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Managing Migration: Female Mayors and the Intake of Asylum Seekers

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MANAGING MIGRATION: FEMALE MAYORS AND THE INTAKE OF ASYLUM SEEKERS

Sebastian Schirner*

Abstract

This paper studies the impact of female leaders during a migration crisis. In particular, I examine female mayors in the German state of North Rhine-Westphalia during the intake of asylum seekers from Ukraine in 2022. I use granular data on compliance with the municipal allocation quota for asylum seekers and data on the municipal election of 2020. The identification strategy is a local difference-in-differences approach based on close mixed-gender races for the mayorship. Female mayors comply less with the allocation quota than male mayors in response to the crisis. The effect is not driven by other mayor characteristics or the financial capacity of municipalities. Also, there is no difference in the frequency of asylum seeker topics in council meetings. Instead, I argue that electoral competition is a plausible mechanism that induces the reduction in compliance of female mayors.

Keywords: Political selection, female mayors, local policy choices, asylum seeker migration
JEL codes: D72, J16, J15, H70, F22

*Corresponding author: Ruhr-University Bochum, Faculty of Social Science, Chair for Social Policy and Public Economics, Universitätsstr. 150, 44801 Bochum, Germany. E-mail: sebastian.schirner@rub.de. I would like to thank participants in seminars at the Ruhr-University Bochum. All software packages I use are listed in Table A.4 of the online appendix.

1 Introduction

Cooperation of local authorities is key in managing unexpected increases in the number of asylum seekers. They organize accommodation, provide local public goods, and support the integration of asylum seekers into local communities. This paper examines the role of decision makers' gender in managing migration crises. More specifically, I examine differences in local migration policy of female and male mayors during the intake of asylum seekers from Ukraine after the Russian invasion in February 2022.[1] The German state of North Rhine-Westphalia (NRW) is a compelling setting due to its administrative allocation quota for asylum seekers. This quota gives rise to weekly data on the allocation of asylum seekers. Using this data, I am able to study differences in compliance with the allocation of asylum seekers in times of crisis.

From a theoretical point of view, citizen-candidate models provide a reasoning why personal characteristics, such as gender, matter for policy outcomes. Citizens endogenously choose to run for office and implement their individual policy preferences once elected (Osborne and Slivinski, 1996; Besley and Coate, 1997). In addition, there is empirical evidence for gender gaps in policy preferences and pro-social behavior (Eckel and Grossman, 1998; Andreoni and Vesterlund, 2001; Funk and Gathmann, 2015). Also, there is evidence that gender matters for policy outcomes. For example, female policy makers increase the provision of social public goods, such as child care, education, or health care.[2] These public goods are also relevant for hosting asylum seekers. It is thus conceivable that gender matters for the implementation of migration policy at the local level.

To examine the role of female mayors during a migration crisis, I use municipal data from NRW, the most populous German state. Asylum seekers in NRW are allocated to municipalities using a fixed quota based on municipal population and area. This quota gives rise to weekly

[1] The Russian invasion of Ukraine on 24. February 2022 created an unexpected and large increase in the number of asylum seekers entering Germany. In the subsequent months, more than 1.1 million Ukrainian citizens arrived in Germany (DESTATIS, 2023). This number is comparable to the previous episode of increased asylum seeker migration in 2015 (BAMF, 2017).

[2] See Hessami and Lopes da Fonseca (2020) for an overview on gender, representation, and policy outcomes.

data on the allocation of asylum seekers and local compliance with the allocation quota. I use data from October 2020 until September 2023. In addition, I use data on the municipal election of September 2020. During the election period, the Russian invasion of Ukraine caused an unexpected increase in asylum seekers entering Germany and NRW. I compare compliance with the quota of female and male mayors before and after this migration crisis. I use close mixed-gender races for the mayorship in a local difference-in-differences setting to establish causality.

I find substantial differences between female and male mayors. Compliance with the quota is 5 to 11 ppt. lower for female mayors (average compliance: 95.6%). This effect is not driven by other personal characteristics, such as tenure or experience in managing the administration. Also, the party affiliation of mayors and the financial situation of the municipality do not explain the difference in compliance. Evidence from about 2,000 hand-collected council minutes shows that female and male mayors discuss asylum seeker topics with similar frequency in council meetings. The baseline effect does not reflect differences in agenda setting. Instead, variation in electoral competition provides a plausible mechanism. The difference in compliance is visible only in municipalities with strong electoral competition in the local election of 2020. Thus, female mayors comply less with the quota in settings in which (re-) election is uncertain.

This research relates to three distinct strands of the literature. First, it adds to the literature on women as policy makers.[3] Evidence from industrialized countries is mixed. Lippmann (2022) finds that female legislators in France focus on topics that are more relevant for women. Baskaran and Hessami (2023) show that female councilors in Bavaria increase the provision of child care. Conversely, Ferreira and Gyourko (2014), Casarico *et al.* (2022), and Carozzi and

[3]There is a large literature on female policy makers in developing countries. Chattopadhyay and Duflo (2004) find that female leaders provide public goods that reflect female preferences in India. Also, female policy makers increase spending on education (Clots-Figueras, 2012) and health care (Bhalotra and Clots-Figueras, 2014) in India. Brollo and Troiano (2016) find that female mayors in Brazil are less corrupt than male mayors.

Gago (2023) find no evidence for a substantial effect of women on policy outcomes in different settings.

Second, this paper relates to the literature on female politicians in times of crisis. Eslava (2021) shows that female mayors were able to reduce violence during civil war in Colombia. Bruce *et al.* (2022) show that female mayors in Brazil mitigate the health consequences of COVID-19 and increase enforcement of non-pharmaceutical interventions. Congruently, Chauvin and Tricaud (2023) find that female mayors in Brazil reduce deaths from COVID-19. They find that gender-specific electoral incentives matter in times of crisis.

Third, there is a large literature on various topics of asylum seeker migration. Typically, this literature focuses on the consequences of asylum seekers on political outcomes (Dustmann *et al.*, 2018; Steinmayr, 2021; Bredtmann, 2022), public spending (Ruist, 2020), local population movements (Batut and Schneider-Strawczynski, 2021; Zuchowski, 2023), or labor markets (Dustmann *et al.*, 2016). There is substantially less evidence on the political determinants of the allocation of asylum seekers.[4] Fratesi *et al.* (2018) show that municipalities in Italy with high social capital oppose hosting asylum seekers to retain community cohesion. Ferwerda and Riaz (2023) document that the placement of asylum seeker facilities in Germany is endogenous to political deliberations. In particular, they show that facilities are concentrated in left-leaning municipalities.[5] Gamalerio and Negri (2023) show that the timing of local elections affects the probability that Italian municipalities apply for a asylum seeker facility.

I contribute to these strands of the literature in three ways. First, I show that mayor characteristics like gender matter for the allocation of asylum seekers at the local level. This is the

[4]There is evidence on where asylum seekers and migrants settle if they are allowed to choose their location. Previous settlement patterns of co-ethnics predict current migration flows. This finding provides the foundation for shift-share type instruments (Card, 2001). In addition, Damm (2007) shows that the availability of housing, education, and labor market characteristics matter for location choices.

[5]They find that political deliberations matter even when allocation is based on a quota. In line with Ferwerda and Riaz (2023), I find that quota based allocation does not necessarily result in (fully) exogenous allocation of asylum seekers as there is imperfect compliance. This potentially weakens identification strategies exploiting exogenous variation in asylum seekers.

case even in the presence of allocation quotas. Second, the setting is substantially different relative to the previous episode of increased asylum seeker migration in 2015. Asylum seekers from Ukraine and Syria differ for example in their cultural proximity to Germans, their socio-demographics, and their perception in German society. Third, I examine the role of female leaders during a different kind of crisis. Managing the intake of asylum seekers gives rise to different challenges relative to the COVID-19 crisis. In particular, the provision of suitable housing, the extension of child care, or the support of integration into local communities are unique to migration crises. Furthermore, examining migration crises remains important as climate change can increase migration flows in the future (Cattaneo *et al.*, 2019).

2 Institutional background

2.1 Mayors and municipal councils in NRW

The mayorship is the most important municipal office in NRW. Mayors are elected directly and serve a term of five years. Candidates must be older than 23 years, citizen of the European Union, and have their place of residence in Germany. Candidates need an absolute majority of the votes to win office. If none of the candidates obtains the majority of votes there are runoff elections. Starting with the election of September 2020, mayors are elected at the same date as the municipal council. Municipal councils have between 20 and 90 seats based on the population of the municipality. The mayor is the chairperson of the municipal council. She schedules the council meetings, assembles the agenda of the meetings, and has a vote in council. The mayor is responsible for the municipal administration and the execution of council decisions. All mayors in NRW are full-time employees (Kost, 2022).

2.2 Asylum seekers in NRW

Asylum seekers arriving in Germany are allocated to the sixteen states based on the *Königsteiner Schlüssel*.[6] Asylum seekers allocated to NRW arrive in the states' initial reception facility in Bochum (LEA). They are subsequently transferred to one of five reception facilities (EAE) where they formally apply for asylum and medical examination takes place. After about one week, asylum seekers are transferred to accommodation facilities across NRW (ZUE).[7] After three months, asylum seekers are allocated to the 396 municipalities in NRW.

Asylum seekers are allocated to municipalities based on a fixed quota.[8] All municipalities are obliged to host asylum seekers.[9] The administration in charge for the allocation is the local authority of Arnsberg. The quota is calculated based on the population of a municipality (90%) and its area (10%). There are deductions for municipalities that host an asylum facility run by the state. Municipalities can suspend hosting asylum seekers for a limited time due to unforeseeable circumstances. There are no sanctions for municipalities that do not comply with the quota. Asylum seekers that are not hosted by a municipality are transferred to a different municipality or stay in a facility run by the state. Municipalities are obliged to report current

[6]The *Königsteiner Schlüssel* is not unique to the allocation of asylum seekers. It is used for the allocation of different financial funds and responsibilities among German states. The key is calculated based on the states' tax revenue (two-thirds) and population (one-third).

[7]These facilities are in responsibility of the state of NRW. As of 2021, there were 28 such facilities (MKFFI, 2022b). The number of spots in these facilitates are adjusted in response to changes in the numbers of asylum seekers. An additional 4,500 spots in emergency accommodation facilities were created for asylum seekers from Ukraine in 2022 (MKFFI, 2022a).

[8]Note, that there is an additional allocation quota for accepted refugees in NRW (*Integrationsschlüssel*). This quota is based on population, area, labor market conditions, housing market conditions, and existing migration from Eastern Europe. Asylum seekers from Ukraine are not allocated according to this quota.

[9]Note, that NRW differs from other German states in this regard. Typically, asylum seekers are allocated to districts (*Kreise*) rather than municipalities. Districts then find arrangements with the municipalities on how to distribute the incoming asylum seekers.

asylum seeker numbers on a weekly basis, such that quotas can be updated frequently (SGV, 2023).[10]

Municipalities are compensated for hosting asylum seekers by the state government. They receive a lump sum transfer for each asylum seeker living in the municipality.[11] Municipalities are required to provide suitable accommodation for asylum seekers, either in shared accommodation facilities or in regular flats. In addition, the intake of asylum seekers requires the provision of local public goods, such as child care, schooling, or health care.

Regulations were adjusted specifically for Ukrainian asylum seekers. The German federal government waived asylum seekers from Ukraine from obtaining a residence permit immediately after the start of the Russian invasion. Thus, they were not obliged to apply for asylum. In addition, asylum seekers from Ukraine receive regular social security instead of asylum seeker benefits. In NRW, asylum seekers from Ukraine are part of the allocation quota but are thereafter allowed to choose their place of residence.

