixed-gender

⁴⁸Recall that in the baseline specification, we address this issue by weighting those municipality-year pairs with several mixed-gender races with the inverse of the number of mixed-gender races.

race. This sample requires no weighting and it is also not possible that the same municipality-year pair can be both to the left and the right of the RD threshold. We find that the results are qualitatively similar to the baseline estimates with a larger coefficient of 0.47.

4.5 Extensions

We also explore various extensions of our main regressions. In this section, we briefly describe the most notable results. The full description of the specifications and results can be found in Section A.6 in the online appendix.

First, we test whether female councilors expand child care spots equally for children of all ages or whether they focus on certain age brackets. Our results suggest that female councilors expand primarily spots for older children (above 3 and particularly for primary school aged children). In contrast, we find no significant effect of female councilors on the number of children below 3 years that are in child care.

Second, we explore whether female councilors increase spots by expanding the number of child care facilities or by creating additional spots within existing facilities. In line with the previous results for children in different age brackets, we find that female councilors increase the expansion rate for facilities for older children.⁴⁹

Third, we explore whether female councilors affect local spending for child care facilities. We find that female councilors have no significant effect on spending, indicating that they influence the expansion of child care primarily through non-fiscal measures. As discussed in more detail in Section A.6.3, these results should be interpreted with caution due to the difficulties in classifying data on child care expenditures.

Fourth, we explore whether the effect of a female councilor interacts with other characteristics of the council. We find that a female winner of a mixed-gender race is less effective in councils where left-wing parties have a high seat share and when the council is larger.

⁴⁹This, of course, does not exclude the possibility that at the same time existing facilities are expanded or are granted permission to look after more children.

Fifth, we interact the female winner in a mixed-gender race dummy with the winner's other personal characteristics. That is, we ask whether female councilors more effective in expanding child care if they simultaneously exhibit certain other characteristics. We find that neither the age nor the educational attainment of a female councilor interacts with her gender. However, female winners who are employed appear to expand child care more than those who are not employed. In addition, female councilors from the conservative CSU expand child care less than female councilors from other parties.

Finally, we explore whether female winners also affect other policy choices besides child care. Our results suggest no significant effect of women on broad fiscal items (local expenditures, revenues, debt, and taxes) which is in line with much of the previous literature from industrialized countries on this question.

5 Mechanisms

We now attempt to understand the mechanisms behind our main result: why does the expansion of public child care respond to the share of female councilors, and specifically to the victory of women in mixed-gender races?

5.1 Voting power of female councilors

One possible mechanism is that an additional woman in the council increases the overall female voting power in the council. Thus, if there are contested votes on policy choices with different implications for the welfare of men and women, female councilors may be more likely to tilt the outcome in their favor if they hold one additional vote.

To explore this channel, we collect and analyze the minutes of council meetings for as many municipalities included in our RD sample as possible (and corresponding meetings).⁵⁰ The coverage can be inferred from Figure A.5. In general, council minutes were easier to obtain for more recent years. Our sample covers three municipalities with (at least some) minutes for

⁵⁰See Section A.4 in the online appendix for more details on how we collect the minutes.

the legislative period 2002-2007, 36 municipalities for the legislative period 2008-2013, and 166 municipalities for the legislative period 2014-2019.⁵¹ Meetings are held at least once per month and our sample includes 136 individual minutes for 2002-2007, 1,772 minutes for 2008-2013, and 5,813 minutes for 2014-2019.

The minutes indicate that the voting power channel is likely irrelevant. When we went through the minutes, we found that council decisions are mostly reached by unanimous votes (or votes with an overwhelming majority). Rather than relying on contested votes over controversial issues, councilors tend to exhaustively discuss any topic that needs to be decided and attempt to reach a consensus before taking a vote. This is feasible as Bavarian councils tend to be small. This observation is also in line with anecdotal evidence that local politics in Germany is largely cooperative and devoid of ideological divisions.

Another reason why this potential mechanism is unlikely to matter in our context is that even if a woman wins a mixed-gender race, the overall share of women would still tend to be too small to sway majorities in Bavarian local councils given the general underrepresentation of women in Bavarian councils. That is, it is unlikely that any additional woman winning a mixed-gender race would be pivotal in contested votes over gender-specific issues.

5.2 Behavior of (female) councilors in council meetings

Another possible mechanism is that having one more woman in the council affects the behavior of all other women. Experimental evidence suggests that women are less confident and less likely to assume leadership positions in group settings if they are a minority (Born, Ranehill, and Sandberg, 2018). In Bavarian councils, women are generally in an overwhelming minority

⁵¹Table A.9 compares municipalities for which we were able to obtain minutes with the other municipalities included in our sample. While there are differences between the municipalities that are included and not included in this sample, these are relatively small. For example, the share of women in the council in municipalities with available minutes is 20.1% and 18.6% in municipalities without minutes. The main difference between these two groups appears to be that municipalities with available minutes have a larger population size.

position. One additional woman may make all women more confident by adjusting their expectations about receiving support by fellow councilors if they speak up on a particular issue.

To explore the relevance of this channel, we code the minutes of council meetings and calculate average attendance rates of women per meeting. Second, we calculate the rate at which a given female councilor on average rises to speak about any issue in a particular meeting (we code up to 53 topics, including child care). We also define dummy variables for whether child care was discussed in a meeting. We then average attendance and speaking rates as well as the dummy indicating whether child care was a topic in a meeting across all available council minutes of a legislative period and implement RD estimations in line with Equation 2.

We may expect average attendance rates of women to increase if having more fellow women in the council motivates any single councilor to attend council meetings.⁵² However, note that absenteeism is low for both genders according to our data (on average almost 90% of male and female councilors are present at any meeting) since councilors are by law obligated to participate in council meetings. We observe in Table 5 no differences in attendance rates (Panel A). Subfigure (a) of Figure 7 also does not suggest a discontinuity at the threshold. This can be explained by the fact that attendance rates are high to begin with.

In contrast, we find in Panel (b) of Table 5 that any given woman is more likely to rise to speak in councils where a woman has won a mixed-gender race. The coefficient is positive and significant across most specifications and also quantitatively large: average speaking rates increase by more than 11 percentage points according to Model 1. This indicates that any given female councilor is on average 11 percentage points more likely to speak up in a given meeting in municipalities where one additional woman enters the council by winning a mixed-gender race. Subfigure (b) of Figure 7 also shows a clear discontinuity at the threshold.⁵³

⁵²On the other hand, any given woman may also be more likely to skip a council meeting if she expects enough other women to be present.

⁵³Note that in these regressions, we omit councils with zero women (rather than coding female speaking rates in councils with no women with zero). The estimates are thus not driven by the mechanical effect on speaking rates of having at least one woman in council.

Overall, these results show that women become more assertive if there are more fellow women present, which in turn may allow them to steer discussions of controversial topics such that their preferences are injected into the council’s policy choices.

[Figure 7 goes here]

[Table 5 goes here]

In Panel C of Table 5, we also find that the likelihood that child care is discussed in a council meeting increases in response to a woman winning a mixed-gender race. On average, the likelihood that child care is discussed increases by 6.8 percentage points. The corresponding RD plot in subfigure (c) of Figure 7 confirms a visible discontinuity.

We also explore the likelihood that in response to a female victory, any of the additional 52 topics which we have coded besides child care, is discussed more or less often. We find that none of the other topics is discussed less often. This indicates that the increased focus on child care does not come at the expense of other topics. A few other topics are discussed more often, however. We report the results for the most notable topics in Table A.8: female councilors lead to more discussions of topics such as churches, utilities, road security, sewage disposal, and street cleaning. While we have no survey evidence on these specific items for Germany, it is plausible that women do care about these policy issues in their municipalities.

Overall, our results indicate that female winners of mixed-gender races influence policy choices by affecting council deliberations. More specifically, a female victory in a mixed-gender race appears to make all female councilors more assertive and increases the likelihood that topics that particularly concern women are brought up.⁵⁴

⁵⁴We also explore whether the sample of municipalities with available minutes is comparable to the main RD sample with respect to the causal effect of a female victory in a mixed-gender race. For this, we re-run the baseline regressions on the sample of municipality-year pairs with data on council minutes. The results are collected in Table A.7 in the online appendix. The estimated coefficients are numerically similar to the baseline results in Table 4. They are, however, less significant, presumably because of the smaller sample size.

5.3 Dynamic effects due to fellow female councilors

We now study whether women who win mixed-gender races are more effective in increasing child care provision if there are fewer or more women in the council. On the one hand, the marginal impact of an additional woman who enters the council on the last seat of a party may be small if there are already many women who were elected on safe seats. On the other hand, if a woman who enters the council in a mixed-gender race is the only woman, she may lack the self-confidence or the support to push for pro-female policies.

As discussed, experimental evidence indicates that women are less self-confident in male-dominated environments (Born, Ranehill, and Sandberg, 2018). If there is, for example, one other woman, these two can support each other and second each other's suggestions in a meeting. Thus, the relative impact of one additional woman is likely nonlinear in the number of other female councilors.

