Do place-based policies matter at the poll?

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Abstract

This paper examines whether place-based policies influence electoral outcomes by exploiting the largest public sector relocation program in recent decades in Germany. We analyze the effects of relocating over 60 public authorities and institutions and more than 3,000 civil service jobs to municipalities in structurally weak regions of Bavaria between 2015-2025. Using a difference-in-differences approach leveraging the staggered rollout of relocations, we find that the program significantly impacted voting patterns. The Christian Conservative party (CSU) that implemented the policy experienced a strong incumbency advantage, gaining 2-3 percentage points in state elections and 0.8 percentage points in federal elections in treated municipalities. Meanwhile, their coalition partner was punished at the polls. The relocation program also had some success in containing the rise of the far-right populist AfD party, reducing their vote share by approximately one percentage point in treated areas. Our results suggest place-based policies can shape electoral outcomes, potentially helping incumbent parties win support in economically distressed regions while counteracting the rise of populist movements.

Keywords: Place-based policies, relocation, voting, populism, incumbent

JEL-Classification: R53, D72, R12

1 Introduction

The rise of far-right populism in Western democracies has become a significant political phenomenon in recent years. Parties such as UKIP and its successor Reform UK in the United Kingdom, Rassemblement National in France, Lega and Fratelli d'Italia in Italy, and Alternative for Germany (AfD) exemplify the shift of voter preferences from established parties to far-right populist alternatives over the past decade. In their comprehensive survey, Guriev and Papaioannou (2022) identify multiple factors contributing to the emergence of far-right populism, with secular trends being among the most extensively studied. Notably, automation (Anelli *et al.*, 2019) and globalization (Autor *et al.*, 2020; Colantone and Stanig, 2018) have been shown to create geographically concentrated clusters of economic winners and losers. Without effective redistribution mechanisms, this spatial heterogeneity can lead to the economic marginalization of entire regions. Rodrik (2021) proposes four pathways through which globalization or other secular factors may engender a populist response. One such pathway posits that economic shocks generate localized dislocations, which precipitate shifts in cultural attitudes, racial perceptions, and social identities. These shifts subsequently influence individual policy preferences and, by extension, electoral outcomes. Crises-related factors like financial crises Funke *et al.*, 2016 or austerity policies (Fetzer, 2019) can equally exacerbate regional economic disparities.

Empirical evidence confirms that radical and populist parties benefit from economic distress and insecurity experienced by individuals across incomes in economically disadvantaged regions (see Guiso *et al.*, 2017; Liberini *et al.*, 2019; Dal Bó *et al.*, 2019; Algan *et al.*, 2017; Dorn *et al.*, 2024; Dippel *et al.*, 2022). Residents of economically disadvantaged regions often report feelings of marginalization, decreased satisfaction with democratic institutions, and diminished trust in the political system (Dorn *et al.*, 2024). This trend raises concerns about the quality and stability of democratic governance and the trajectory of economic development.

The emergence of populist movements in specific regions can initiate a self-reinforcing cycle of negative economic consequences. This phenomenon operates through several channels. First, the political uncertainty associated with populist movements has adversely affected economic activity. Specifically, uncertainty surrounding political choices and economic policies has been shown to negatively impact corporate investment, economic activity, and employment (Balduzzi *et al.*, 2023; Baker *et al.*, 2016; Julio and Yook, 2012). Second, right-wing populism, in particular, appears to negatively influence local business practices. Henn and Hannemann (2023) find that firms operating in regions characterized by strong right-wing movements face significant challenges in key operational areas. These include difficulties in recruiting skilled labor, maintaining positive customer relations, and integrating into local business networks. These impediments to normal business operations can potentially exacerbate and consolidate regional inequalities [1].

If economic factors play a role in this dynamic, sound economic policies could help reverse the trend. Policymakers are increasingly addressing structurally weak regions with predominantly right-wing populist voters through targeted economic policies. Structural transfers and place-based policies, for example, regional public investments or subsidies and EU funds, are often used by governments as instruments to enhance economic development in such regions. However, evidence on economic impact of regional policies is mixed (e.g., Bachtrögler-Unger *et al.*, 2023;

[1] See Funke *et al.* (2020) for the economic consequences of populists in power

Becker *et al.*, 2010, 2012, 2013, 2018; Brachert *et al.*, 2019; Criscuolo *et al.*, 2019; Ehrlich and Seidel, 2018; Lang *et al.*, 2022; Siegloch *et al.*, 2021).