3 Data

3.1 Election data

Data on the 2020 municipal election are provided by the Statistical Office of NRW. Data on mayoral elections include candidates' name, list, and individual vote shares. Data also include information on electorate size, valid votes, invalid votes, and turnout. A subset of municipalities had an extraordinary election prior to 2020. Information on these elections was hand-collected from publicly available sources.[12] I infer a mayor's gender from their name using the

[10] The calculation of the key is internally consistent. Weekly quotas reported in the data (almost always) add up to 100% when aggregated across municipalities.

[11] As of 2023, municipalities receive 875 Euros per asylum seeker. Independent cities (*kreisfreie Städte*) receive 1,125 Euros. 3.83% of the transfer must be used for social care.

[12] Reasons for extraordinary elections are for example the resignation of a mayor or a recall from office. There were extraordinary elections in 46 municipalities. Extraordinarily elected mayors remain in office until the next

R-package *gender*. Ambiguous names are checked manually. Mayors in NRW are predominately male. Only about 14% of mayors in the election period of 2020 are female (Table 1). In addition, I hand-collected information on year of birth, birthplace, education, occupation, marital status, immigrant background, and incumbency.[13]

[Table 1 goes here]

3.2 Data on asylum seekers

NRW is an ideal setting to examine the intake of asylum seekers from Ukraine after February 2022. Due to the allocation quota, there are weekly reports on the number of asylum seekers at the municipality level. Data are publicly available from the regional authority of Arnsberg, which is in charge of allocating asylum seekers to municipalities. Data include the number of asylum seekers currently living in the municipality, the municipality specific allocation quota, the number of asylum seekers to be hosted according to the quota, and on compliance with the quota. Data are available between April 2018 and September 2023.[14]

Subfigure (a) of Figure 1 shows the intake of asylum seekers per 1,000 inhabitants over time. Before February 2022, the number of asylum seekers was stagnating at about 2.5 asylum seekers per 1,000 inhabitants. There is a strong increase of asylum seekers after February 2022. By the end of 2022, municipalities in NRW hosted about 14 asylum seekers per 1,000 inhabitants. Subfigure (a) reveals a large drop in the number of asylum seekers per 1,000 inhabitants in summer 2022 for purely administrative reasons.[15] To obtain a smoother time

regular municipal election in 2025. I exclude these municipalities in a robustness check to ensure that the longer tenure does not drive the results. There were two extraordinary elections between the regular election in September 2020 and September 2023. In both cases the gender of the mayor did not change.

[13]Sources for this information include personal or municipality homepages, newspaper articles, or social media profiles.

[14]This corresponds to all weeks available publicly until the time of data collection (15.09.2023). While data is still provided on a weekly basis, I refrain from collecting any additional data after conducting the analysis.

[15]Starting in June 2022, asylum seekers from Ukraine changed jurisdiction regarding their social security benefits. In the following months, there was uncertainty among municipalities if Ukrainians are still asylum

series, I aggregate data to the level of months for the baseline specification. In addition, I use linear interpolation to obtain data for these weeks as a robustness check.

The main dependent variable is the compliance with the allocation of asylum seekers to the municipality. This measures to what extent local leaders are able to organize and manage the intake of asylum seekers. Compliance with the quota is calculated as follows:

$$Y_{m,t} = \left(\frac{\text{Asylum seekers}_{m,t}}{\text{Asylum seekers allocated}_{m,t}} \right) \times 100. \tag{1}$$

There is substantial variation in compliance with the asylum seeker quota. Subfigure (b) of Figure 1 shows the distribution of compliance. The distribution is symmetric with a mode close to 100%. On average, municipalities in NRW host 95.6% of the asylum seekers they are requested to host (see Table 1). There are municipalities that host substantially fewer or more asylum seekers than requested by the quota. Deviations from the quota are widespread. All 396 municipalities deviate from the quota by more than 20 ppt. at least once during the sample period.[16] Figure A.1 of the online appendix shows the spatial distribution of compliance with the quota as of March 2022. There are no apparent spatial clusters.

[Figure 1 goes here]

3.3 Additional municipality data

Data on municipal elections and asylum seekers are complemented with municipality level information on population, municipal spending, municipal revenues, unemployment, and vote share of major parties in federal elections 2017 and 2021. Data are provided by the Statistical Office of NRW. As hosting asylum seekers crucially relies on the availability of appropriate

seekers and thus part of the allocation quota. From September 2022 onward, all Ukrainian asylum seekers are included in the allocation quota again.

[16] Figure A.3 of the online appendix shows the distribution of the dependent variable after taking municipality averages. There are municipalities that on average do not comply substantially. Conversely, there are municipalities that on average host more asylum seekers than required by the quota.

housing I obtain data on housing construction from the Statistical Office of NRW. In addition, the private real-estate data firm QUIS provides the share of empty flats for NRW as of 2021 (QUIS, 2021).[17]

4 Empirical strategy

4.1 Baseline specification

I examine the effect female mayors in times of a migration crisis on compliance with the allocation of asylum seekers. In essence, I compare municipalities with female and male mayors before and after the increase in the intake of asylum seekers in the aftermath of the Russian invasion of Ukraine. Thus, I estimate the following dynamic two-way fixed effects (TWFE) specification on a balanced panel of municipalities and months:

$$Y_{m,t} = \alpha + \sum_{t=2020.10}^{2023.9} \beta(\textit{Female mayor}_{m,2020.9} \times T_t) + \gamma_m + \zeta_t + \varepsilon_{m,t}. \tag{2}$$

$Y_{m,t}$ is compliance with the quota in municipality m in month t expressed in percent calculated following Equation (1). $\textit{Female mayor}_{m,2020.9}$ is an indicator that is one if the municipality elected a female mayor (57 municipalities). This variable is interacted with indicators for the respective month.[18] The reference period is February 2022.[19] The specification includes municipality fixed effects γ_m and month fixed effects ζ_t. I use monthly averages of weekly

[17] They use data from the census of 2011 and predict the share of empty flats using machine-learning algorithms for subsequent years.

[18] For robustness checks, I estimate an alternative specification in which I interact the indicator for female mayors with an indicator for the time periods after February 2022.

[19] The Russian invasion of Ukraine started on 24th February. It caused more than two million Ukrainian citizens to flee their country immediately (UNHCR, 2022). Weekly data on asylum seeker allocation in NRW shows that the increase in asylum seeker numbers in the municipalities starts in the end of March 2022 (Figure 1). This is because asylum seekers are allocated to reception facilities before arriving in the municipalities. The procedure is described in Section 2.2.

compliance between October 2020 and September 2023 for all 396 municipalities. Standard errors are clustered at the municipality level.

In this specification the treatment, i.e. being governed by a female mayor in times of crisis, is assigned prior to the unexpected and strong increase in asylum seeker from Ukraine. The identification assumption is that compliance with the quota of female mayors in times of crisis would have evolved similarly if the municipality would be governed by a male mayor. I corroborate this parallel trends assumption by examining the compliance of female and male mayors before the intake of asylum seekers in the aftermath of February 2022. In addition, Subfigure (a) of Figure A.7 of the online appendix shows that municipalities governed by female and male mayors are no significantly different in observable pre-treatment characteristics.

TWFE specifications of this type estimate a weighted sum of average treatment effects across group and time periods. In some instances, weights may be negative in the presence of treatment effect heterogeneity (de Chaisemartin and D'Haultfœuille, 2020). Heterogeneous treatment effects are plausible in this setting, as the effect of female mayors in times of crisis may vary with municipality or personal characteristics. Thus, I explicitly test for the presence of negative weights. In addition, I use an estimator that is robust to treatment effect heterogeneity proposed by de Chaisemartin and D'Haultfœuille (2020).[20]

4.2 Local difference-in-differences

The election of a female mayor may not be exogenous to compliance with the quota. There may be time-varying municipality characteristics that influence both the election of a female mayor and compliance. Thus, I estimate the specification described in Section 4.1 while limiting the sample to close mixed-gender races. The local randomization induced by close and thus unpredictable races supports the notion of exogeneity of the treatment (Grembi *et al.*, 2016; Bruce *et al.*, 2022).

[20] I use the accompanying Stata command *did_multiplegt*. Standard errors are calculated using 1,000 bootstrap repetitions. This number of repetitions results in reasonably stable standard errors. Running the command twice with 1,000 repetitions changes standard errors by only about 0.6%.

In most municipalities, multiple candidates compete for the mayor's office. On average, 3.5 candidates per municipality participate in the election of 2020. If the two candidates with the highest vote share are of different gender this gives rise to a mixed-gender race. For the electoral period of 2020 there were 110 such races in NRW.[21] Close races between female and male candidates create quasi-random variation in whether or not a municipality is governed by a female mayor.

Following Bruce *et al.* (2022), I estimate the following local difference-in-differences specification:

$$Y_{m,t} = \alpha + \beta(Female\ mayor_{m,2020.9} \times Post_t) + f_t(FemaleMargin_m) + \gamma_m + \zeta_t + \varepsilon_{m,t}. \quad (3)$$

In this specification, I compare compliance with the quota by mayor gender before and after February 2022 limiting the sample to municipalities with a close mixed-gender race in the election of 2020.[22] I control for linear or quadratic polynomials of the running variable, i.e. the female margin of victory $f_t(FemaleMargin_m)$. The margin of victory is the difference in votes between the two candidates in the mixed-gender races relative to all valid votes. The polynomial of the margin of victory is allowed to be different on either side of the cut-off. In addition, I interact the polynomial with a linear time trend. Thus, I can include municipality fixed effects γ_m although the margin of victory is time-invariant. I limit the sample to observations close to the cut-off and show robustness to different bandwidths. Standard errors are clustered at the municipality level.

[21] If none of the candidates receives the absolute majority of votes in the first round there are run-off elections. This is the case for about 30% of elections. In these cases, I consider the closeness of the race in the second round.

[22] Isolating the effect of personal characteristics using close races is challenging. Marshall (2022) argues that compensating differentials may ensure the closeness of a race. That is, if female mayors are discriminated against by voters they may end up in a close race due to counterbalancing personal characteristics. As a consequence, I can estimate the effect of female mayors not the effect of gender per se. This interpretation includes all potential compensating differentials.

4.3 Validity of the local difference-in-differences approach

To estimate a causal effect exploiting local randomization induced by close mixed-gender races the following assumptions must hold.[23] First, there must be no discontinuity in density of the running variable at the cut-off. I use the test of McCrary (2008) to show that mayors were not able to manipulate the running variable. German states are stable democracies, thus electoral fraud is unlikely. Congruently, Figure A.4 of the online appendix shows that there is no discontinuity in the margin of victory of female candidates at the cut-off.

Second, female candidates must not be more or less likely to win in close elections. Figure A.5 of the online appendix shows the total number of mixed-gender races and the number of mixed-gender races won by female candidates. For all races, the victory rate of female candidates is 42%. For increasingly closer races the victory rate of female mayors oscillates around 50%.

Third, all other municipality characteristics must vary smoothly at the cut-off. That is, municipalities governed by female mayors must not systematically differ from municipalities governed by male mayors. Subfigures (b) and (c) of Figure A.7 of the online appendix show balance checks for economic, political, and administrative municipality characteristics. For the sample of mixed-gender races there are no significant differences between municipalities governed by female or male mayors. The same is broadly true for close mixed-gender races (i.e. using a bandwidth of 20%). There is a barely significant difference in construction activity, however.

[23] As for the TWFE specification, there should not be differences in pre-trends between municipalities with and without a female mayor. This is more credible because of the exogenous allocation of the female mayor treatment. Reassuringly, Figure A.6 of the online appendix shows that this is the case.

5 Female mayors and compliance with the quota

5.1 TWFE results

First, I examine the difference between female and male mayors descriptively. Figure 2 shows compliance with the quota for female and male mayors over time. Prior to the intake of asylum seekers from Ukraine, compliance was similar for female and male mayors. If anything, compliance was lower for male mayors in some months. Compliance drops considerably for female and male mayors after the intake of asylum seekers from Ukraine. The drop is substantially larger for municipalities with a female mayor. Compliance remains lower for female mayors until the end of the sample period.