We explore this by means of subsample regressions in Table 6. In Model 1, we compare municipalities with mixed-gender races where the male candidate won and the overall number of women in the council was zero with municipalities where the female candidate won and the number of women was one (i. e. where no women other than the female winner of the mixed-gender race managed to enter the council). In Model 2, we compare municipalities with one woman in the council and a male winner of a mixed-gender race with municipalities with two women in the council of which at least one was the winner of a mixed-gender race. We specify similar models for councils with two other women (Model 3), and three other women (Model 4), and four other women (Model 5). In Model 6, we aggregate all municipalities with at most three other women. In Model 7, we aggregate all municipalities with more than three women.

[Table 6 goes here]

We find that the impact of a woman winning a mixed-gender race is larger in a council with at most three other women. The coefficient is also of a similar size in Models 1 to 4, even though it is insignificant in Models 1 and 2, presumably due to the small sample size. The coefficient becomes insignificant and negative in Model 5. These results are reaffirmed by

Models 6 and 7, where we obtain a significant effect for municipalities with up to three other women and an insignificant effect for municipalities with more than three women.

These results indicate that having at least one woman in the council, i.e. having a seat at the table, can already make a difference for pro-female policies, even if women are a small minority. Second, an additional woman continues to be effective if there are a few other women, the effect being particularly large and significant when there are two other women.

With respect to mechanisms, these results are consistent with two related ideas. First, there have to be women in the council in the first place to raise topics that are in the interest of women. Second, additional women are particularly effective if they significantly reduce the minority status of the other women who are already in the council, i.e. when there are only a few other female councilors.⁵⁵

6 External validity

As we rely on RD estimations, only municipalities that had at least one mixed-gender race during the sample period are included in our estimations. Thus, it is interesting to understand whether the results are meaningful for those municipalities that had no mixed-gender races and are thus not included in the RD sample. In Table A.11, we compare the characteristics of these two groups of municipalities.

We find that municipalities in the RD sample are significantly different along a number of dimensions: they are larger (and have thus larger councils), tend to have more women in the council, and more council members who are from large parties (CSU and SPD). These differences appear to be driven by differences in size, as larger municipalities tend to be more

⁵⁵We also explore a more flexible specification using interaction models where we interact the female councilor share with the female winner dummy. We plot the marginal effect in Figure A.8. Consistent with the above discussion, these results indicate that an additional woman is particularly effective in contexts with few women in the council. However, the marginal effect remains positive (albeit insignificant) up to a female share of 50% and is significant up to a female share of 25%.

urban and thus have a relatively larger representation by women and mainstream parties.⁵⁶ Accordingly, the RD results are likely meaningful for the municipalities omitted in the RD sample. As these municipalities are smaller and, according to our previous results, women tend to be more effective in municipalities with smaller councils, the effect would likely be stronger.

Another aspect of external validity is whether the results are only relevant for Bavaria or whether they generalize to other German states (and beyond). Within Germany, Bavaria is regarded as a conservative state. It is possible that the relative impact of women on child care or other pro-female policies is stronger in more conservative environments. On the other hand, female council members in more conservative states may be more likely to harbor traditional views about the role of women and thus less likely to push for public child care (or other policies commonly considered to be progressive). This is in line with our above finding that female councilors from the conservative CSU have a smaller effect on the expansion of child care. In addition, male council members may be more amenable to suggestions that are in the interests of women in less conservative environments, allowing female councilors to have a relatively stronger impact. Overall, it is of course mere speculation whether the results would be stronger in more conservative or more progressive environments. But as Bavaria is similar to other conservative parts of Germany as well as other industrialized countries, it is plausible that the above findings are relevant beyond the Bavarian context.

7 Conclusion

We study the effect of female councilors on policy choices, notably on child care provision. Our results, based on a close-election RD design for open-list elections, indicate that a female victory in a mixed-gender race for the last seat increases the share of women and leads to a stronger expansion of child care spots, particularly spots for children aged three and over.

⁵⁶It is plausible that municipalities in the RD sample are larger because more parties participate in the local election in larger municipalities. Accordingly, the likelihood of a mixed-gender race occurring is higher.

Exploring mechanisms, we find that the effect of additional women goes beyond their immediate effect. By changing council dynamics and by changing “the conversation”, one additional woman may make all other women more effective. In fact, already one woman can make a difference by having a seat at the table.

These results suggest that the rising share of women in political offices is not merely symbolic but has substantive consequences. In particular, female representation ostensibly helps to ensure that the preferences of women are adequately reflected by policies, and thus may improve the welfare of women.

On a broader level, however, the normative implications of our findings are ambiguous as they could be interpreted as evidence that policymaking is subject to gender stereotypes. Coffman (2014) shows using laboratory experiments that in group settings, women are more willing to contribute their ideas on topics that are traditionally perceived as belonging to their gender’s domain.⁵⁷ Thus, the result that female councilors expand child care may in part imply that they (feel compelled to) conform to traditional stereotypes. Such stereotyping can have adverse consequences for their political standing and future career progression as policy domains related to women’s interests (and the associated policy committees) are often perceived as less prestigious (Fouirnaies, Hall, and Payson, 2019).

Our findings also have implications for the discussion on quotas for women in political bodies. On the one hand, they indicate that the continued underrepresentation of women – even if it has been declining over the last few decades – should give rise to concern and calls for action by policymakers. On the other hand, we find that already one or a handful of women can make a difference. Accordingly, quotas must not necessarily aim for parity in representation to ensure that the preferences of women are adequately reflected. But quotas may be necessary in

⁵⁷Coffman (2014) also shows that interventions that induce women to contribute to other topics would improve group performance. In a more recent paper, Bordalo, Coffman, Gennaioli, and Shleifer (2019) derive a formal theory linking self-assessed ability of men and women in different domains to gender-related social stereotypes.

the short- to medium-run to ensure that a sufficient number of women are present to effectively participate in all relevant discussions, both in plenary debates and in committees.⁵⁸

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⁵⁸Of course, there are other reasons for or against the introduction of a (high) quota for women besides its substantive impact of policy choices. For example, quotas may be introduced to increase symbolic (in addition to substantive) representation. They can also affect the quantity and quality of the candidate pool (Besley, Folke, Persson, and Rickne, 2017).

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Figure 1: Child care spots over time in Bavaria, 2006-2017. This figure shows the development of child care spots in Bavaria over the period 2006-2017, scaled by either 1000 inhabitants (right y-axis) or by 1000 children under 14 years (left y-axis). The annual values are based on averages across all Bavarian municipalities for data on municipal population and the number of public child care spots.

(a) Development over time

(b) Distribution across councils

Figure 2: Share of women in Bavarian local councils during three legislative periods. This figure illustrates that the share of women in Bavarian 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 women in Bavarian municipalities during each of the three legislative periods. Subfigure (b) shows in a histogram the distribution for the share of women in Bavarian councils during all three legislative periods.

Figure 3: Data coverage on council elections and candidates. 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.

Figure 4: Number of municipalities with at least one mixed-gender race for the last seat. This figure shows the number of municipalities per legislative period included in our sample in which at least one party had a mixed-gender race for the last seat.

Figure 5: RDD validity: discontinuity in density in margin of victory of female candidate. This figure shows that women are not more or less likely to win close races. Subfigure (a) shows a histogram of the distribution of the female candidates margin of victory. Subfigure (b) shows a McCrary plot to test whether there is a discontinuity in the margin of victory at zero.

Figure 6: RDD plot: female victories in mixed-gender races and change in child care spots per 1000 inhabitants. This figure shows a RDD plot to analyze whether the annual increase in child care spots per 1000 inhabitants is stronger if the female candidate wins a mixed-gender race. The running variable is the margin of victory of a female candidate in mixed-gender races. Observations to the right of the threshold relate to a female winner. Each dot is the local average of the share of women in the council in bins of one percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded areas represent the 90 percent confidence intervals.

(a) Attendance rate

(b) Speaking rate

(c) Child care

Figure 7: Mechanisms: female victories in mixed-gender races and behavior in council meetings. This figure shows RDD plots to analyze whether the behavior of female councilors or the type of topics discussed in council meetings changes if the female candidate wins a mixed-gender race. Subfigure (a) plots the average attendance rates of women, subfigure (b) the average speaking rates (how often a given woman on average rises to speak, scaled by the total number of meetings in a legislative period), and subfigure (c) whether child care was discussed in a particular council meeting. The running variable is the margin of victory of a female candidate in mixed-gender races. Observations to the right of the threshold relate to a female winner. Each dot is the local average of the share of women in the council in bins of one percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded areas represent the 90 percent confidence intervals.

**Table 1: DISTRIBUTION OF COUNCIL SIZES ACROSS
BAVARIAN MUNICIPALITIES IN 2014**

Council size	Number	Cumulative share
8	129	6.27
12	593	35.12
14	370	53.11
16	405	72.81
20	333	89.01
24	159	96.74
30	33	98.35
40	17	99.17
44	9	99.61
50	5	99.85
60	1	99.90
70	1	99.95
80	1	100.00
Total	2056	

Notes: This table reports the distribution of the number of seats in local councils across Bavarian municipalities as of 2014. The first column states the number of seats per council. The second column indicates how many of the 2,056 Bavarian municipalities has that many council seats, respectively. The third column reports cumulative shares for council size.