Even if such policies are not primarily implemented to counter the rise of populism, they may influence voting behavior and lower the success of radical parties and politicians at the polls. As populists gain among voters who feel left behind in economically weak regions, policies aiming to improve economic development and living conditions in poor regions may decrease populist voting and preferences for radical parties. Rational voters may also reward the incumbent parties' economic policies at the polls, either because of a real, local economic impact or a visible signaling effect of the incumbent government that they aim to improve regional living conditions.

In this paper, we examine the effect of a place-based policy on electoral outcomes by exploiting the largest public employment reallocation program in recent decades in Germany. The government in the German state of Bavaria implemented a large program to relocate public institutions and public employment to structurally weaker regions in Bavaria. The program was announced in 2014 by the Bavarian state government, represented by leading politicians of the main incumbent party at the state level – the Christian Social Union (CSU). The new locations are intended to stimulate local development. In addition to one-off effects from construction investments, the permanent higher consumer spending by new local public employees might create new businesses and jobs through increased demand for local goods and services.[2] Moreover, the attractive jobs are also intended to motivate young people to stay in their home region.[3]

Between 2015 and 2025, more than 60 public authorities and institutions, more than 3,000 civil service jobs, and study places will be relocated to municipalities in structurally weak regions. Eligible for receiving the relocated authorities are districts and municipalities with a particular need for action (in German: "Raum mit besonderem Handlungsbedarf").

To identify the causal impact of the staggered roll-out of the relocation policy measures on local vote shares, we employ a difference-in-difference (DiD) estimation approach following Callaway and Sant'Anna (2021). Our analysis controls for confounding factors using a panel of 2,056 municipalities observed between 2008 and 2023. The results are based on local election outcomes for four state elections (2008, 2013, 2018, and 2023) and four federal elections (2009, 2013, 2017, and 2021) to examine political alignment and spillovers to the federal level.

Our estimates suggest that the relocation policy substantially impacted voting patterns. The far-right populist party AfD experienced a significant decrease in vote share of approximately one percentage point in treated municipalities, representing about 33% of the mean of the dependent variable. The effect is primarily driven by changes in voting patterns and a modest demobilization effect. Voter turnout in treated municipalities decreased by 0.72 percentage points in the first election after a relocation.

We observe an incumbency advantage for the CSU, the party responsible for implementing the policy and actively claiming credit in the target regions. As the main government party at the state level, the CSU gained significantly in treated units by 2-3 percentage points in state elections and 0.8 percentage points in federal elections. Interestingly, the coalition party FW

[2] Based on the idea of local multipliers (Moretti, 2010; Osman and Kemeny, 2022).

[3] In March 2015, the Council of Ministers started the largest relocation of public authorities and state institutions in recent decades. The concept comprises 64 relocation projects from all business areas with a total of 3,155 people, of which 2,225 are civil servants and employees and 930 are students. The relocations are mainly from the Munich area. For the new government locations, priority was given to regions that are located in the area with a special need for action (see Bayerischer Landtag 2018).

(Free Voters Party) in the state government of Bavaria did not experience electoral gains in the treated units.

Our analysis reveals limited geographical spillover effects to neighboring municipalities, suggesting that the policy's impact was largely confined to the host localities. However, we find small spillovers to the federal elections. We CSU gains 0.7 percentage points in the federal elections, while FW loses 1.5 percentage points. Both results are significant. We also find a small decrease of 0.3 percentage points for the AfD on the federal level. However, the results are not statistically significant.