[Figure 2 goes here]

Next, I examine this pattern in a regression framework following Equation (2). Figure 3 collects the baseline results of the dynamic TWFE specification. The effect of female mayors on compliance is insignificant and close to zero prior to the intake of asylum seekers from Ukraine.[24] This lends credibility to the parallel trends assumption: Municipalities governed by female mayors were not on different trends of compliance prior to the intake of asylum seekers from Ukraine. The coefficients are consistently negative after the intake of asylum seekers from Ukraine. Female mayors comply substantially less with the quota in response to the migration crisis. In most of the time periods, coefficients are significant at the 5%-level.[25]

[Figure 3 goes here]

[24] I test this formally with an F-test on the joint significance of all coefficients prior to the intake of asylum seekers from Ukraine. The null hypothesis that all coefficients are jointly zero cannot be rejected at common levels ($p = 0.69$).

[25] In settings with few treated units, inference using cluster robust standard errors can lead to over-rejection of the null hypothesis of no effect. Thus, I also calculate the standard error using a randomized inference procedure (MacKinnon and Webb, 2020). The baseline effect remains significant at the 5%-level ($p = 0.030$). Figure A.8 of the online appendix shows the result of the randomized inference procedure.

The effect is quantitatively meaningful. Model (1) of Table 2 shows the coefficient of a reduced model in which the indicator for female mayors is interacted with an indicator for months after February 2022 (*Post*). Municipalities governed by female mayors have about 4.9 ppt. lower compliance relative to municipalities governed by male mayors. Evaluated at the average compliance of 95.6% this amounts to 5.1% lower compliance.[26] On average, municipalities in NRW are supposed to accommodate about 540 asylum seekers after February 2022. That is, a 4.9 ppt. lower compliance corresponds to 26 fewer asylum seekers.

The monthly averages of compliance represent the intensive margin. Next, I examine the extensive margin. That is, I examine differences in the probability to (fully) comply with the quota. I run a linear probability model with a binary outcome that is one if compliance in a given month is higher or equal to 100%. Results are collected in Figure A.9 of the online appendix. There is no significant difference in the probability to comply between female and male mayors in the aftermath of the intake of asylum seekers from Ukraine. Thus, the difference in compliance is driven by the intensive rather than the extensive margin.

Recent advances in the literature on difference-in-differences shows that TWFE specifications may suffer from negative weights. I formally test for such weights. There is no evidence that the TWFE specification suffers from negative weights. Nonetheless, I estimate the specification using the estimator proposed by de Chaisemartin and D'Haultfœuille (2020). This estimator is robust to heterogeneous treatment effects. The result is collected in Model (2) of Table 2. The effect is somewhat larger than the baseline and significant at the 5%-level. Figure A.10 of the online appendix shows that pre-treatment coefficients are also insignificant and close to zero.

[26] To ensure that treatment and control municipalities are similar in observable characteristics I use a matched TWFE model as alternative specification. I calculate propensity scores using a logistic regression predicting the probability of a female mayor from various pre-treatment municipality trends. I then rerun the TWFE model on a sample of matched municipalities (with replacement). The coefficient is somewhat larger than the baseline and significant at the 5%-level. Results are collected in Table A.2 of the online appendix.

My findings show that mayors are able to influence the number of asylum seekers that live in their municipality. They cannot influence the underlying allocation quota, however. Thus, there should be no systematic difference in the quota between female and male mayors. To test this empirically, I use the allocation quota as dependent variable. Model (3) of Table 2 collects the result of this placebo check. Reassuringly, the coefficient is insignificant and virtually zero.

[Table 2 goes here]

5.2 Local difference-in-differences results

Next, I examine the results of the local difference-in-differences specification. Graphical evidence is collected in Figure 4. There is clear discontinuity at the cut-off: Female mayors comply less with the quota. Regression results are collected in Models (4) – (6) of Table 2. Female mayors elected in close mixed-gender races comply less with the quota relative to male mayors elected in those races. The effect is significant at the 10% level. The effect size is considerably larger relative to the TWFE coefficient. The effect is similar when controlling for a quadratic specification of the margin of victory and when including all 110 mixed-gender races.

[Figure 4 goes here]

I show robustness to different bandwidths in Figure 5. Focusing on mixed-gender races limits variation available for estimation of the effect considerably. Even when using a relatively large bandwidth of 20%, there are only 40 municipalities – and thus elections – that had mixed-gender races.[27] As a consequence, I am not able to use smaller bandwidths that would more credibly support the notion of local randomization. Still, point estimates remain relatively

[27] While the bandwidths I use are relatively large, they are in line with bandwidths used in similar settings using data from German states (Freier and Thomasius, 2015; Baskaran and Hessami, 2018). The optimal bandwidth algorithm of Calonico *et al.* (2014) results in a bandwidth of 10% with only 17 municipalities left in the sample. Thus, I refrain from using the optimal bandwidth calculated by their algorithm.

stable across bandwidths and qualitatively align with the TWFE results. Thus, local difference-in-differences results provide additional support for the finding that female mayors comply less with the quota.

[Figure 5 goes here]

Lower compliance may reflect different motivations. While it could be due to a preference for fewer asylum seekers, this is not a valid definitive conclusion. Female mayors may be more realistic in their assessment on how many asylum seekers the municipality can host. They also may prefer better quality of asylum seeker care over higher numbers of asylum seekers. Alternatively, electoral incentives rather than own preferences may drive lower compliance. I will examine underlying mechanisms in Section 6.

5.3 Robustness

In this section, I support the robustness of my findings to different specifications. I show robustness using the TWFE specification as it encloses variation from all municipalities and results are more conservative relative to the local difference-in-differences specification. The results of the main robustness checks are collected in Table 3. Additional robustness checks are collected in Section A.1 of the online appendix. First, I show robustness to the choice of temporal aggregation in Models (1) and (2). Using weekly instead of monthly data does not change the main finding. As explained in Section 3.2, weekly data exhibits a large deviation during summer 2022 for purely administrative reasons. Using a linear interpolation instead of the (outlying) original values in summer 2022 does not change my findings.[28]

[Table 3 goes here]

[28] I use linear interpolation due to its simplicity and because the time period to interpolate is short. There are more complex methods, such as piecewise cubic Hermite interpolation. Figure A.11 of the online appendix shows that both methods yield virtually identical interpolated values.

Next, I examine if spatial or temporal patterns drive the results. In Model (3) of Table 3, I exclude all 22 independent cities (*Kreisfreie Städte*).[29] Mayors in these cities likely face different possibilities and constraints relative to mayors in more rural areas. Also, I exclude all municipalities that had an extraordinary election before the official election in September 2020 in Models (4). In Model (5), I exclude 34 municipalities that host a state-run asylum seeker facility (LEA/EAE/ZUE, see Section 2.2). Lastly, I limit the sample to 2021 and 2022, i.e. to a time window closer to the Russian invasion of Ukraine in February 2022. None of these models yield coefficients that are substantially different from the baseline findings.

6 Mechanisms

In this chapter, I examine potential mechanisms explaining the lower compliance with the asylum seeker quota of female mayors. I use the TWFE specification described in Section 4.1. This arguably complicates the causal interpretation of the mechanism as treatment is not fully exogenous. It provides a larger sample and thus more variation in treatment and dependent variable, however. In addition, using TWFE increases external validity relative to using municipalities with close mixed-gender races.

6.1 Differences in electoral incentives

There are differences in the climate that men and women encounter in the political arena. Female politicians are typically the exception rather than the norm. For example, there are substantially fewer female than male mayors in NRW (14%). Gender may affect day-to-day work of politicians. There is evidence from committee meetings in the US that women are interrupted more often than their male counterparts (Miller and Sutherland, 2022). Also, voters may harbor bias against female politicians (Baskaran and Hessami, 2018; Baltrunaite *et al.*, 2019). Taken together, these differences give rise to differential electoral incentives for female

[29] Independent cities are large cities that are not part of a district. Thus, they are not only responsible for their tasks as municipalities, but also for tasks of districts.

and male mayors. This may explain why female mayors reduce compliance – and consequently the number of asylum seekers in the municipality.

First, female mayors may reduce compliance to regain voters that lean towards far-right parties. These parties traditionally have a negative stance on immigration and asylum seekers. To test this mechanism empirically, I construct an indicator that is one if the major far-right parties AfD, REP, or NPD participated in the local election of 2020. All three parties favor the strict regulation of immigration and use anti-asylum seeker rhetoric. One or more of the far-right parties participate in 34% of municipalities. I split the sample into municipalities with and without participation of a far-right party. I then compare compliance of female and male mayors before and after February 2022. Subfigure (a) of Figure 6 collects the results. There is no significantly different effect on compliance between female and male mayors due to the participation of a far-right party.[30]

Second, female mayors may face different incentives because of more fierce electoral competition. To secure re-election, female mayors may reduce compliance because they are viewed more critically by the electorate relative to their male counterparts. In addition, hosting fewer asylum seekers may enable using scarce resources for public goods relevant to the electorate. Following Chauvin and Tricaud (2023), I use the margin of victory in races for the mayorship to proxy electoral competition.[31] If mayors perceive competition in the previous election a good predictor for competition in future elections, the reduction of compliance should be stronger for female mayors that won the mayorship in 2020 by a close margin.

To examine this mechanism empirically, I split the sample of municipalities at the median (absolute value) of the margin of victory. I then compare compliance of female and male

[30]More pressure from a far-right electorate may also materialize via higher turnout. Model (4) of Table 5 shows triple interactions with an indicator for above median turnout. There is no differential effect due to differences in turnout.

[31]In 43 municipalities (10.9%) the election of the mayor was uncontested in 2020. Thus, there is no margin of victory. These municipalities are ideal to study the role of electoral competition and the absence thereof. Only one of these municipalities has a female mayor, however. Thus, I cannot examine the difference in compliance in municipalities with uncontested elections.

mayors before and after February 2022 in both subsamples. Results are collected in Subfigure (b) Figure 6. The effect is significantly different from zero and larger than the baseline for elections with above median electoral competition. The effect is insignificant and virtually zero for elections with below or equal median electoral competition.[32] I use a triple interaction to test if these coefficients are significantly different from each other. The difference is significant at the 10%-level. Thus, female mayors that face stronger electoral competition comply less with the asylum seeker quota. If they did not have a strong competitor they comply just as much as male mayors. This is in line with Chauvin and Tricaud (2023), who show that electoral competition matters for female mayors in Brazil during the COVID-19 crisis.

[Figure 6 goes here]

6.2 Differences in agenda setting

Female mayors may host fewer asylum seekers because of inherently different priorities. As mayors prepare the agenda of council meetings, these differences in priorities may be elected in the frequency with which asylum seekers are discussed in council. To test this mechanism empirically, I collected about 2,000 council minutes.[33] Council minutes are publicly available for most municipalities. They include the agenda of the meeting, key lines of discussion, and council decisions. Minutes are not verbatim, however. Meetings of the local council take place about once every two months. The mayor heads the meeting and prepares the agenda. Thus, this corpus of council minutes provides a unique way to examine differences in the frequency asylum seekers are discussed in local councils.

To proxy the agenda setting of mayors, I examine the frequency of words related to asylum seekers in council minutes. Minutes are pre-processed following common practice (Gentzkow *et al.*, 2019). Then, I count occurrences of the words *"fluechtling"*, *"asyl"*, and *"gefluechtete"*

[32] This finding is consistent with descriptive results collected in Figure A.12 of the online appendix.

[33] I limit the collection of council minutes to municipalities with a mixed-gender race. Unfortunately, I am not able to obtain minutes for all the 110 municipalities. Details on the collection of council minutes are described in Section A.2 of the online appendix.

as well as all words that share these stems (referred to as asylum-terms in the following). The word counts are normalized by the total number of words in a given minute. This accounts for differences in how detailed the minutes are. As municipalities choose the timing and the number of meetings individually, I code the time-dimension of the count of asylum-terms relative to February 2022.