Table 2: DESCRIPTIVE STATISTICS ON MIXED-GENDER RACES FOR THE LAST SEAT OF A PARTY

(1) Number of races	(2) Elections	(3) Population	(4) Council size	(5) Parties	(6) % Women	(7) Δ % Women	(8) % Effect female victory
1	1102	4830.54	15.83	3.61	17.33	6.32	36.46
2	698	7021.13	17.65	4.38	19.78	5.67	28.64
3	269	14146.30	21.01	5.38	21.56	4.76	22.08
4	79	50876.16	26.95	6.30	26.00	3.71	14.27
5	17	195266.86	35.12	8.15	28.46	2.85	10.00
6	6	65005.57	36.29	9.71	29.14	2.76	9.46
7	2	128453.30	50.00	9.40	38.80	2.00	5.15

Notes: This table shows summary statistics for the 2,173 local elections with mixed-gender races for the last seats, differentiated by the number of mixed-gender races within a single local elections (altogether there are 3,756 mixed-gender races for the last seat in our sample). Column (1) indicates the number of (party-level) mixed-gender races for the last seat per election. There are elections with up to 7 individual mixed-gender races in our sample. Column (2) shows how many elections in our sample have 1,2,...,7 mixed-gender races for the last seat. Column (3) reports average population sizes for elections with a given number of mixed-gender races. Column (4) shows average council sizes. Column (5) shows the average number of parties participating in a local election with a given number of mixed-gender races. Column (6) shows the average share of women in the council. Column (7) collects the average change in the share of women in the council if one additional women were to enter the council (i.e. $1/\text{council size}$). Column (8) reports the percentage increase in the share of women if an additional women were to enter the council (i.e. $\text{change in the share of women} / \text{share of women}$).

Table 3: FEMALE VICTORIES IN MIXED-GENDER RACES AND SHARE OF WOMEN IN LOCAL COUNCIL

	(1)	(2)	(3)	(4)	(5)
Female victory	6.142*** (0.834)	6.488*** (1.070)	6.061*** (0.650)	6.488*** (1.070)	5.832*** (0.871)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	0.08	0.04	0.16	0.04	0.17
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	13104	8790	17760	8790	18168
Municipalities	1072	847	1207	847	1215
Mean (SD)	20.90 (10.10)	21.21 (10.04)	20.71 (10.15)	21.21 (10.04)	20.70 (10.17)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race that accrues to a party in open list local council elections to the total share of women in the council. We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Table 4: BASELINE RESULTS: FEMALE VICTORIES IN MIXED-GENDER RACES AND PUBLIC CHILD CARE PROVISION (ANNUAL CHANGE IN CHILD CARE SPOTS PER 1000 INHABITANTS)

	(1)	(2)	(3)	(4)	(5)
Female victory	0.369*** (0.142)	0.403** (0.174)	0.231** (0.115)	0.396** (0.166)	0.433** (0.173)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	0.09	0.05	0.18	0.06	0.13
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	9489	6956	12665	7649	11215
Municipalities	1092	927	1222	979	1175
Mean (SD)	0.90 (3.80)	0.91 (3.81)	0.91 (3.76)	0.90 (3.78)	0.90 (3.78)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to the annual change of child care spots per 1000 inhabitants over the legislative term. We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Table 5: MECHANISMS I: FEMALE VICTORIES IN MIXED-GENDER RACES AND (FEMALE) COUNCILOR BEHAVIOR IN COUNCIL MEETINGS

	(1)	(2)	(3)	(4)	(5)
Panel A: Female attendance rates					
Female victory	-0.000 (0.022)	0.011 (0.028)	0.008 (0.020)	-0.000 (0.022)	-0.007 (0.032)
Panel B: Female speaking rates					
Female victory	0.111** (0.044)	0.087 (0.054)	0.103*** (0.034)	0.111** (0.044)	0.108** (0.052)
Panel C: Discussions on child care					
Female victory	0.068* (0.038)	0.082** (0.036)	0.067** (0.032)	0.083** (0.038)	0.079* (0.041)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to the behavior of female councilors. Panel A explores whether council meeting attendance rates of women differ in councils where a woman rather than a man won a mixed-gender race for the last seat. Panel B explores whether women are more likely to speak up in council meetings (the dependent variable is the share of women speaking about any topic in a council meeting, averaged over the legislative term). Panel C explores whether child care is discussed more often (the dependent variable is the share of council meetings over a legislative term where child care was discussed). We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Table 6: MECHANISMS II: FEMALE VICTORIES IN MIXED-GENDER RACES AND PUBLIC CHILD CARE PROVISION (ANNUAL CHANGE IN CHILD CARE SPOTS PER 1000 INHABITANTS), BY NUMBER OF WOMEN OTHERWISE IN COUNCIL

	(1) 0 women	(2) 1 woman	(3) 2 women	(4) 3 women	(5) 4 women	(6) ≤ 3 women	(7) > 3 women
Female victory	0.871 (0.620)	0.452 (0.398)	0.797** (0.386)	0.516* (0.288)	-0.355 (0.366)	0.587*** (0.205)	0.054 (0.171)
Bandwidth type	CCT	CCT	CCT	CCT	CCT	CCT	CCT
Bandwidth size	0.12	0.08	0.08	0.07	0.08	0.08	0.10
Polynomial	Linear	Linear	Linear	Linear	Linear	Linear	Linear
N	678	1484	1738	1445	1059	5302	4035
Municipalities	141	297	325	264	203	789	413
Mean (SD)	0.87 (4.87)	0.81 (4.57)	0.81 (4.24)	0.89 (3.72)	0.95 (3.53)	0.85 (4.28)	0.99 (2.99)

Notes: This table reports results from local linear regressions (Model 1-5) that relate the gender of the winner of a mixed-gender race that accrues to a party in open list local council elections to the annual change of child care spots per 1000 inhabitants over the legislative term. We explore in this table whether the impact of a female winner of a mixed-gender race is stronger when a certain number of female councilors have also been elected to the council by means of subsample regressions. In Model (1), we compare municipalities that would have had 0 women in the council *if* the female candidate would not have won a mixed-gender race with municipalities that have 0 women in the council and where the male candidate has won a mixed-gender race (i. e. we compare RD municipalities with 0 women in the council with municipalities where the only women in the council was elected in a mixed-gender race). In Model (2), we compare municipalities with exactly one women in the council with municipalities where two women are in the council and where at least one of these two women was elected in a mixed-gender race. Model (3)-(5) are specified accordingly. In Model (6), we aggregate all municipalities with up to 3 women and estimate the effect of an additional woman. In Model (7), we aggregate all municipalities with at least 4 women and estimate the effect of an additional woman. All results are for: optimal CCT bandwidths. The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Online appendix

A.1 Additional figures

(a) Below 3

(b) Between 3-6

(c) Between 6-11

Figure A.1: Child care shortages across Germany in 2017. This figure shows the share of parents reporting shortages (i. e. insufficient hours or no child care at all) in child care provision across German states in 2017 based on survey data (BAY - Bavaria, the other acronyms are as follows: MV - Mecklenburg-Western Pomerania, SN - Saxonia, ST - Saxony-Anhalt, TH - Thuringia, BB - Brandenburg, HH - Hamburg, NDS - Lower Saxony, BER - Berlin, BW - Baden-Wuerttemberg, SAAR - Saarland, NRW - North Rhine-Westphalia, HE - Hesse, RP - Rhineland-Palatinate, HB - Bremen, SH - Schleswig-Holstein). Subfigure (a) pertains to parents with children younger than 3, subfigures (b) to parents with children between 3 and 6, and subfigure (c) to parents with children attending primary school. Data source: Alt, Gedon, Hubert, Huesken, and Lippert (2018).

Figure A.2: Share of children attending child care facilities in Bavaria, 2006-2017. This figure shows the share of children in various age cohorts attending any type of child care facility in Bavaria over 2006-2017. Subfigure (a) plots the number of child below 3 years in child care divided by the number of children below 3. Subfigures (b)-(d) plot the corresponding ratios for the other age cohorts.

Figure A.3: Rank changes of council candidates. This figure shows the distribution in rank changes (the deviation between initial list placement and final list rank) of council candidates. For expositional purposes, we omit rank changes below the 1st and above the 99th percentile. This figure confirms that voters make considerable use of preferential voting and that preferential voting changes the list ordering of candidates.

Figure A.4: RDD plot: female victories in mixed-gender races and share of women in the council. This figure shows a RDD plot on how the overall share of women in the council increases if the female candidate wins a mixed-gender race. The running variable is the margin of victory of a female candidate in mixed-gender races. Observations to the right of the threshold relate to a female winner. Each dot is the local average of the share of women in the council in bins of one percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded areas represent the 90 percent confidence intervals.

Figure A.5: Data coverage for council meeting minutes. The bar charts show the coverage of our dataset in terms of municipalities and individual meetings for the council meeting regressions. Subfigure (a) shows the number of municipalities included in the sample in each legislative period for these regressions. Subfigure (b) shows the total number of council meetings that were coded for each legislative period (note that each municipality holds at least one council meeting each month).