This paper contributes to several interconnected strands of literature, primarily extending research on the effects of place-based policies by examining their political consequences. First, our findings contribute to the evidence about the relationship between economic policy and political outcomes. Only a few papers have examined the effect of regional policies on voting. The evidence is mixed, though. A first strand of literature focused on the Brexit voting: Los *et al.* (2017) reveal that in the 2016 UK referendum regarding whether to remain in or leave the European Union, the regions that voted strongly for leave tended also to be those structurally weak regions with greatest levels of dependency on EU markets for their local economic development. Moreover, Becker *et al.* (2017) and Crescenzi *et al.* (2020) examine the effect of EU structural policies and the leave share in the Brexit referendum and find, on average, no effect of the EU regional funds on the Brexit vote. However, if the funds improved economic conditions, they reduced Euroscepticism (Crescenzi *et al.*, 2020). In a related paper, however, Fetzer (2019) find that national fiscal cuts spurred populism and the Brexit vote share in the UK, suggesting that national policies matter for electoral outcomes in left-behind regions. In a different context, Albanese *et al.* (2022) use a spatial Regression-Discontinuity-Design (RDD) estimation and find a negative effect of EU funds at the local level on populism in the 2013 national elections in Italy, irrespective of the channel through which the money is delivered to the municipalities. They find that EU funds reduce the vote shares of populist parties by 9%. EU policies, however, do not translate into a more pro-European voting. In the same direction, Gold and Lehr (2024) also finds a negative effect of regional EU policies on populist support in elections for the EU parliament by using RDD, DiD, and matching techniques in a pan-European setting. Over the period 1999-2019, they show that European Objective-1 transfers ("development objective") decrease the vote share of (right-fringe) populist parties throughout Europe by around 20% for the average region (around 2,8 pp). In addition, individual-level survey data show that EU regional policy also increases trust in democratic institutions. Further papers studying voting behavior in the Brexit referendum include Fidrmuc et al. (2019) and Becker et al. (2017). The former does not find that EU regional policy correlates with the leave share. The latter identifies structural factors such as socioeconomic profiles and regional characteristics, e.g. the economic structure as primary drivers of voting behavior.

Second, a growing body of work has investigated the impact of public employment reallocation on regional economic development, considering both direct effects and multiplier effects on the private sector in target regions. These studies have explored various channels, including wages, housing prices, and productivity (Alesina *et al.*, 2001; Algan *et al.*, 2002; Auricchio *et al.*, 2020; Becker *et al.*, 2021; Caponi, 2017; Faggio and Overman, 2014; Faggio, 2019; Faggio *et al.*, 2019; Jefferson and Trainor, 1996; Jofre-Monseny *et al.*, 2020). However, we are the first to examine the electoral consequences of public employment reallocation as a place-based policy.

Third, our findings contribute to the evidence on the (economic) determinants of populism and the success of radical parties. We show that targeted place-based policies are not only an economic reallocation mechanism towards less developed regions but also a regional intervention for economic and democratic stability and may also have an impact on limiting the success of populists.

Fourth, we also contribute to the incumbent voting literature.[4] Our findings show that visible place-based policies can decrease vote shares of populists in favor of the incumbents who implement the targeted policies.[5] Our findings also contribute to the literature on credit claiming (see Levitt and Snyder Jr, 1997; Grimmer *et al.*, 2012; Lazarus and Reilly, 2010; Gerber *et al.*, 2022; Bueno, 2023). As the leading government party CSU announced and implemented the homeland strategy, they claimed credit for the place-based policy in the targeted regions. The CSU gained the popular votes in the following years, while the other incumbent coalition party, FW, lost vote shares. We show that the incumbent government party at the state level also gains (with some lower effect) in elections at the federal level in Germany. That is, economic policies adopted at a different political layer have some influence on the political alignment of the voters and spillover effects on electoral outcomes at another political level.

The paper is structured as follows: In the next chapter, we describe some institutional details about the Bavarian relocation program "Heimatstrategie 2015" and the decision to relocate the largest number of jobs in the history of the state of Bavaria. We also discuss the local political system. In chapter three, we move on to describe our rich dataset and provide descriptive results. In chapter four, we describe the identification strategy. Finally, we discuss our empirical findings before concluding.

[4] In a related paper on economic voting at the regional level in Italian regions, Rombi and Valbruzzi (2024) show that regional economic conditions are correlated with regional incumbent's electoral outcomes.

[5] While the movement of public employment may explain minor shifts in vote shares (see, Bhatti and Hansen, 2013; Corey and Garand, 2002; Geys and Sørensen, 2022), the size of the economic impact in our findings exceeds by large potential effects of new voters in the municipality.

2 Institutional details and relocation in Bavaria

2.1 Relocation program in Bavaria: "Heimatstrategie"

The Free State of Bavaria is Germany's largest federal state in terms of geographic area and second largest in terms of population. With almost 13.5 million inhabitants (as of 2023), it is larger than European countries such as Belgium, Sweden, Czech Republic, Austria or Switzerland.