[Figure 7 goes here]

Subfigure (a) of Figure 7 shows the frequency of the asylum-terms for council minutes headed by female and male mayors. The intake of asylum seekers from Ukraine is associated with in a strong increase in the number of times asylum seekers are discussed in council. This underscores the importance of asylum seekers in local politics. The increase is temporary only, however. About seven meetings after February 2022, asylum seekers are discussed as often as before. This pattern is broadly similar for female and male mayors. Thus, the descriptive pattern is not consistent with differences in agenda setting or priorities between female and male mayors. To examine this empirically, I rerun the model described in Equation (3) using the normalized count of asylum-terms as dependent variable. Results are collected in Subfigure (b) of Figure 7. There is no significant difference in how often asylum seekers are discussed between female and male mayors.

Next, I descriptively examine differences in topics that characterize council discussions about asylum seekers. To obtain proxies for relevant topics in an automated way, I examine a window of ten words before and after the asylum-terms. Then, I compare the prevalence of a given word within this window relative to its prevalence in the rest of the corpus.[34] Typically, such keyness measures use a χ^2-test to determine if the prevalence of a given word differs significantly between the window and the full corpus. This provides a measure on distinctive keywords that are used primarily in council discussions about asylum seekers.

[34]Note, that these words are not necessarily the most frequent words in discussions about asylum seekers. Instead, they are the most distinctive words. Figure A.13 of the online appendix shows the 25 most frequent terms in discussions about asylum seekers.

Table 6 shows the fifteen most distinct keywords for councils headed by male and female mayors. Many of the keywords are related to housing asylum seekers (e.g. *"unterbring"* or *"wohnunterkuenft"*). Also, *"ukrain"* is a highly distinctive keyword. It highlights that discussions are centered around newly arriving asylum seekers from Ukraine. Descriptively, there are no striking differences between council meetings headed by female and male mayors. If anything, keywords related to finance and the labor market are slightly more prevalent in discussions under male leadership.

6.3 Local fiscal capacity

Hosting asylum seekers requires (indirect) financial efforts by the municipalities. In particular, municipalities may need to provide more and different public goods. This can put an additional financial burden on municipalities. At the same time, female and male mayors may handle the scarcity of resources differently. If the difference in compliance is larger in financially strained municipalities this suggests that female mayors use their leeway to avoid the additional financial burden related to asylum seekers.

To examine this mechanism empirically, I use data on tax revenue and municipal spending provided by the Statistical Office of NRW. I use the share of tax revenue relative to total spending as proxy for local fiscal capacity. I use data from 2019, i.e. the last year before the local election of 2020 as fiscal capacity thereafter is endogenous to female mayors. I split the sample at the median share of tax revenue relative to total spending and rerun models similar to previous sections. Figure 8 collects the results. The effect on compliance is not significantly different in financially strained municipalities. Thus, fiscal capacity does not explain the lower compliance of female mayors.

6.4 Other mayor characteristics as competing mechanisms

To rule out alternative mechanisms, I examine the role of other mayor characteristics. Being a female mayor is a compound treatment of observed and unobserved personal characteristics.

Thus, the effect of female mayors on compliance with the asylum seeker quota may be driven by other personal characteristics, for example experience in office. To rule out that differences in personal characteristics drive the results, I hand-collected information on all 396 mayors. Table 4 collects results of t-tests that compare male and female mayors along different personal characteristics.

[Table 4 goes here]

First, I examine whether the effect on compliance may be due to different levels of experience in managing the local administration.[35] Female and male mayors do not significantly differ in age and incumbency, which may proxy experience in office. They also do not differ in the probability of having a higher degree.[36] Female mayors significantly less often have an occupational background in public administration, however. I thus examine the effect of female mayors separately for mayors with a public administration background. Results are collected in Model (1) of Table 5. The effect is not statistically different for mayors with a public administration background. If anything, the effect is larger for mayors with a public administration background. In summary, there is no evidence that skills or experience explain lower compliance of female mayors.

Second, I examine whether the list affiliation of mayors matters. Female and male mayors run on different lists. Female mayors are significantly more often part of the social democrats (SPD) and the Greens. In turn, male mayors are significantly more often part of the conservative CDU and the liberal FDP. I create an indicator that is one for mayors that run for the SPD, the Greens, or a joint list of both. Model (2) of Table 5 examines if the effect on compliance is different for mayors on left versus right and independent parties. There is no significant difference in the effect of female mayors on compliance.

[35]There is mixed evidence on whether a public administration background matters for policy outcomes at the local level. Hyytinen *et al.* (2018) find that public employees increase spending. Hessami *et al.* (2023) find no effect of public administration mayors on municipal grants.

[36]Mayors have a higher degree if they obtained a degree from a university, a university of applied sciences (*FH*), or if they have a PhD. The vast majority of mayors has a university degree (about 83%).

[Table 5 goes here]

7 Conclusion

I examine the role of female leaders in times of a migration crisis. To study their effect on hosting asylum seekers, I use the intake of asylum seekers from Ukraine after February 2022 as a setting. I use monthly data on compliance with the allocation quota in the German state of NRW. Results from TWFE and local difference-in-differences estimations show that female mayors comply substantially less with the quota. Compliance is between 5 and 11 ppt. lower for female mayors. The effect is not driven by competing personal characteristics or the frequency of asylum seeker topics in council. Electoral incentives matter for compliance, however. Female mayors that faced electoral competition in the past comply less with the quota.

There are two avenues I will examine in more detail in future extensions. First, I will examine if lower compliance translates into differences in quality of asylum seeker care. That is, I will examine per capita municipal spending for asylum seekers or differences in the quality of local public goods provided for asylum seekers. Second, I will examine the sentiment of the discussion in councils under female and male leadership.

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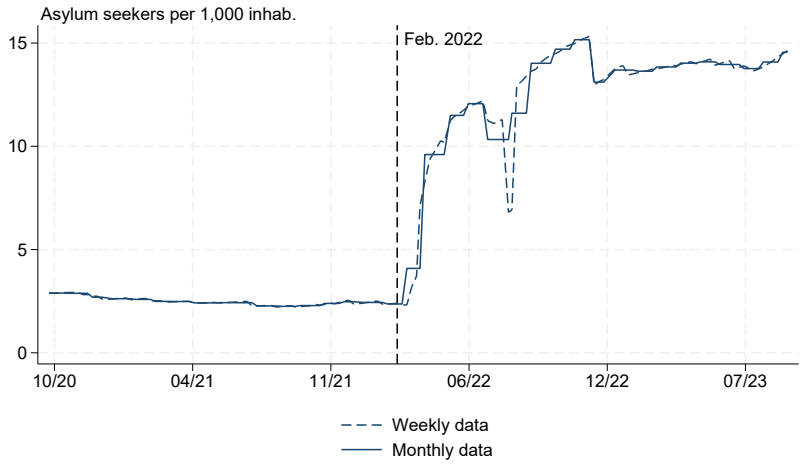
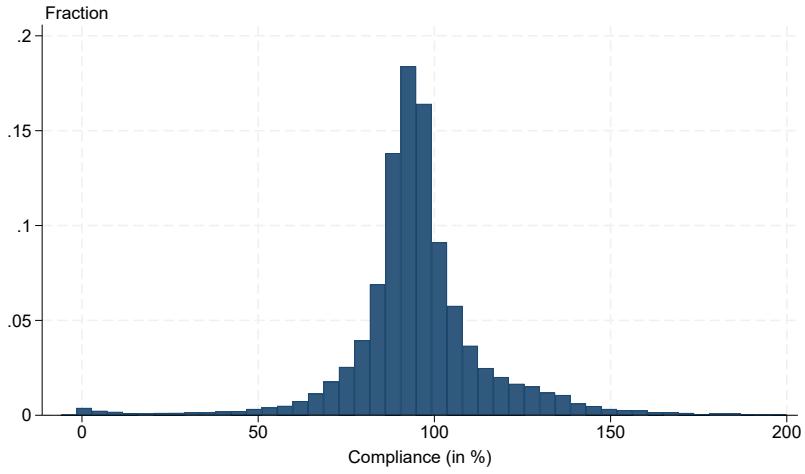


(a)



(b)

Figure 1: Asylum seekers over time and compliance with the quota. Subfigure (a) shows the number of asylum seekers per 1,000 inhabitants over time. The graph shows weekly and monthly data between October 2020 and September 2023. The complete time-series from 2018 to 2023 can be obtained in Figure A.2 of the online appendix. The vertical line indicates the beginning of the Russian invasion of Ukraine. Subfigure (b) shows the distribution of the compliance with the allocation quota in percent. The graph shows weekly data between October 2020 and September 2023. Extreme values are excluded.

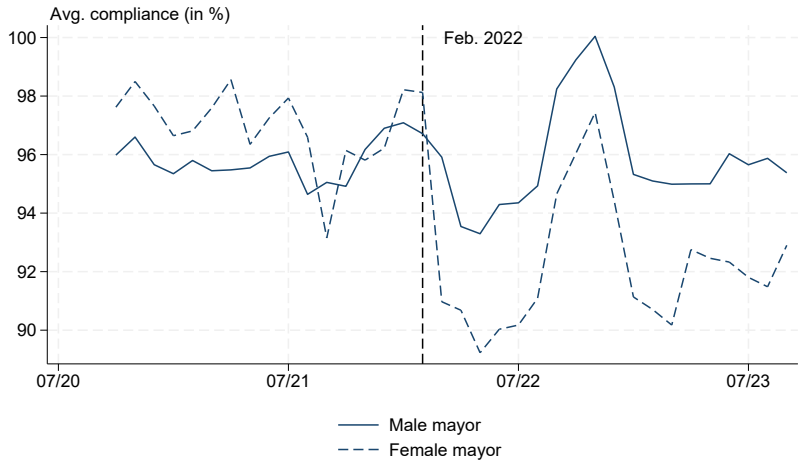


Figure 2: Female mayors and compliance. This graph shows compliance with the allocation quota over time for male and female mayors. The graph shows monthly data between October 2020 and September 2023. The vertical line indicates the beginning of the Russian invasion of Ukraine in February 2022.

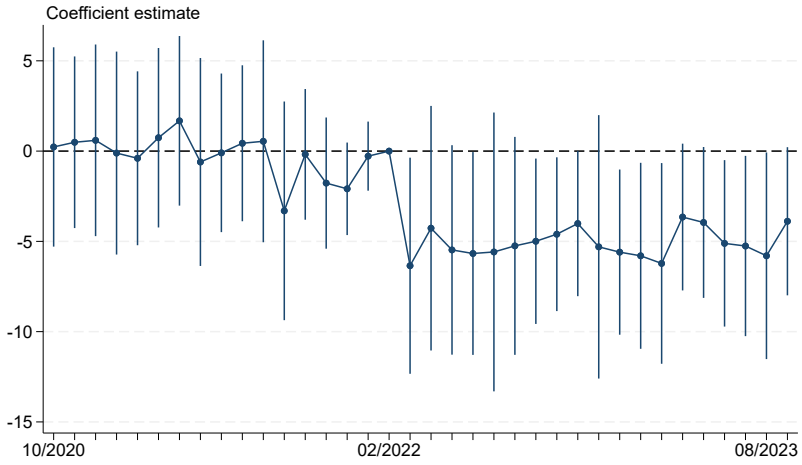


Figure 3: Baseline: Female mayors and compliance. This graph shows coefficient estimates of interactions between month indicators and an indicator for female mayors (N: 14,256). Outcome data are monthly aggregates of compliance with the asylum seeker quota. Regressions include municipality and month fixed effects. Standard errors are clustered at the municipality. The full sample of municipalities is used. 95% confidence intervals are indicated in the graph.