Figure A.6: Final list ranks of winners in mixed-gender races. This figure shows the distribution in final list ranks of the winners in mixed-gender races for the last seat that accrues to a party.

Figure A.7: Marginal effect of an additional woman – conditional on council size. This figure shows a plot of the marginal effect of a woman winning a mixed-gender race conditional on the number of seats in the council. The dashed lines indicate 90% confidence intervals. The marginal effect is calculated based on Model 1 in Panel D of Table A.18. The dotted lines indicate the 5th, 25th, 50th, 75th, and 95th percentiles of the distribution of council size in Bavarian municipalities during the sample period.

Figure A.8: Marginal effect of an additional woman – conditional on share of fellow women in the council. This figure shows a plot of the marginal effect of a woman winning a mixed-gender race conditional on the share of other women in the council. The dashed lines indicate 90% confidence intervals. The marginal effect is calculated based on Model 1 in Table A.10. The dotted lines indicate the 5th, 25th, 50th, 75th, and 95th percentiles of the distribution of the share of women in Bavarian municipalities during the sample period.

A.2 Additional tables

Table A.1: SUMMARY STATISTICS ON CANDIDATE CHARACTERISTICS, BY GENDER

Variable	Count	Mean	SD	Min	Max
Panel A: female candidates					
CSU	58089	0.193	0.395	0	1
SPD	58089	0.206	0.404	0	1
Greens	58089	0.105	0.306	0	1
Higher degree	58089	0.130	0.337	0	1
Employed	38041	0.819	0.385	0	1
Self-employed	38041	0.035	0.183	0	1
Student	38041	0.032	0.175	0	1
Retired	38041	0.029	0.168	0	1
Housewife	38041	0.085	0.279	0	1
Age	15118	46.261	11.870	18	89
Panel B: male candidates					
CSU	166359	0.251	0.434	0	1
SPD	166359	0.155	0.362	0	1
Greens	166359	0.040	0.195	0	1
Higher degree	166359	0.136	0.343	0	1
Employed	108268	0.836	0.370	0	1
Self-employed	108268	0.089	0.284	0	1
Student	108268	0.026	0.161	0	1
Retired	108268	0.047	0.212	0	1
Househusband	108268	0.001	0.031	0	1
Age	42973	46.026	12.297	18	93

Notes: This table reports summary statistics on the characteristics of female and male council candidates. Higher degree is coded as 1 if a candidate has a university degree.

Table A.2: OLS RESULTS: FEMALE COUNCILOR SHARE AND PUBLIC CHILD CARE PROVISION (ANNUAL CHANGE IN CHILD CARE SPOTS PER 1000 INHABITANTS)

	(1) Full sample	(2) Hand-collected sample	(3) RD sample
Share of women	0.010*** (0.002)	0.013*** (0.003)	0.011*** (0.003)
N	22616	17952	14157
Municipalities	2056	1632	1287
Mean (SD)	0.84 (4.19)	0.84 (4.09)	0.89 (4.06)

Notes: This table reports results from OLS regressions that relate the share of women in the council to the annual change of child care spots per 1000 inhabitants over the legislative term. We report (using official data provided by the Bavarian statistical office) results for the full sample of Bavarian municipalities, our hand-collected sample, and the RD sample (i. e. that includes all municipality-year pairs with mixed-gender elections). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Table A.3: FUZZY RDD RESULTS: FEMALE COUNCILOR SHARE AND PUBLIC CHILD CARE PROVISION (ANNUAL CHANGE IN CHILD CARE SPOTS PER 1000 INHABITANTS)

	(1)	(2)	(3)	(4)	(5)
Share of women	0.058** (0.023)	0.060** (0.026)	0.036** (0.018)	0.059** (0.025)	0.066** (0.027)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	0.09	0.05	0.18	0.06	0.13
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	9489	6956	12665	7649	11215
Municipalities	1092	927	1222	979	1175
Mean (SD)	0.90 (3.80)	0.91 (3.81)	0.91 (3.76)	0.90 (3.78)	0.90 (3.78)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the share of women in the council to the annual change of child care spots per 1000 inhabitants over the legislative term. We estimate a fuzzy-RDD model and instrument the share of women in the council with a dummy for whether the winner of a mixed-gender race for the last seat of a party was a women. We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Table A.4: VALIDITY TEST I: FEMALE VICTORIES IN MIXED-GENDER RACES AND LAGGED MUNICIPALITY CHARACTERISTICS

	(1) Δ Child care spots pc	(2) Child care spots pc	(3) Population	(4) $\text{Pop} \leq 14$	(5) $\text{Pop} \geq 65$	(6) $14 < \text{Pop} < 65$	(7) Revenues	(8) Transfers
Female victory	-0.109 (0.209)	-0.437 (1.013)	-0.094 (0.102)	-0.122 (0.100)	-0.078 (0.100)	-0.091 (0.102)	-0.018 (0.031)	0.022 (0.051)
Bandwidth type	CCT	CCT	CCT	CCT	CCT	CCT	CCT	CCT
Bandwidth size	0.09	0.09	0.08	0.08	0.09	0.08	0.07	0.10
Polynomial	Linear	Linear	Linear	Linear	Linear	Linear	Linear	Linear
N	7596	8346	10716	10716	11346	10716	9906	11976
Municipalities	1028	1028	1007	1007	1028	1007	962	1060
Mean (SD)	1.00 (3.61)	40.86 (10.57)	8.56 (1.14)	2.73 (0.14)	2.90 (0.18)	4.19 (0.04)	7.61 (0.33)	5.29 (0.61)

Notes: This table reports results from local linear regressions that relate the gender of the winner of a mixed-gender race that accrues to a party in open-list local council elections to lagged characteristics of municipalities. We lag all outcomes by six years such that an observation matched to a given year to the female victory dummy in a given legislative period is from the corresponding year of the previous legislative period (for example, the female winner dummy for the second year of the legislative period after the election in 2014 – 2016 – is matched to the value of an outcome in 2010, the second year of the previous legislative period). We report results for the following dependent variables: change in total child care spots per capita (Model 1), total child care spots per capita (Model 2), (log of) total inhabitants (Model 3), (log of) inhabitants below 14 years (Model 4), (log of) inhabitants above 65 (Model 5), (log of) inhabitants above 14 and below 65 (Model 6), (log of) total revenues per capita (Model 7), (log of) transfer receipts per capita (Model 8). All results are for optimal bandwidths. The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Table A.5: VALIDITY TEST II: FEMALE VICTORIES IN MIXED-GENDER RACES AND LAGGED COUNCIL CHARACTERISTICS

	(1) Council size	(2) Share of women	(3) CSU	(4) SPD
Female victory	-0.892 (0.644)	1.095 (0.838)	1.079 (1.956)	1.667 (1.353)
Bandwidth type	CCT	CCT	CCT	CCT
Bandwidth size	0.10	0.12	0.10	0.09
Polynomial	Linear	Linear	Linear	Linear
N	1996	2177	1996	1891
Municipalities	1060	1110	1060	1028
Mean (SD)	21.07 (10.57)	19.21 (10.32)	30.68 (19.66)	15.57 (13.74)

Notes: This table reports results from local linear regressions that relate the gender of the winner of a mixed-gender race that accrues to a party in open-list local council elections to lagged characteristics of councils. We lag all outcomes by six years such that an observation matched to a given year to the female victory dummy in a given legislative period is from the corresponding year of the previous legislative period (for example, the female winner dummy for the second year of the legislative period after the election in 2014 – 2016 – is matched to the value of an outcome in 2010, the second year of the previous legislative period). We report results for the following dependent variables: council size (Model 1), share of women in the council (Model 2), seat share of the main conservative party - CSU (Model 3), and seat share of the main left-wing party - SPD (Model 4). All results are for optimal bandwidths. The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Table A.6: VALIDITY TEST III: FEMALE VICTORIES IN MIXED-GENDER RACES AND PARTY COMPOSITION OF COUNCIL

	(1) CSU	(2) SPD	(3) Greens
Female victory	1.104 (1.736)	0.520 (1.080)	-0.590 (0.486)
Bandwidth type	CCT	CCT	CCT
Bandwidth size	0.10	0.11	0.07
Polynomial	Linear	Linear	Linear
N	2446	2546	2022
Municipalities	1123	1146	1026
Mean (SD)	29.31 (18.81)	14.68 (13.30)	2.75 (5.19)

Notes: This table reports results from local linear regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to the total seat share of the CSU (Model 1), the SPD (Model 2) and the Greens (Model 3). We report results for the optimal CCT bandwidth. The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Table A.7: FEMALE VICTORIES IN MIXED-GENDER RACES AND PUBLIC CHILD CARE PROVISION (ANNUAL CHANGE IN CHILD CARE SPOTS PER 1000 INHABITANTS), ONLY MUNICIPALITIES WITH DATA ON COUNCIL MINUTES