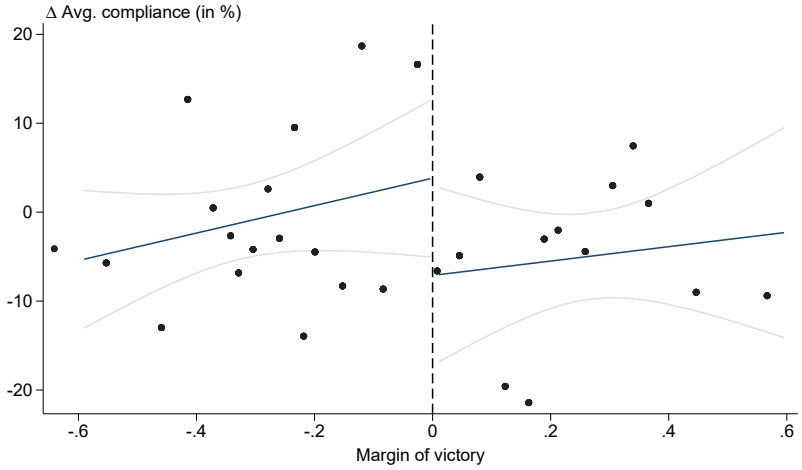


Figure 4: Local difference-in-differences plot. This graph shows local difference-in-differences plot in the spirit of Grembi *et al.* (2016). The y-axis shows the difference in average compliance between before and after February 2022. Data is pooled into 30 bins. Linear regression lines are fitted on both sides of the cut-off. 95% confidence intervals are indicated in the graph.

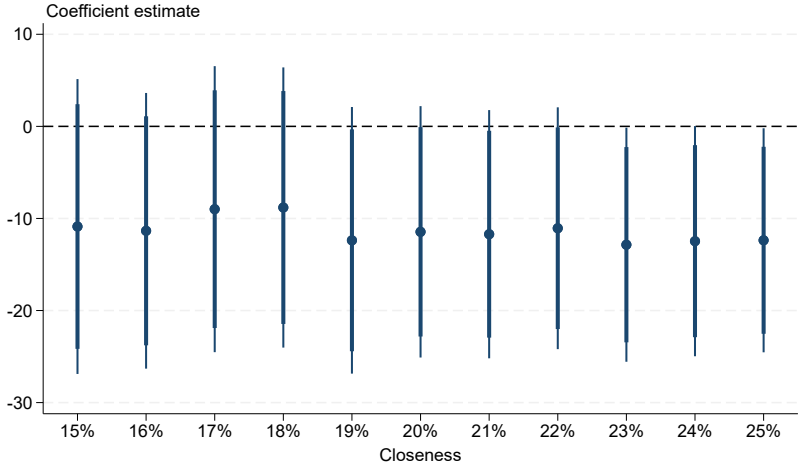
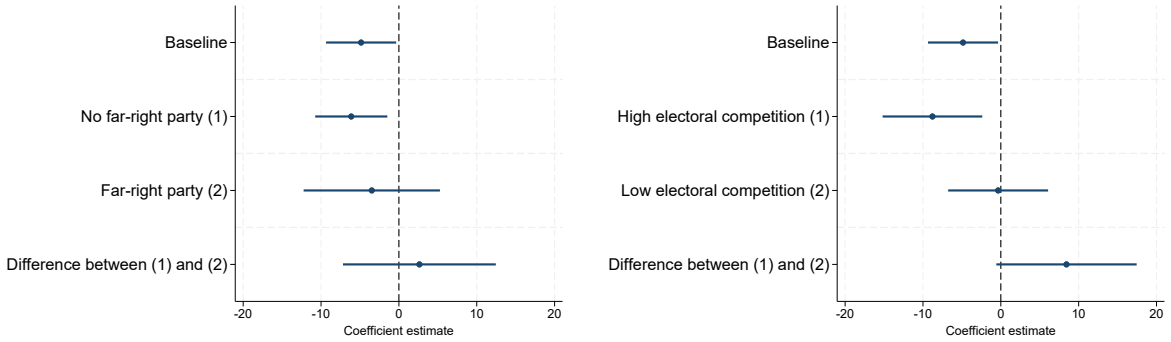
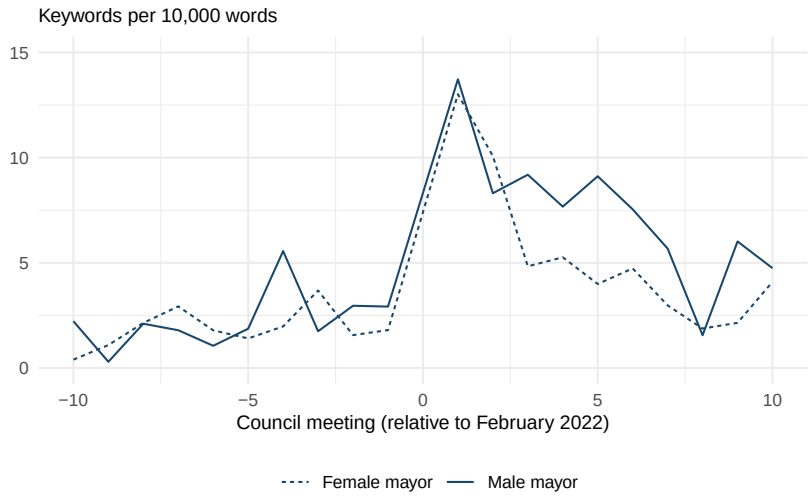


Figure 5: Robustness to different bandwidths. This graph shows coefficient estimates of the local difference-in-differences specification. The respective sample is limited to different bandwidths of the margin of victory of female candidates. 90 and 95% confidence intervals are indicated in the graph.

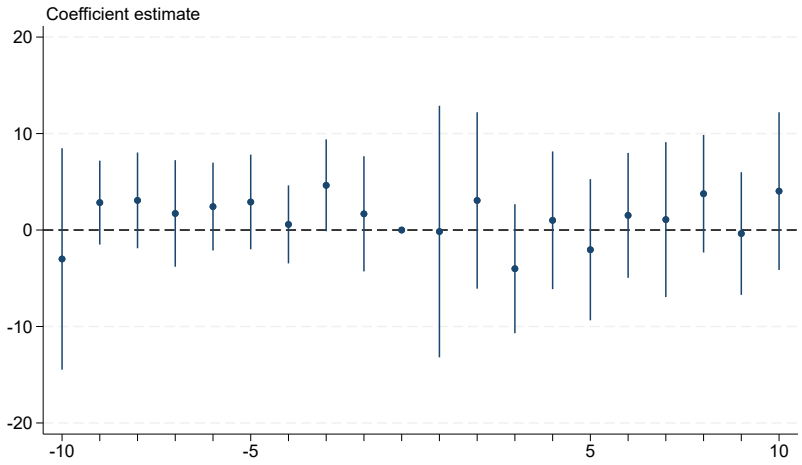


(a) **(b)**

Figure 6: Mechanism – Electoral incentives. Subfigure (a) shows coefficient estimates of a version of the model described in Equation (3). The sample is limited to municipalities with (1) and without (2) far-right party (AfD, REP, and NPD) participating in the election of 2020. The third model reports the coefficient of a triple interaction including an indicator variable for the participation of a far-right party. With this triple interaction I show that the coefficients from models (1) and (2) are not statistically different from each other. Subfigure (b) shows coefficient estimates limiting the sample to races for the mayorship with below (1) and above (2) median closeness of the election. This proxies for the electoral competition mayors face. The third model reports the coefficient of a triple interaction including an indicator variable for above median closeness. With this triple interaction I show that the coefficients from models (1) and (2) are statistically different from each other at the 10%-level. The baseline coefficient is included for reference. 95% confidence intervals are indicated in the graph.



(a)



(b)

Figure 7: Mechanism – Agenda setting. Subfigure (a) shows the number of times words regarding asylum seekers are mentioned in a council minute. This number is normalized by the total number of words in the council minute. This share is depicted separately for councils headed by female and male mayors. The keywords are *"fluechtling"*, *"asyl"*, and *"gefluechtet"* as well as all words that start with these stems. The x-axis shows the council meeting relative to February 2022, i.e. five indicates the fifth meeting since after February 2022. Subfigure (b) shows coefficients of regressions following Equation (3) in which the share of keywords relative to all words in council minutes is the dependent variable. 95% confidence intervals are indicated in the graph.

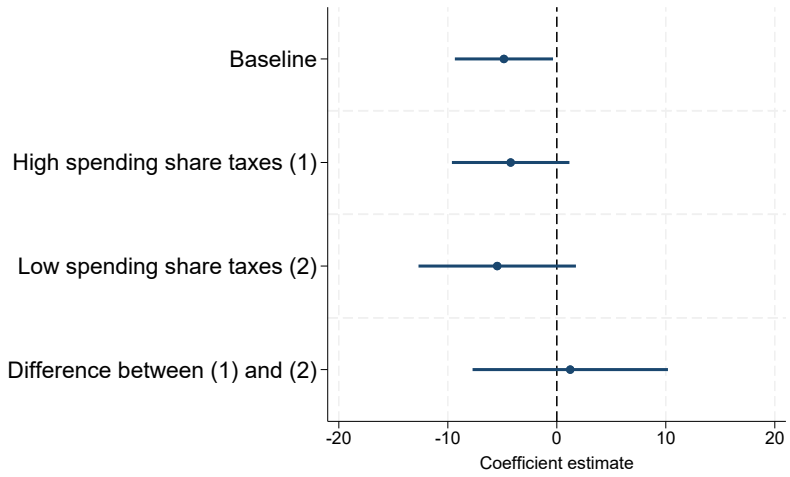


Figure 8: Mechanism – Local economic conditions. This figure shows coefficient estimates of a version of the model described in Equation (3). The sample is limited to municipalities with above (1) and below median (2) share of tax revenue relative to total spending. The third model reports the coefficient of a triple interaction including an indicator variable for above median share of tax revenue relative to total spending. With this triple interaction I show that the coefficients from models (1) and (2) are not statistically different from each other. The baseline coefficient is included for reference. 95% confidence intervals are indicated in the graph.

Table 1: SUMMARY STATISTICS OF MUNICIPALITY CHARACTERISTICS

Variable	Mean	SD	Min.	Max.	N
Average compliance (in %)	95.63	19.14	0	275	14256
Average allocation quota (in %)	0.25	0.47	0	5.62	14256
Average share asylum seekers (per 1,000)	7.90	5.87	0	35	14255
Female mayor	0.14	0.35	0	1	14256
Post Feb. 2022	0.53	0.50	0	1	14256
Participation right party	0.34	0.47	0	1	14256
Turnout (in %)	53.38	9.68	27	74	14256
Anti-asylum event	0.64	0.48	0	1	14256
Member Safe Haven	0.12	0.33	0	1	14256

Notes: This table reports summary statistics on key variables for the estimation sample. All variables are at the municipality level.

Table 2: BASELINE – FEMALE MAYORS AND COMPLIANCE

				Local diff-in-diff		
	(1)	(2) CH (2020)	(3) Alloc. quota	(4)	(5)	(6)
Female mayor × Post	-4.851**	-6.349**	-0.013	-11.454*	-12.284*	-9.909**
	(2.291)	(3.210)	(0.065)	(6.748)	(6.815)	(4.544)
Mean (SD)	95.63 (19.14)	95.63 (19.14)	25.25 (46.62)	99.92 (24.95)	99.92 (24.95)	96.62 (21.11)
Time FE	✓		✓	✓	✓	✓
Municipality FE	✓		✓	✓	✓	✓
Bandwidth				20%	20%	All
Polynomial				Linear	Quadratic	Linear
Municipalities	396		396	40	40	110
N	14,256	396	14,256	1,440	1,440	3,960

Notes: This table reports results from regressions that relate an indicator for female mayor interacted with an indicator for the time after the intake of asylum seekers from Ukraine (*Post*) to compliance with the asylum seeker allocation quota (in %). Model (1) reports results from a TWFE model. Model (2) reports results using the estimator proposed by de Chaisemartin and D'Haultfœuille (2020). Model (3) reports results using TWFE and the allocation quota as an outcome. Model (4) reports results from a local difference-in-differences model using a linear polynomial of the running variable and a bandwidth of 20%. Model (5) reports results using a quadratic polynomial of the running variable and a bandwidth of 20%. Model (6) includes a linear polynomial and all mixed-gender races. Stars indicate significance levels at 10%(*), 5%(**), and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality.

Table 3: ROBUSTNESS – FEMALE MAYORS AND COMPLIANCE

	Dep. var.: Compliance with quota (in %)					
	(1) Weekly	(2) Interpol.	(3) excl. *Krfr.*	(4) excl. < 2020	(5) EAE/ZUE	(6) 2022/2023
Female mayor × Post	-4.929**	-5.012**	-4.541*	-5.007**	-4.468*	-4.762*
	(2.309)	(2.300)	(2.331)	(2.388)	(2.339)	(2.525)
Mean (SD)	95.59 (21.10)	95.74 (20.29)	95.16 (19.04)	95.72 (19.05)	93.51 (19.59)	95.83 (19.74)
Time FE	✓	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓	✓	✓	✓
Mun	396	396	374	381	362	396
N	59,002	59,002	13,464	13,716	13,031	9,504

Notes: This table reports results from regressions that relate an indicator for female mayor interacted with an indicator for the time after the intake of asylum seekers from Ukraine (*Post*) to compliance with the asylum seeker allocation quota (in %). Model (1) uses weekly instead of monthly data. Model (2) uses weekly data and values of a linear interpolation during summer 2022. Model (3) excludes the 22 independent cities. Model (4) excludes municipalities that had an extraordinary election before September 2020. Model (5) excludes municipalities that host state-run asylum seeker facilities (LEA/EAE/ZUE). Model (6) limits the sample to the years 2021 and 2022. Stars indicate significance levels at 10%(*), 5%(**), and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality.

Table 4: BALANCE OF MAYOR CHARACTERISTICS

Variable	Female	Male	Difference	Std. Errors	N
Age	50.74	50.46	-0.279	1.183	393
University degree	0.82	0.83	0.007	0.055	383
Public administration	0.18	0.39	0.206***	0.069	388
Incumbent	0.47	0.54	0.066	0.072	396
# Children	1.86	2.16	0.299*	0.176	298
Immigrant background	0.02	0.01	-0.006	0.016	396
SPD or GRÜNE	0.35	0.24	-0.106*	0.063	396
CDU or FDP	0.18	0.46	0.282***	0.069	396
Independent	0.18	0.19	0.010	0.056	396

Notes: This table shows t-tests for differences in personal characteristics between female and male mayors. Stars indicate significance levels at 10%(*), 5%(**), and 1%(***).

Table 5: MECHANISM – FEMALE MAYORS AND COMPLIANCE

	Dep. var.: Compliance with quota (in %)				
	(1) Pub. Admin.	(2) Left list	(3) AfD/NPD	(4) Turnout	(5) MoV
Female mayor × Post	-3.992	-3.849	-6.119***	-2.617	-8.783***
	(2.600)	(2.497)	(2.351)	(3.695)	(3.235)
Post × Char.	-0.107	1.898	2.911	-2.652	-4.169**
	(1.895)	(2.367)	(1.874)	(1.773)	(1.895)
Female mayor × Post × Char.	-3.008	-3.541	2.636	-4.337	8.437*
	(6.097)	(5.370)	(4.993)	(4.511)	(4.582)
Mean (SD)	95.74 (19.11)	95.63 (19.14)	95.63 (19.14)	95.63 (19.14)	95.77 (19.16)
Time FE	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓	✓	✓
Mun	388	396	396	396	353
N	13,968	14,256	14,256	14,256	12,708

Notes: This table reports results from triple interaction terms of an indicator for female mayor, an indicator for the time after the intake of asylum seekers from Ukraine (*Post*), and the respective characteristic in the model head. The dependent variable is compliance with the asylum seeker allocation quota (in %). Model (1) shows interaction terms with an indicator for mayors with a background in public administration. Model (2) shows interactions with an indicator for mayors running for the SPD or the Greens. Model (3) shows interactions with an indicator for municipalities in which the far-right AfD or NPD participated in elections. Model (4) shows interactions with an indicator for above median turnout. Model (5) shows interaction with an indicator for municipalities that had an above median margin of victory (MoV) in the election of 2020. Stars indicate significance levels at 10%(*), 5%(**), and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality.

Table 6: KEYNESS – DISTINCTIVE KEYWORDS IN DISCUSSIONS ABOUT ASYLUM SEEKERS

Male mayors			Female mayors		
Word	Chi2	p-value	Word	Chi2	p-value
unterbring	10226.7	0	ukrain	5075.3	0
ukrain	5890.7	0	unterbring	4249.5	0
auslaend	5277.2	0	potsdam	1882.3	0
unterkuenft	2755.2	0	unterkuenft	1798.2	0
ausreisepflicht	1632.2	0	sonderpruef	1774.2	0
obdachlos	1600.4	0	obdachlos	1753.7	0
flueag	1404.6	0	koelnweid	1608.6	0
untergebracht	1241.9	0	wohnunterkuenft	1369.5	0
aussiedl	1088.7	0	aussiedl	1280.0	0
erwerbsquot	1043.1	0	untergebracht	1267.2	0
transferleistungsbezug	1014.6	0	mitteilungskachel	1230.9	0
daenisch	927.8	0	xii	1115.0	0
gefluechtet	907.9	0	ortskraeft	1013.0	0
bundesbeteil	866.1	0	moria	899.2	0
awov	812.5	0	person	701.0	0

Online appendix

A.1 Additional robustness checks

In this Section, I describe additional robustness checks. Results are collected in Table A.3. First, I show robustness to different specifications of the dependent variable. I transform the compliance measure using the inverse hyperbolic sine. In addition, I rerun the model excluding outliers. That is, I exclude municipality-month combinations with above or equal 200% compliance. This is the case for 20 such combinations. Both specifications result in very similar coefficients relative to the baseline.

Second, I show robustness with respect to the sample composition. Traditionally, the heavily industrialized and urbanized Ruhr-area was the destination of migration flows. Also, this region was undergoing extensive structural change after the end of coal mining. Both aspects may affect the willingness of these municipalities to host asylum seekers. I proxy the Ruhr-area by members of the municipal initiative *Metropole Ruhr*. To ensure that these 53 municipalities do not drive my findings, I exclude them from the estimation sample. I also exclude 49 cities that are part of a German pro-asylum seeker initiative on municipality level (*Städte Sicherer Häfen*). Results remain unchanged for both limitations of the estimation sample.[37]

Third, I examine electoral peculiarities. I exclude all municipalities that had a runoff election in the mayoral election of 2020. In addition, I exclude all municipalities that had an extraordinary election after the regular election in 2020. This was typically due to the resignation of a mayor. Again, results remain unchanged for both specifications.

[37] The list of municipalities that are a member of *Metropole Ruhr* can be obtained from https://metropole.ruhr/metropole. The list of municipalities that are a member of *Städte Sicherer Häfen* can be obtained from https://staedte-sicherer-haefen.de/.

A.2 Collection of council minutes

To examine the mechanism in more detail I hand collect official minutes of council meetings. Data collection took place in December 2023. I examine the election period of 2020, i.e. council meetings between November 2020 and December 2023. There is no mandatory frequency of council meetings. The municipal code of NRW recommends at least one meeting every two months. There is considerable variation in meeting frequency. There are municipalities that had more than 30 meetings during this period. On average, municipalities had 21.7 meetings between October 2020 and December 2023.

Typically, municipalities have an online information platform for citizens and council members (*Ratsinformationssystem*). I manually downloaded council minutes from these platforms. In some cases, no such platforms were available. In these cases I contacted municipalities via e-mail and phone. In total, I am able to obtain for 103 of the 110 municipalities that had a mixed-gender race (93.6%). This corresponds to 2,025 council minutes. Note, that for some municipalities not all minutes are publicly available. Minutes are in PDF format. They include information on participation, duration, the agenda of the meeting, key lines of discussion, and decisions of the council. Minutes are not recorded verbatim. Instead, they provide an abbreviated version of council discussions. Council meetings can include parts that are not public. This is possible for topics that concern individuals and their right for privacy, such as property purchases of citizens. The discussion in these parts of the council meetings are not recorded. Minutes are written by a clerk who is determined in the beginning of the council period.

To improve comparability across municipalities, I limit minutes to their core part. In particular, I remove all appendices. Appendices can be large and include personal statements, sketches of infrastructure projects, proposals for public contracts, or tables for budgetary planning. They typically do not include additional information on the discussion in council. I inspect minutes visually to determine the extent of the core part and cut them accordingly. After removing the appendix the average minute has 19 pages.

The corpus of minutes is pre-processed for automated analysis following common practice (Gentzkow *et al.*, 2019). I remove numbers, special characters, and lines. All words are

transformed to lowercase. Typical German stop-words are removed and words are adjusted using the Porter stemmer.

A.3 Additional figures

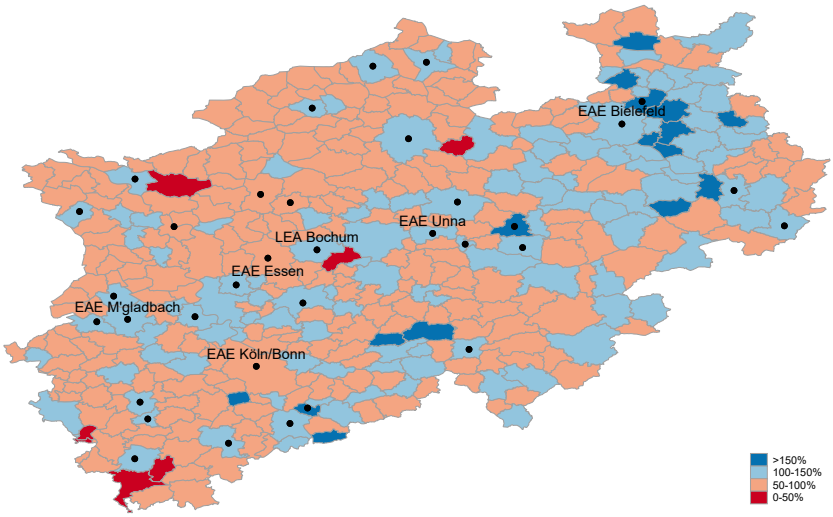
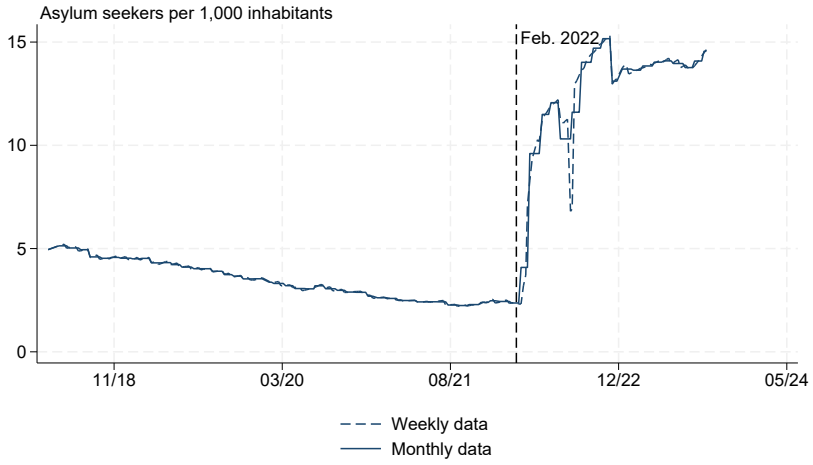


Figure A.1: Compliance across municipalities. This map shows the compliance with the quota for the municipalities in NRW. The average weekly compliance in March 2022 is depicted. Different types of asylum seeker facilities are indicated by the black dots. LEA is the state initial reception facility. EAE are the five state reception facilities. The unlabeled dots are the 28 state accommodation facilities.