	(1)	(2)	(3)	(4)	(5)
Female victory	0.442 (0.385)	0.429 (0.468)	0.358 (0.317)	0.507 (0.401)	0.554 (0.477)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	0.11	0.05	0.21	0.09	0.11
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	1041	651	1350	917	1041
Municipalities	144	100	166	129	144
Mean (SD)	1.01 (3.63)	0.97 (3.39)	0.98 (3.63)	1.04 (3.63)	1.01 (3.63)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to the annual change of child care spots per 1000 inhabitants over the legislative term. These results are a replication of the baseline results in Table 4 with a sample that only includes municipalities for which we have data on council minutes. We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Table A.8: FEMALE VICTORIES IN MIXED-GENDER RACES AND MORE FREQUENTLY DISCUSSED TOPICS IN COUNCIL MEETINGS BESIDES CHILD CARE

	(1) Churches	(2) Utilities	(3) Road security	(4) Sewage disposal	(5) Street cleaning
Female victory	0.019* (0.010)	0.041* (0.022)	0.095*** (0.034)	0.091*** (0.029)	0.045*** (0.016)
Bandwidth type	CCT	CCT	CCT	CCT	CCT
Bandwidth size	0.07	0.11	0.11	0.10	0.11
Polynomial	Linear	Linear	Linear	Linear	Linear
N	180	240	240	227	240
Municipalities	114	144	144	138	144
Mean (SD)	0.02 (0.05)	0.09 (0.12)	0.13 (0.15)	0.04 (0.09)	0.03 (0.07)

Notes: This table reports results from local linear regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to various topics that are discussed in council meetings, specifically: churches (Model 1), utilities (Model 2), road security (Model 3), sewage disposal (Model 4), street cleaning (Model 5). The results for the 47 other topics (apart from child care) were insignificant. We report results for the optimal CCT bandwidth. The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Table A.9: MUNICIPALITY CHARACTERISTICS, COUNCIL MEETINGS SAMPLE VS. RDD SAMPLE

	Not in sample	In sample	Diff.	Std. Error	Obs.
Log(Population)	8.168	8.412	-0.244***	0.077	1287
Log(Population < 14)	6.305	6.514	-0.209***	0.076	1287
Log(Population > 65)	6.428	6.704	-0.277***	0.080	1287
Log(Population >14 & < 65)	7.758	8.003	-0.244***	0.077	1287
Log(Revenues p.c.)	7.633	7.703	-0.070**	0.028	1287
Log(Transfers p.c.)	5.449	5.362	0.087*	0.051	1287
Council size	16.693	18.298	-1.605***	0.531	1287
% Women	18.616	20.059	-1.442*	0.741	1287
% CSU	26.479	30.219	-3.740**	1.568	1287
% SPD	12.184	14.519	-2.334**	1.072	1287

Notes: This table compares the characteristics (averaged over 2002-2017) of the 177 municipalities that are included at least once in the sample used in the council meeting RD regressions and the other 1110 municipalities included in the full RD sample.

Table A.10: FEMALE VICTORIES IN MIXED-GENDER RACES AND PUBLIC CHILD CARE PROVISION (ANNUAL CHANGE IN CHILD CARE SPOTS PER 1000 INHABITANTS), INTERACTION WITH SHARE OF WOMEN IN COUNCIL

	(1)	(2)	(3)	(4)	(5)
Female victory	0.655** (0.317)	0.589 (0.385)	0.367 (0.255)	0.626* (0.366)	0.752** (0.379)
Share of women	2.445** (0.994)	1.893* (1.029)	1.828** (0.855)	2.142** (1.026)	2.531** (1.092)
Female victory $\times$ Share of women	-1.693 (1.456)	-1.106 (1.723)	-0.808 (1.189)	-1.357 (1.640)	-1.878 (1.708)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	0.09	0.05	0.18	0.06	0.13
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	9489	6956	12665	7649	11215
Municipalities	1092	927	1222	979	1175
Mean (SD)	0.90 (3.80)	0.91 (3.81)	0.91 (3.76)	0.90 (3.78)	0.90 (3.78)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to the annual change of child care spots per 1000 inhabitants over the legislative term. In these specifications, we interact the female winner dummy with the share of women in the council. We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Table A.11: MUNICIPALITY CHARACTERISTICS, FULL VS. RDD SAMPLE

	Not in sample	In sample	Diff.	Std. Error	Obs.
Log(Population)	7.720	8.201	-0.481***	0.055	1632
Log(Population < 14)	6.022	6.470	-0.448***	0.053	1632
Log(Population > 65)	5.835	6.334	-0.499***	0.058	1632
Log(Population >14 & < 65)	7.306	7.791	-0.485***	0.056	1632
Log(Revenues p.c.)	7.407	7.428	-0.022	0.019	1632
Log(Transfers p.c.)	5.443	5.294	0.149***	0.035	1632
Council size	13.969	16.911	-2.942***	0.371	1632
% Women	15.652	18.675	-3.022***	0.548	1632
% CSU	22.278	27.647	-5.369***	1.208	1632
% SPD	7.680	12.865	-5.185***	0.779	1632

Notes: This table compares the characteristics (averaged over 2002-2017) of the 1,287 municipalities that are included at least once in the RDD sample (i.e. municipalities that had at least once a mixed-gender race for the last seat during the sample period) and the 345 municipalities for which we have candidate-level data but which had no mixed-gender race for the last seat and thus are not included in the RDD sample.

A.3 Details on the collection of the council election data

Our research assistants browsed the official websites of all 2,056 municipalities for candidate lists and election results. Several municipalities have posted this information for some or even all local elections during the period 2002-2014 (in pdf, word, html or other formats) on their websites. Party lists include information on the name of a candidate (from which we infer gender), the list rank, the date or year of birth (from which we infer age) as well as the current occupation (from which we infer education). Our research assistants downloaded the information and copy-pasted or entered the data by hand into Excel files.

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

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

Our goal was collect data for all municipalities and elections and hence the reason for any missing data is that data was not made available to us. We could not obtain the data for various reasons: smaller municipalities were less likely to post election results or candidate lists online or send us any information (either by not responding to our email(s) at all or telling us that they did not have the staff / time to work on our request). Information on elections further in the

past was also more difficult to obtain (for example because the papers were already archived and thus not easily accessible or even shredded).⁵⁹

Table A.12 compares the characteristics of the 1,632 municipalities for which we have candidate-level data for at least one election with those of the 424 municipalities not in our sample. Specifically, we compare demographic variables, local revenues and transfers averaged over 2002-2017, as well as various council characteristics (council size, seat share of women, seat share of the two major parties).⁶⁰ As suggested above, municipalities that are not included in our sample tend to have fewer inhabitants (about 28%). While the number of inhabitants in municipalities not included in our sample is smaller across all age brackets, there are some minor differences in the relative shares of the age groups, i.e. municipalities not included in our sample tend to have a disproportionately lower number of older (25.2%) and a disproportionately higher number of younger (30.9%) inhabitants.

Table A.12: SAMPLE ATTRITION: CHARACTERISTICS OF MUNICIPALITIES WITH AND WITHOUT DATA ON LOCAL ELECTIONS

	Not in sample	In sample	Diff.	Std. Error	Obs.
Log(Population)	7.821	8.102	-0.280***	0.049	2056
Log(Population < 14)	5.976	6.228	-0.252***	0.048	2056
Log(Population > 65)	6.079	6.388	-0.309***	0.052	2056
Log(Population >14 & < 65)	7.410	7.690	-0.279***	0.049	2056
Log(Revenues p.c.)	7.678	7.692	-0.014	0.014	2056
Log(Transfers p.c.)	5.564	5.490	0.074***	0.028	2056
Council size	14.538	16.278	-1.740***	0.321	2056
% Women	16.105	17.311	-1.207***	0.438	2056
% CSU	21.543	26.512	-4.969***	1.107	2056
% SPD	8.349	11.769	-3.420***	0.698	2056

Notes: This table compares the characteristics (averaged over 2002-2017) of the 1,632 municipalities for which we were able to collect candidate-level data for at least one election and the 424 municipalities that are missing in our hand-collected sample.

⁵⁹Note that the data collection procedure for Bavarian municipalities is similar to the one described in Baskaran and Hessami (2018) for another German state (Hesse).

⁶⁰Note that the Bavarian Statistical Office provides administrative data on the seat share of various parties and the seat share of women for all Bavarian municipalities. Hence, we have this information for the municipalities and legislative periods that are not included in our hand-collected sample.

We observe no differences in total revenues per capita, but find that municipalities not included in the sample receive higher transfers per capita. This suggests that they are slightly poorer than municipalities included in our sample. With respect to council characteristics, municipalities not included in the sample have smaller councils and a smaller seat share of women. They also have a smaller seat share of the CSU and the SPD (recall that independents are particularly strong in smaller municipalities). Overall, these differences are again fairly small. For example, the share of women in municipalities included in our sample is 17.3% while it is 16.1% in the missing sample.

A.4 Details on the collection of the council meetings data

Our research assistants searched the official websites of the municipalities included in our RD sample 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.

We have downloaded all available minutes of the municipalities in our RD sample. 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))). We first instructed our research assistants to note for each available council meeting of a municipality whether a particular councilor was present. This is feasible because the minutes typically list which councilors participated in a particular meeting. Next, the research assistants coded which topics were brought up in a meeting by a particular councilor. Specifically, we provided the research assistants with a list of topics and tasked them to group all comments or requests to speak of a councilor into these groups.⁶¹ Of course, a councilor may speak on sev-

⁶¹Overall, our research assistants coded 53 individual topics: adult education, agriculture, animals and pets, billboards, budget cuts, bus stops, churches, culture, child care, digital infrastructure, doctors and hospitals, elections, fire station, flags, floods, garbage disposal, lakes and rivers, local business, local debt, local taxes, morgues and cemeteries, municipal homepage, naming of streets, parks and recreation, playgrounds, police, private res-

eral topics in a single council meeting. The coding of the topics at the candidate-level proved to very be time-consuming as each page of each minutes had to be read carefully to identify all speech requests and comments of councilors.

Once the coding was complete, we aggregated all information to each legislative period as follows. First, we calculated attendance rates of female councilors in a particular council meeting, i. e. how many female councilors of all female councilors were present in a meeting. Second, we calculated speaking rates, i. e. how many female councilors of all female councilors made comments or rose to speak on any topic in a given meeting. Third, we noted whether a particular topic (e. g. child care) was brought up at least once in a given council meeting.

Next, we calculated averages of these indicators from the individual (monthly) council meetings for the entire legislative period for each municipality.⁶² That is, we calculated (i) the average attendance rate of women across all meetings in a given legislative period, (ii) average speaking rates across all meetings, and (iii) the share of council meetings during a legislative period in which child care was discussed by at least one council member.

A.5 Robustness

A.5.1 Scaling of the dependent variable

We use the change in child care spots per 1000 inhabitants as our main dependent variable. There are reasons to suspect that the effect of female legislators on child care provision varies with alternative definitions of the dependent variable, notably that they affect the growth rate

idences, public areas, public buildings, public parking, public pools, public toilets, refugees, road construction, road repairs, road security, schools, security, senior homes, sewage disposal, sidewalks and bike lanes, social housing, solar panels, sports events, sports grounds, street cleaning, street lighting, street signs, traffic noise, transportation, trees and plants, utilities and wind energy.

⁶²We calculated legislative period averages rather than year averages as we typically do not have council minutes in all years of a legislative period. More generally, for some municipalities we had only minutes for some meetings during a legislative term, which made an analysis with yearly data impractical.

rather than the absolute change, or that policymakers try to match child care spots to the number of children in a locality rather than the number of inhabitants.

However, note that using growth rates as well as a scaling child care spots by the number of children rather than inhabitants may be problematic. Given that the number of child care spots in Bavarian municipalities tends to be relatively low to begin with (some even have at the beginning of the sample period no child care spots at all), even small absolute changes may lead to large swings in growth rates. On the other hand, the number of children in a locality may be endogenous to child care spots if the supply of child care influences fertility or mobility of parents (Bauernschuster, Hener, and Rainer, 2016; García-Morán and Kuehn, 2017).

Panel A of Table A.13 collects results for RD estimations of Equation 2 where we use the growth rate in child care spots per 1000 inhabitants as dependent variable. In line with the baseline estimates, we observe a positive and significant effect. On average, municipalities that elected a woman rather than a man in a mixed-gender race witness an 0.8 percentage point higher growth rate in available child care spots per year.

Table A.13: ROBUSTNESS TEST I: FEMALE VICTORIES IN MIXED-GENDER RACES AND PUBLIC CHILD CARE PROVISION, ALTERNATIVE SCALINGS OF OUTCOME VARIABLE

	(1)	(2)	(3)	(4)	(5)
Panel A: Growth in child care spots per 1000 inhabitants					
Female victory	0.008**	0.007*	0.005*	0.008**	0.009**
	(0.003)	(0.004)	(0.003)	(0.003)	(0.004)
Panel B: Change in child care spots per 1000 children					
Female victory	2.455**	2.931**	1.514*	2.848**	2.821**
	(1.141)	(1.410)	(0.883)	(1.334)	(1.314)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to the annual change of child care spots per 1000 inhabitants over the legislative term. We explore the robustness of the baseline results by using as dependent variable the growth rate of child care spots per capita (Panel A) and the change in child care spots per children in a municipality (Panel B). We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Panel B collects results where we scale the number of available child care spots by the number of children below 14 years. We find a positive and significant effect, which, however,

is slightly less significant than in the baseline specification. On average, treated municipalities increase child care spots per 1000 children by 2.455 more units than control municipalities.

A.5.2 Elections with exactly one mixed-gender race

There can be several (in our RD sample up to seven as per Table 2) mixed-gender races per election in a municipality. In our baseline estimations, we address this issue by including as many observations for a municipality-year pair as there are mixed-gender races and then weighting each observation by the inverse of the total number of such races in a municipality. To explore whether our results are sensitive to this approach, we limit the sample to only those municipality-year pairs with exactly one mixed-gender race.

In addition, note that this sample restriction also provides an implicit robustness test for the fact that in elections with multiple mixed-gender races, there can be both male and female winners (in different parties). Given that women are underrepresented in Bavarian councils, any female winner will increase overall female representation but municipalities can be both considered to be treated and control units in our baseline specification and hence simultaneously appear to the left and right of the threshold.

We report results from estimating Equation 2 with a restricted sample of those municipalities that had exactly one mixed-gender race in Figure A.9 and Table A.14. We observe an effect that is slightly larger than the baseline effect. On average, municipalities in which the woman has won the one mixed-gender race increase their child care spots by about 0.47 units more than municipalities in which the man has won. The effect of a female victory in these races is hence larger than in the full RD sample. One explanation is that municipalities with only one race tend to be smaller than the average municipality in the RD sample. As discussed in Section 4.5, the relative impact of a female winner is plausibly stronger in smaller municipalities as they have fewer council members.

Figure A.9: RDD plot: female victories in a mixed-gender race and change in child care spots per 1000 inhabitants, only elections with exactly one mixed-gender race for the last seat of a party. This figure shows a RDD plot for whether the annual increase in child care spots per 1000 inhabitants is stronger if the female candidate wins a mixed-gender race when the sample is restricted to municipalities that had exactly one mixed-gender race. The running variable is the margin of victory of a female candidate in mixed-gender races. Observations to the right of the threshold relate to a female winner. Each dot is the local average of the share of women in the council in bins of one percent for the margin of victory. The solid lines are from a local linear smooth of the underlying observations. The gray-shaded areas represent the 90 percent confidence intervals.

Table A.14: ROBUSTNESS TEST II: FEMALE VICTORIES IN MIXED-GENDER RACES AND PUBLIC CHILD CARE PROVISION (ANNUAL CHANGE IN CHILD CARE SPOTS PER 1000 INHABITANTS), ONLY ELECTIONS WITH EXACTLY ONE CLOSE MIXED-GENDER RACE

	(1)	(2)	(3)	(4)	(5)
Female victory	0.470** (0.225)	0.639** (0.286)	0.359* (0.191)	0.583** (0.264)	0.646** (0.290)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	0.11	0.05	0.21	0.07	0.13
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	3181	2174	3883	2546	3351
Municipalities	638	460	765	535	668
Mean (SD)	0.92 (4.33)	0.91 (4.36)	0.90 (4.19)	0.93 (4.38)	0.91 (4.26)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open list local council elections to the annual change of child care spots per 1000 inhabitants over the legislative term. The sample is restricted to those elections where exactly one mixed-gender race occurred. We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

A.6 Extensions of main estimations

As mentioned in Section 4.5, we collect the results for various extensions of our main regressions in this section of the online appendix.

A.6.1 Type of child care spots

The baseline results provide evidence on the expansion rate of the aggregate number of child care spots. As discussed in Section 2.1, public child care covers children ranging from 6 months to 14 years. In this section, we explore whether female councilors expand spots across all age-ranges or whether they prioritize spots for younger or older children.

Spots are not explicitly earmarked for specific age ranges, preventing us from studying the intentions of female councilors directly. However, we have information on the age range of the children who are looked after in child care institutions. By relating the age of the children for a given age range to the share of female councilors, we can infer whether spots for older or younger children are expanded.

We report the results in Table A.15. Panel A reports the results for the change in the number of children below 3 years, Panel B for children aged 3 to 6, Panel C for children aged 6 to 11, and Panel D for children aged 11 to 14 years.

We find no effect of female councilors for children below 3 years. The estimates for children between 3 and 6 years are moderately significant in at least some specifications. The estimates for children between 6 and 11 year highly significant across all specifications. Finally, we find no effect for children between 11 and 14 years.

Overall, these results suggest that female councilors emphasize facilities for older children. Even if a mother were to secure a full-time spot in kindergarten for her child and then re-enters the labor market, she must anticipate that once her child enters school, she will have to cease working or switch to part-time if no afternoon-care is available.⁶³ In the long run, afternoon care may thus be more important for women than kindergarten or nursery spots.

⁶³Note that in Germany elementary school classes typically end at noon, while secondary school classes typically end between noon and 1pm.

A further explanation for the strong effect on child care for older children is that the female councilors in our sample are on average about 46 years old (see Table A.1). It is possible that women who are in this age prioritize child care for older children.