(a)

Figure A.2: Asylum seekers over time (full time-series). This graph shows the number of asylum seekers per 1,000 inhabitants over time. The graph shows weekly and monthly data between March 2018 and September 2023. The vertical line indicates the beginning of the Russian invasion of Ukraine.

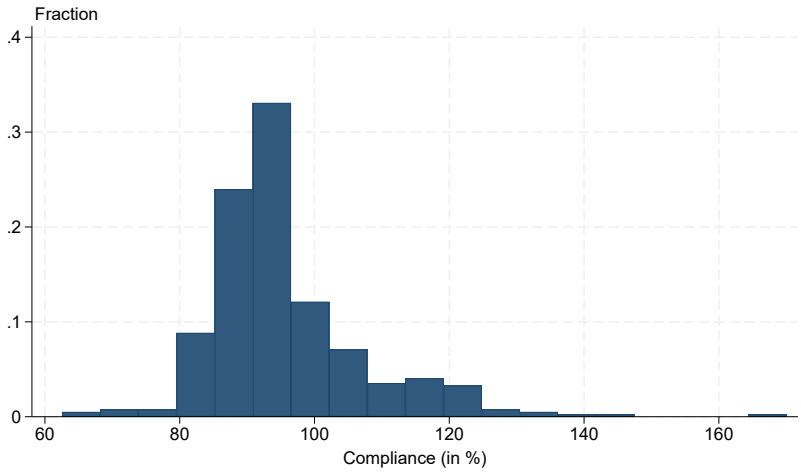


Figure A.3: Distribution of municipality average compliance. This graph shows the distribution of the average compliance for the 396 municipalities. The average is calculated across all years in the election period of 2020.

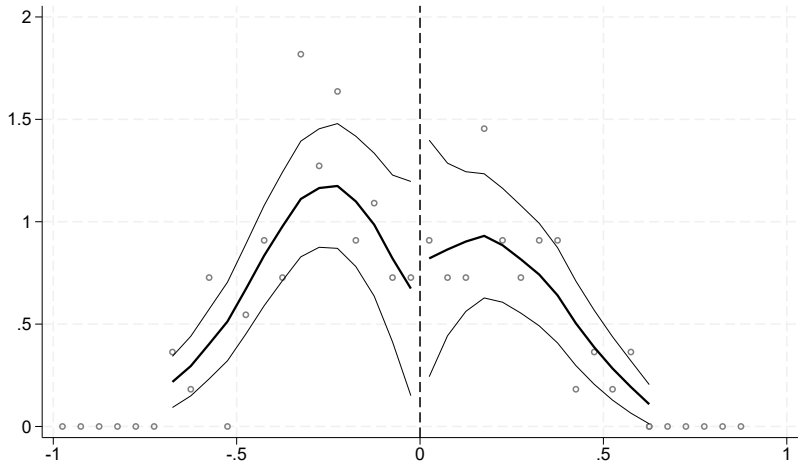


Figure A.4: McCrary plot. This graph shows the McCrary plot to test if there is manipulation of the running variable. The log difference in height is 0.26 with a standard error of 0.69.

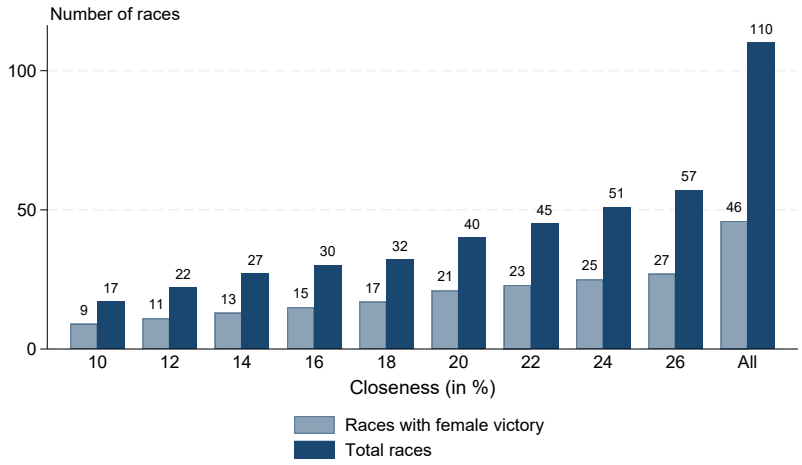


Figure A.5: Number of mixed-gender races. This graph shows the number of mixed-gender for different levels of closeness.

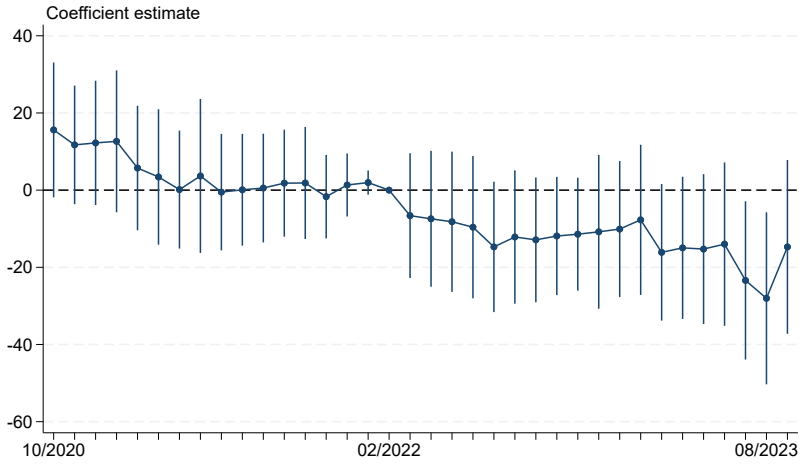
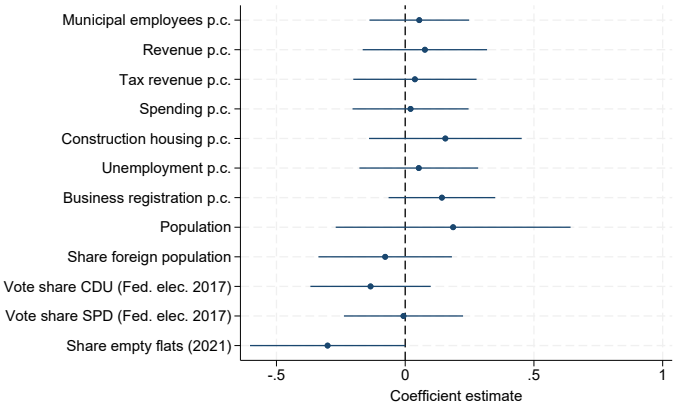
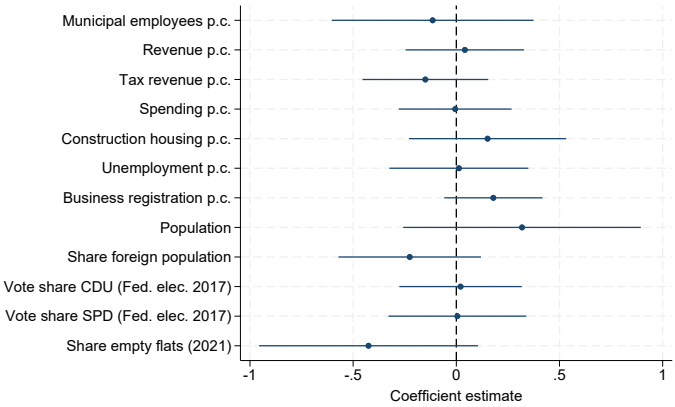


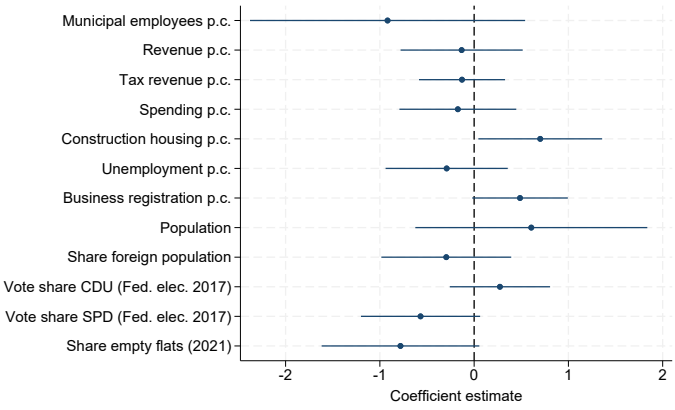
Figure A.6: (Local-) difference-in-differences. This graph shows coefficient estimates of interactions between month indicators and an indicator for female mayors. The sample is limited to close mixed-gender races using the 20% bandwidth (N: 1,440). Dependent variable data are monthly aggregates of compliance with the asylum seeker quota. Regressions include municipality and month fixed effects. Standard errors are clustered at the municipality. 95% confidence intervals are indicated in the graph.



(a) Full sample



(b) Mixed-gender races



(c) Close mixed-gender races (20%)

Figure A.7: Balance of municipality characteristics. This graph shows coefficient estimates of regressions that relate an indicator for female mayor to the respective municipality-level dependent variable. If not indicated differently, data are from 2019. That is, data are from before the regular municipal election of 2020. All dependent variables are standardized. Subfigure (a) shows estimates for all 396 municipalities. Subfigure (b) shows estimates for the 110 municipalities with a mixed-gender race. Subfigure (c) shows estimates for the 40 municipalities with a close mixed-gender races, i.e. with an (absolute) margin of victory of below 20%. 95% confidence intervals are indicated in the graph.

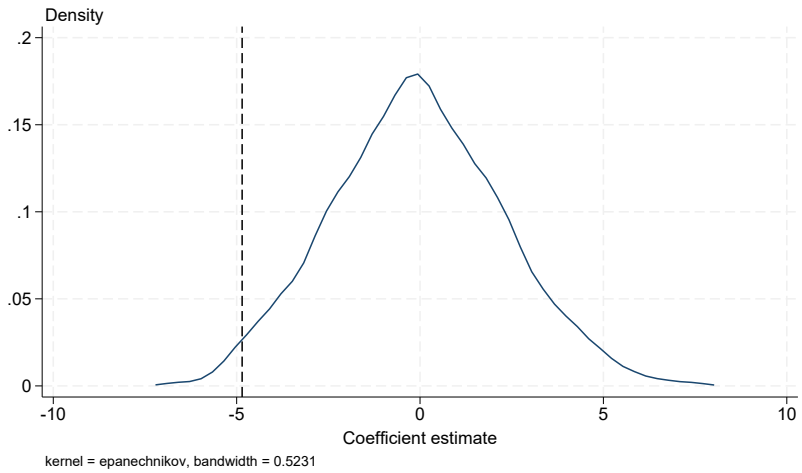


Figure A.8: Randomized inference. This graph shows the results of a randomized inference procedure. The female mayor treatment is randomly allocated to municipalities (999 repetitions). The graph shows a kernel density plot of the estimated coefficients. The dashed line indicates the actual coefficient from model (1) of Table 2. The estimated p-value is 0.030 with a standard error of 0.0054. Its 95% confidence interval excludes the 0.05 and 0.10 thresholds.