Table A.15: EXTENSION I: FEMALE VICTORIES IN MIXED-GENDER RACES AND ANNUAL CHANGE OF CHILDREN IN CHILD CARE, BY AGE GROUPS

	(1)	(2)	(3)	(4)	(5)
Panel A: Below 3 years					
Female victory	-0.056 (0.052)	-0.086 (0.070)	-0.056 (0.042)	-0.056 (0.052)	-0.069 (0.060)
Panel B: Between 3-6 years					
Female victory	0.141 (0.090)	0.193* (0.114)	0.095 (0.072)	0.137 (0.095)	0.168* (0.097)
Panel C: Between 6-11 years					
Female victory	0.209** (0.084)	0.257** (0.107)	0.142** (0.067)	0.257** (0.107)	0.241** (0.098)
Panel D: Between 11-14 years					
Female victory	0.005 (0.005)	0.005 (0.007)	0.005 (0.005)	0.005 (0.005)	0.005 (0.007)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to the annual change of the number of children in different age groups that are in child care per 1000 inhabitants (Panel A: children below 3 years, Panel B: children between 3 and 6 years, Panel C: children between 6 and 11 years, and Panel D: children above 11 and below 14 years). We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

A.6.2 Expansion of child care facilities

In this section, we explore whether having more female councilors leads to the expansion of the number of spots within existing facilities or to the opening of new facilities. To do so, we relate female victories to the change in the number of child care facilities per 1000 inhabitants. In our administrative data, facilities are classified according to the age range of the children in care: 0-2, 2-8, 5-14, and all ages.

The results are collected in Table A.16. We find that female councilors expand the number of facilities that are intended for children between 5 and 14 years. There is no effect on facilities in the other age ranges. Overall, these results are consistent with the results in Section A.6.1

(regarding the age ranges of children in care) and confirm that female councilors focus on the provision of child care for relatively older children.

Table A.16: EXTENSION II: FEMALE VICTORIES IN MIXED-GENDER RACES AND ANNUAL CHANGE IN THE NUMBER OF CHILD CARE FACILITIES, BY AGE GROUPS

	(1)	(2)	(3)	(4)	(5)
Panel A: Between 0-2 years					
Female victory	-0.002 (0.001)	-0.000 (0.002)	-0.001 (0.001)	-0.002 (0.002)	-0.002 (0.002)
Panel B: Between 2-8 years					
Female victory	0.000 (0.005)	-0.002 (0.006)	0.001 (0.004)	-0.002 (0.005)	-0.001 (0.006)
Panel C: Between 5-14 years					
Female victory	0.003*** (0.001)	0.004** (0.002)	0.002** (0.001)	0.004** (0.002)	0.004** (0.001)
Panel D: All ages years					
Female victory	0.002 (0.005)	0.004 (0.006)	0.000 (0.004)	0.004 (0.005)	0.002 (0.005)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to the annual change of the number of child care facilities per 1000 inhabitants for children of different ages (Panel A: facilities for children up to 3 years, Panel B: facilities for children between 2 and 8 years, Panel C: facilities for children between 5 and 14 years, and Panel D: facilities for children of all ages). We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

A.6.3 Spending on child care facilities

As discussed, local governments can influence child care provision through various channels, such as providing building spaces, adjusting regulations, paying subsidies, and by providing child care themselves. Particularly the latter two measures likely have fiscal consequences for municipalities. We hence explore next whether the impact of female councilors on child care expansion is accompanied by an increase in local spending for child care.

It should be noted, however, that local fiscal data for specific spending items is difficult to interpret. While official regulations define broad categories according to which local governments can classify their spending, local officials face difficult choices about how to classify specific expenses. For example, subsidies for the construction of a child care facility that is in

the same building as a school could be classified as a child care expense, an expense for schools, or divided between these two categories. In addition, in the cameral accounting system that was used in Bavaria during our sample period, expenses are booked when they are paid, not when they are contracted, making it thus harder to identify the effect of female representation.

With such caveats in mind, Table A.17 relates female victories to the log of local spending per capita for child care facilities. We find a positive but statistically insignificant effect. This may indicate that female councilors influence child care provision primarily through non-fiscal policies. However, as discussed, this result should be viewed only as suggestive given the aforementioned limitations of the local fiscal data.

Table A.17: EXTENSION III: FEMALE VICTORIES IN MIXED-GENDER RACES AND SPENDING FOR PUBLIC CHILD CARE (LOG OF ANNUAL SPENDING FOR CHILD CARE FACILITIES PER CAPITA)

	(1)	(2)	(3)	(4)	(5)
Female victory	0.062 (0.057)	0.039 (0.075)	0.041 (0.044)	0.058 (0.060)	0.055 (0.063)
Bandwidth type	CCT	CCT/2	2CCT	IK	CCT
Bandwidth size	0.08	0.04	0.17	0.07	0.15
Polynomial	Linear	Linear	Linear	Linear	Quadratic
N	9851	6588	13650	9107	13047
Municipalities	1072	847	1215	1026	1199
Mean (SD)	5.03 (0.66)	5.05 (0.66)	5.02 (0.67)	5.03 (0.66)	5.03 (0.67)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to the log of annual spending for child care facilities per 1000 inhabitants over the legislative term. We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

A.6.4 Interactions with mayor gender and council characteristics

In this section, we study whether the treatment effect of female winners varies with specific characteristics of municipalities by including interaction terms. In Panel A of Table A.18, we explore whether the impact of female winners is larger or smaller when there is a female mayor in the municipality. Given that the mayor is a powerful office in Bavaria and that mayors have

by default a seat in the council, it is possible that the impact of an additional woman in the council is relatively stronger if the mayor is a woman. On the other hand, it is also possible that municipalities with female mayors already emphasize child care sufficiently. In line with this ambiguity, the estimation results indicate no significant interaction between the gender of the mayor and female winners of mixed-gender races.

In Panel B, we interact the female winner dummy with the share of seats for left-wing parties (Social Democrats and Greens) in the council. It is possible that councilors of left-wing parties favor public child care more strongly than those of conservative parties and thus invest more in expanding child care facilities for ideological reasons. An additional woman, irrespective of her partisan affiliation, may hence be relatively less effective in councils with a higher share of left-wing councilors. Indeed, we find a negative and significant interaction effect in these regressions.

In Panel C, we interact the female winner dummy with the share of the CSU in the council, the major right-wing party in Bavaria. We find an insignificant interaction effect, indicating that the share of CSU councilors does not influence the effectiveness of an additional female councilor. Note that a low seat share of the CSU may either imply a higher seat share of the two parties classified as left-wing or of the independents. Since, the independents in Bavaria tend to be conservative, it may not be surprising that there are no differences across municipalities with high and low seat shares for the CSU regarding the effect of an additional woman.

In Panel D, we interact the female winner dummy with the number of council seats. One additional woman may be more effective in smaller councils as her impact on the overall share of women would be relatively larger.⁶⁴ Indeed, we find a negative and significant coefficient for the interaction term. Women appear to have a positive impact on the expansion rate of child

⁶⁴There are further reasons why women may be more effective in smaller councils. For example, municipalities with smaller councils tend to be more rural (and less populated). This may imply that these municipalities are also more conservative. The relative impact of a woman may thus be stronger. However, such alternative explanations are less compelling than the simple fact that the relative increase in the share of seats held by women when a woman wins a mixed-gender race is larger in smaller councils.

Table A.18: EXTENSION IV: FEMALE VICTORIES IN MIXED-GENDER RACES AND PUBLIC CHILD CARE PROVISION (ANNUAL CHANGE IN CHILD CARE SPOTS PER 1000 INHABITANTS), INTERACTIONS WITH MAYOR GENDER AND COUNCIL CHARACTERISTICS

	(1)	(2)	(3)	(4)	(5)
Panel A: Female mayor					
Female victory	0.330** (0.147)	0.340* (0.181)	0.200* (0.118)	0.346** (0.172)	0.380** (0.178)
Female mayor	-0.720* (0.391)	-1.038** (0.486)	-0.520 (0.317)	-0.999** (0.461)	-0.959** (0.469)
Female victory × Female mayor	0.302 (0.516)	0.528 (0.626)	0.303 (0.460)	0.385 (0.606)	0.401 (0.641)
Panel B: Share of left-wing parties					
Female victory	0.696*** (0.251)	0.754** (0.300)	0.450** (0.204)	0.744** (0.290)	0.813*** (0.301)
Share SPD & Greens	0.020*** (0.006)	0.017*** (0.006)	0.016*** (0.005)	0.019*** (0.006)	0.021*** (0.007)
Female victory × Share SPD & Greens	-0.019* (0.010)	-0.020 (0.013)	-0.013* (0.008)	-0.020* (0.012)	-0.022* (0.012)
Panel C: Share of right-wing parties					
Female victory	0.685** (0.326)	0.780** (0.386)	0.490* (0.263)	0.729* (0.376)	0.773** (0.393)
Share CSU	0.012** (0.005)	0.009 (0.006)	0.011** (0.005)	0.010* (0.006)	0.011* (0.006)
Female victory × Share CSU	-0.011 (0.008)	-0.013 (0.010)	-0.009 (0.007)	-0.012 (0.010)	-0.012 (0.010)
Panel D: Size of council					
Female victory	0.788** (0.342)	0.987** (0.403)	0.429 (0.283)	0.916** (0.393)	0.995** (0.414)
Council size	0.016** (0.008)	0.018** (0.008)	0.008 (0.007)	0.018** (0.008)	0.019** (0.008)
Female victory × Council size	-0.022* (0.012)	-0.030** (0.014)	-0.011 (0.010)	-0.027* (0.014)	-0.029** (0.015)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open list local council elections to the annual change of child care spots per 1000 inhabitants over the legislative term. Panel A interacts the gender of the winner for the last seat with the gender of the mayor; Panel B interacts the gender of the winner with the share of councilors from left-wing parties (the share is calculated with councilors elected in mixed-gender races included); Panel C interacts the gender of the winner with the share of councilors from the right-wing CSU party (the share is calculated with councilors elected in mixed-gender races included); and Panel D interacts the gender of the winner with the number of seats in the council. We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

care only in relatively small municipalities with small councils (see Figure A.7 for a plot of the marginal effect of a female winner for different council sizes).

A.6.5 Interactions with councilor characteristics

In this section, we study interactions of the female winner dummy with other councilor characteristics. Besides gender, councilors also vary in for example their age, educational attainment, employment status, as well as partisan affiliation. Table A.19 explores whether these characteristics interact with the impact of gender.

In Panel A, we interact the female winner dummy with a councilor's age in year t . On the one hand, younger women may have stronger incentives to push for an expansion of child care as they would directly benefit from improved provision. On the other hand, older women may have more authority and thus be more influential in the council. We find that the interaction effect is consistently insignificant, indicating no significant differences in the impact of older and younger women.

In Panel B, we interact the female winner dummy with a dummy for educational attainment. This dummy is 1 if the winner has at least a university Master's degree. The interaction effect is consistently insignificant.

In Panel C, we explore whether female councilors who are employed are more effective when it comes to the expansion of child care. Women who are working should be more in favor of expanding child care as they are more likely to rely on public child care (or alternatively to have relied on it in the past or expect to rely on it in the future). We indeed observe a positive interaction effect that is significant in at least some specifications. One interpretation is that women who are working emphasize child care provision more strongly.

Table A.19: EXTENSION V: FEMALE VICTORIES IN MIXED-GENDER RACES AND PUBLIC CHILD CARE PROVISION (ANNUAL CHANGE IN CHILD CARE SPOTS PER 1000 INHABITANTS), INTERACTIONS WITH CHARACTERISTICS OF COUNCILORS BESIDE GENDER

	(1)	(2)	(3)	(4)	(5)
Panel A: Age					
Female victory	-0.569 (0.929)	-0.855 (1.056)	-0.144 (0.817)	-0.898 (1.014)	-0.768 (1.144)
Age	-0.011 (0.012)	-0.021 (0.014)	0.004 (0.011)	-0.019 (0.013)	-0.022 (0.015)
Female victory × Age	0.021 (0.019)	0.027 (0.021)	0.008 (0.017)	0.028 (0.021)	0.027 (0.023)
Panel B: Education					
Female victory	0.345** (0.159)	0.382* (0.196)	0.208 (0.128)	0.375** (0.187)	0.414** (0.195)
Higher degree	0.038 (0.243)	0.072 (0.284)	-0.068 (0.200)	0.088 (0.273)	0.112 (0.281)
Female victory × Higher degree	0.106 (0.354)	0.093 (0.440)	0.147 (0.296)	0.094 (0.411)	0.086 (0.423)
Panel C: Employees					
Female victory	-0.142 (0.338)	-0.637* (0.366)	-0.074 (0.290)	-0.421 (0.354)	-0.324 (0.384)
Employed	-0.252 (0.288)	-0.524* (0.312)	-0.121 (0.238)	-0.457 (0.302)	-0.405 (0.325)
Female victory × Employed	0.505 (0.391)	1.073** (0.448)	0.268 (0.329)	0.854** (0.428)	0.781* (0.455)
Panel D: Left-wing					
Female victory	0.438*** (0.167)	0.485** (0.205)	0.274** (0.138)	0.476** (0.196)	0.523*** (0.203)
SPD or Greens	0.143 (0.227)	0.144 (0.238)	0.088 (0.189)	0.154 (0.239)	0.156 (0.251)
Female victory × SPD or Greens	-0.289 (0.326)	-0.344 (0.377)	-0.142 (0.265)	-0.324 (0.363)	-0.380 (0.380)
Panel E: Right-wing					
Female victory	0.683*** (0.202)	0.678*** (0.248)	0.510*** (0.156)	0.654*** (0.237)	0.729*** (0.247)
CSU	0.539*** (0.178)	0.445** (0.203)	0.477*** (0.149)	0.452** (0.198)	0.524** (0.208)
Female victory × CSU	-0.596** (0.284)	-0.511 (0.344)	-0.536** (0.234)	-0.473 (0.327)	-0.550 (0.342)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to the annual change of child care spots per 1000 inhabitants over the legislative term. Panel A interacts the gender of the winner for the last seat with the age of the winner; Panel B interacts the gender of the winner with a dummy for whether the winner has a higher degree (university masters or Ph.D.); Panel C interacts the gender of the winner with a dummy for whether the councilor works as an employee; Panel D and E interact the female winner dummy with dummies for the party of the councilor (right-wing is 1 if the councilor is from the CSU and left-wing is 1 if the councilor is from the SPD or the Greens). We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.

Panel D and E explore whether the partisan affiliation of councilors interacts with their gender. We find that Social Democratic and Green partisanship are irrelevant. However, female councilors from the right-wing CSU are significantly less effective than those from other parties. Specifically, the estimated interaction coefficient is as large as the base coefficient for female winners, i.e. a female victory in a mixed-gender race for the last seat that accrues to the CSU has no effect on the expansion of child care. This may indicate that female councilors from the CSU are particularly conservative and do not differ much in their attitudes toward public child care from generic men.

A.6.6 Effect of female winner on broader fiscal policy outcomes

One reason why we focus on the expansion of child care provision is that preferences for this specific local public good likely differ between genders. Much of the previous literature instead has focused on broad fiscal items such as public expenditures or revenues (Baltrunaite, Casarico, Profeta, and Savio, 2019; Bagues and Campa, 2017). In order to connect this paper to this literature and also to assess whether the choice of outcome matters for any conclusions regarding the substantive impact of female politicians, both in our context as well as more generally, we explore in this section how a female winner of a mixed-gender races affects broad fiscal variables.

The results are collected in Table A.20. Panel A reports the results for the log of total local expenditures, Panel B for total local revenues, and Panel C for the log of total debt. Panel D and E focus on local taxes. Specifically, Panel D uses the log of the tax multiplier (which effectively determines the rate) of the local business tax. Panel E uses the log of the tax multiplier for the local property tax on residential properties (*Grundsteuer B*).⁶⁵ We find that female winners have no significant effect on any of these fiscal outcomes. This result underlines the importance of focusing on specific public goods like child care where presumably clear differences in preferences between genders.

⁶⁵See Baskaran (2019) for more details on local taxation in Germany.

Table A.20: EXTENSION VI: FEMALE VICTORIES IN MIXED-GENDER RACES AND FISCAL POLICY CHOICES

	(1)	(2)	(3)	(4)	(5)
Panel A: Total expenditures					
Female victory	0.023 (0.028)	0.017 (0.034)	0.027 (0.021)	0.022 (0.029)	0.020 (0.032)
Panel B: Total revenues					
Female victory	0.019 (0.028)	0.018 (0.034)	0.023 (0.021)	0.019 (0.030)	0.018 (0.032)
Panel C: Total debt					
Female victory	0.140 (0.126)	0.165 (0.163)	0.093 (0.097)	0.169 (0.140)	0.183 (0.140)
Panel D: Business tax multiplier					
Female victory	0.010 (0.007)	0.012 (0.009)	0.006 (0.005)	0.013 (0.008)	0.015* (0.008)
Panel E: Property tax multiplier					
Female victory	0.005 (0.013)	0.008 (0.016)	0.003 (0.010)	0.005 (0.013)	0.008 (0.015)

Notes: This table reports results from local linear (Model 1-4) and quadratic (Model 5) regressions that relate the gender of the winner of a mixed-gender race for the last seat that accrues to a party in open-list local council elections to various fiscal policy outcomes. We collect results for the log of total expenditures p.c. (Panel A), log of total revenues p.c. (Panel B), log of total debt p.c. (Panel C), log of the multiplier for the business tax (Panel D), and log of the multiplier for the property tax on residential properties (Panel E). We report results for various bandwidths: optimal CCT (Model 1, 5), one half of the optimal CCT (Model 2), twice the optimal CCT (Model 3), and optimal IK (Model 4). The row entitled Mean (SD) reports the mean and standard deviation of the dependent variable for each regression. Stars indicate significance levels at 10%(*), 5%(**) and 1%(***). Heteroscedasticity and cluster-robust standard errors are in parentheses. The unit of clustering is the municipality of the candidate.