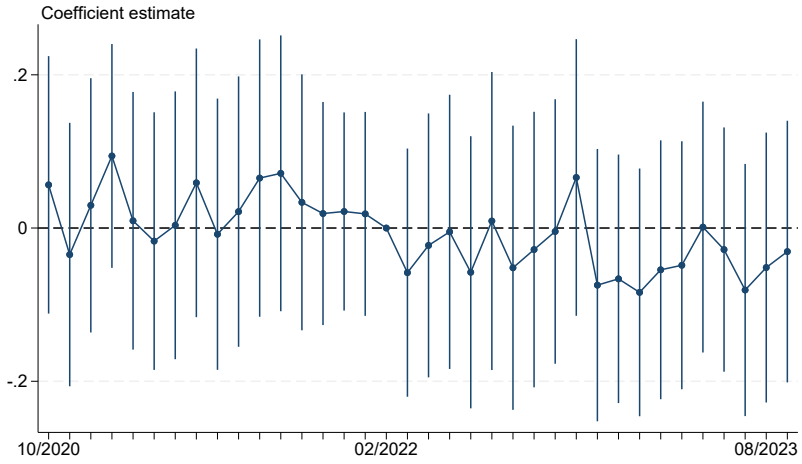


Figure A.9: Female mayors and compliance - extensive margin This graph shows coefficient estimates of interactions between month indicators and an indicator for female mayors (N: 14,256). The dependent variable is an indicator that is one if the compliance is higher or equal to 100%. Regressions include municipality and month fixed effects. Standard errors are clustered at the municipality. The full sample of municipalities is used. 95% confidence intervals are indicated in the graph.

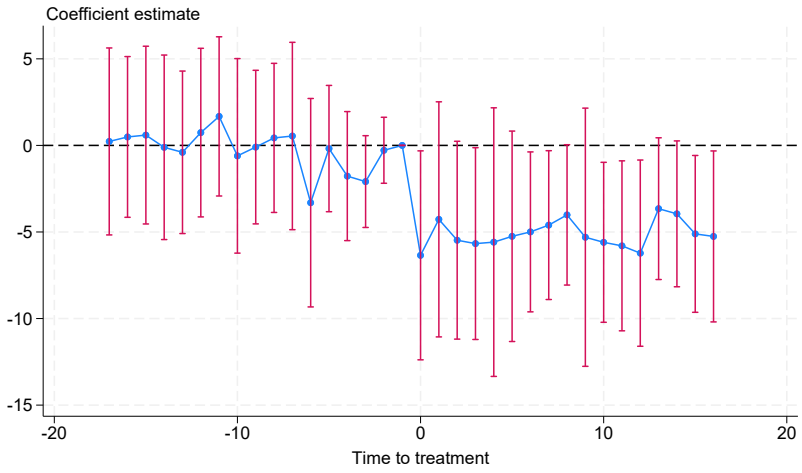


Figure A.10: Alternative difference-in-differences plot. This graph shows estimation results using the estimator proposed by de Chaisemartin and D'Haultfœuille (2020). Standard errors are calculated using 1,000 bootstrap repetitions. 95% confidence intervals are indicated in the graph.

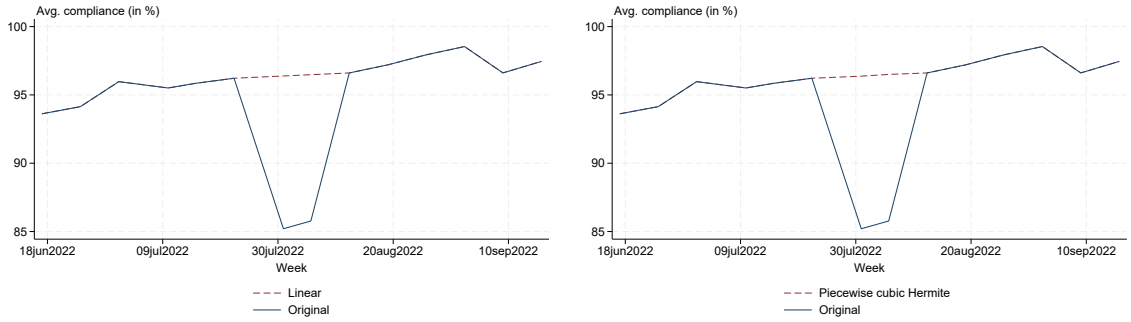


Figure A.11: Interpolation of compliance. This graph shows the interpolated values for the drop in compliance in summer 2022 due to administrative reasons. The time series is limited to a window around the interpolation of data points. Subfigure (a) shows a linear interpolation. Subfigure (b) shows a piecewise cubic Hermite interpolation.

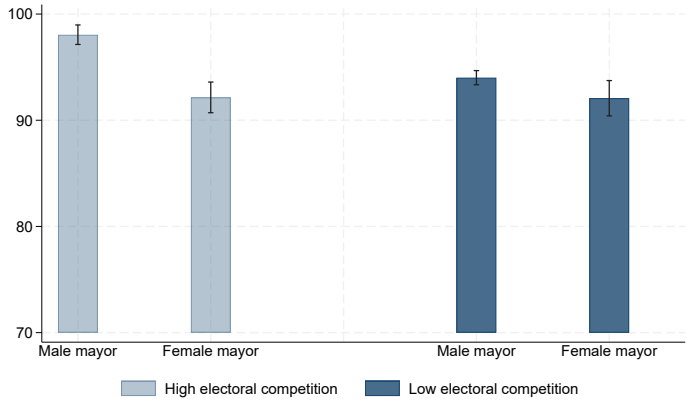


Figure A.12: Mechanism – Electoral competition. This graph shows the average compliance of female and male mayors in the months after the intake of asylum seekers from Ukraine. The sample is split by municipalities with low and high electoral competition in 2020. 95% confidence intervals are indicated in the graph. Note that the y-axis is truncated at 70% compliance.

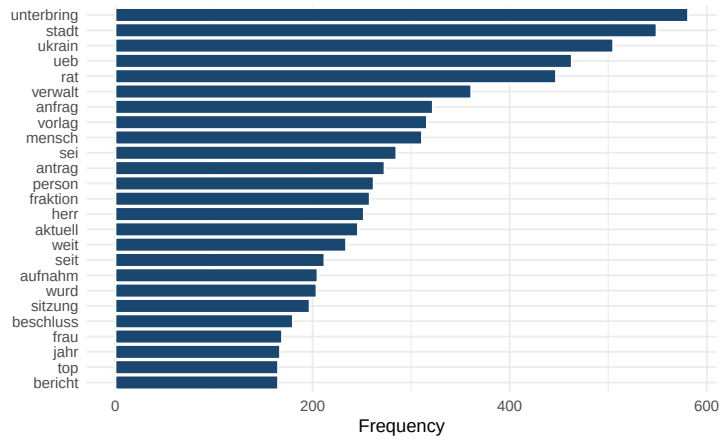


Figure A.13: Most frequent terms in discussions about asylum seekers. This graph shows the 25 most frequent words in a window of ten words before and after the asylum-terms.

A.4 Additional tables

Table A.1: BALANCE OF MAYOR CHARACTERISTICS (CLOSE RACES)

Variable	Female	Male	Difference	Std. Errors	N
Age	52.05	51.32	-0.732	2.213	40
University degree	0.86	0.89	0.038	0.107	40
Public administration	0.10	0.26	0.168	0.120	40
Incumbent	0.33	0.37	0.035	0.155	40
# Children	1.87	1.93	0.067	0.356	30
Immigrant background	0.00	0.00	0.000	0.000	40
SPD or GRÜNE	0.38	0.32	-0.065	0.155	40
CDU or FDP	0.14	0.58	0.436***	0.138	40
Independent	0.10	0.00	-0.095	0.069	40

Notes: This table shows t-tests for differences in personal characteristics between female and male mayors. The sample is limited to close mixed-gender races. The bandwidth is 20%. Stars indicate significance levels at 10%(*), 5%(**), and 1%(***).

Table A.2: MATCHED TWFE – FEMALE MAYORS AND COMPLIANCE

	(1) Logit	(2) TWFE
Female mayor × Post		-6.960**
		(3.200)
Δ Construction p.c.	0.868	
	(0.792)	
Δ Unemployment p.c.	2.208	
	(2.321)	
Δ Municipal employees p.c.	20.745***	
	(7.584)	
Δ Business registrations p.c	-1.624*	
	(0.877)	
Δ Business deregistrations p.c.	1.682**	
	(0.659)	
Δ Municipal revenue p.c.	-0.136	
	(2.598)	
Δ Municipal spending p.c.	-1.828	
	(2.453)	
Δ Municipal tax revenue p.c.	0.721	
	(1.864)	
Δ Population	0.001	
	(0.000)	
Δ Foreign population	-0.000	
	(0.000)	
Mean (SD)	0.14 (0.35)	96.52 (20.74)
Time FE		✓
Municipality FE		✓
Municipalities	396	103
N	396	3,708

Notes: This table reports results from a matched difference-in-differences approach. First, a propensity score is estimated. Model (1) collects results from a logistic regression that uses pre-treatment municipality trends in several variables to predict the victory of a female mayor. The propensity scores are then used to identify control municipalities that are similar to treatment municipalities. Control municipalities are drawn with replacement. Model (2) reports results from regressions that relate an indicator for female mayor interacted with an indicator for the time after the intake of asylum seekers from Ukraine (*Post*) to compliance with the asylum seeker allocation quota (in %). The regression is run on the matched sample. Stars indicate significance levels at 10%(*), 5%(**), and 1%(***). Model (2) includes heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality.

Table A.3: ROBUSTNESS – FEMALE MAYORS AND COMPLIANCE

	Dep. var.: Compliance with quota (in %)					
	(1) IHS	(2) Outlier	(3) excl. *Ruhr*	(4) excl. *Häfen*	(5) excl. runoff	(6) New elec.
Female mayor × Post	-0.050**	-4.563**	-5.251*	-5.307**	-7.279***	-5.019**
	(0.024)	(2.274)	(2.705)	(2.296)	(2.596)	(2.295)
Mean (SD)	5.23 (0.27)	95.46 (18.58)	95.47 (19.29)	94.99 (19.16)	94.79 (18.59)	95.68 (19.22)
Time FE	✓	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓	✓	✓	✓
Mun	396	396	343	347	279	390
N	14,256	14,236	12,348	12,492	10,044	14,040

Notes: This table reports results from regressions that relate an indicator for female mayor interacted with an indicator for the time after the intake of asylum seekers from Ukraine (*Post*) to compliance with the asylum seeker allocation quota (in %). Model (1) uses the inverse hyperbolic sine of the dependent variable. Model (2) excludes outliers (>=200% compliance). Model (3) excludes the 53 municipalities of the Ruhr-area. Model (4) excludes municipalities that are a save haven for asylum seekers. Model (5) excludes municipalities that had a runoff election in 2020. Model (6) excludes municipalities that had an election after 2020. Stars indicate significance levels at 10%(*), 5%(**), and 1%(***). Heteroscedasticity and cluster-robust standard errors in parentheses. The unit of clustering is the municipality.

Table A.4: SOFTWARE-PACKAGES

Package	Author(s)	Software
did_multiplegt	Clément de Chaisemartin and Xavier D'Haultfoeuille	Stata
reghdfe	Sergio Correia	Stata
twowayfeweights	Clément de Chaisemartin, Xavier D'Haultfoeuille, and Antoine Deeb	Stata
coefplot	Ben Jann	Stata
spmap	Maurizio Pisati	Stata
shp2dta	Kevin Crow	Stata
estout	Ben Jann	Stata
rdrobust	Sebastian Calonico, Matias D. Cattaneo, Max H. Farrell, and Rocio Titiunik	Stata
gender	Lincoln Mullen	R
quanteda	Kenneth Benoit, Kohei Watanabe, Haiyan Wang, Paul Nulty, Adam Obeng, Stefan Müller, Akitaka Matsuo, and William Lowe	R
camelot	Vinayak Mehta	Python
pandas	NumFOCUS	Python
numpy	Travis Oliphant	Python
ritest	Simon Heß	Stata

Notes: This table shows the most important software packages used in the analysis.