In 2014 the Bavarian "Heimatstrategie" (homeland strategy) was established by the federal government of Bavaria (STMFH, 2014), represented by leading politicians of the main incumbent party at the state level — the Christian Social Union (CSU).[6] The initiative aimed at balancing equal living conditions across the Bavarian regions and strengthening the economic development and the promotion of jobs in structural weaker regions. The initiative was announced and introduced by the Bavarian Ministry of Finance, Regional Development, and Homeland, represented by its Minister of State Markus Söder (CSU) – who claimed credit for the program and served as visible and responsible Minister for the Homeland strategy until 2018, and has been serving as the Bavarian Prime Minister ever since. That way, the Prime Minister and the leading incumbent party CSU is closely linked to the implemented place-based policies in the target regions.

The relocation program of public institutions and government jobs is a key component of the structural place-based policy within the homeland strategy. In 2015 and 2016, the Bavarian government started the first phase of the largest relocation of public authorities and state institutions in recent decades. The concept comprises 66 relocation projects[7] by 2025 with a total of 3,155 people, of which 2,225 are civil servants and employees and 930 are students (see Bayerischer Landtag 2018). The relocations are mainly from the Munich area.[8] For the new government locations, priority was given to structural weaker regions that are located in the area with a special need for action (RmbH, "Räume mit besonderem Handlungsbedarf"). By 2021, more than three quarters of the relocation projects had already been implemented, including the relocation of more than 50 authorities and institutions with over 1,500 civil service jobs (STMFH, 2021).

In 2019 the Bavarian government announced to extend the homeland strategy with a second phase of relocations of public authorities and the promotion of structurally weaker regions with a new program until 2030. It builds on the successes of the first phase and expands new relocation projects in target regions. The first and second phases together encompass 80 relocation projects, creating jobs in the target regions for around 5,200 civil service jobs (and new study places for 1,330 students).

2.2 Political landscape

State elections in Bavaria are held every five years, usually in September or October. The latest election took place on October 8, 2023. Article 14 of the Bavarian State Constitution stipulates

[6] Following the constitutional mandate of the Bavarian Constitutional Law, Article 3, Paragraph 2, Sentence 2, which calls for the promotion and safeguarding of equal living and working conditions in Bavaria, in both urban and rural areas.

[7] Three relocation projects are transitioned to the Autobahn GmbH of the Federal Government in 2021 and are excluded.

[8] An example is the relocation of parts of the Bavarian State Office for Statistics from Munich to the cities Fürth and Schweinfurt.

that the state parliament is elected according to "improved proportional respresentation". The electoral system consists of two pillars: first, there are direct mandates, i.e. all regions of Bavaria should send at least one representative to the state parliament. For this reason, the whole of Bavaria is divided into 91 constituencies in which citizens vote for a direct candidate with their **first vote**. A simple majority is sufficient to win. The second pillar consists of list mandates. Just under half (89 out of 180) of the seats in the Bavarian state parliament are allocated to list candidates. To this end, the parties draw up lists of their candidates for each of the seven administrative districts (*Regierungsbezirke*).[9] With their **second vote**, citizens vote for a candidate on these lists and thus determine who enters the state parliament in addition to the direct candidates. Unlike in federal elections, it is not just this second vote that determines the distribution of seats in the state parliament, but the total number of votes. All direct candidates who have won their constituency – provided their party received more than 5% of the votes state-wide – enter the state parliament. If the party in question is entitled to more seats based on its total votes, additional list candidates – those who personally received the most votes – move in. In our empirical analysis, we use second votes for the Bavarian state parliament to determine party vote shares.

Currently, five parties make up the Bavarian state parliament: the Christian Conservatives (*CSU*), the liberal-conservative Free Voters (*FW*), the far-right Alternative for Germany (*AfD*), the Green party and the Social Democrats (*SPD).* The liberal party (*FDP*) failed to re-enter the sate parliament in 2023. The Bavarian party system deviates significantly from the overall federal level in several respects. First and foremost, there is the special status of the CSU in the federal parliament. The "sister parties" CDU and CSU – often referred to as the Union parties (*Unionsparteien*) – form a joint parliamentary group in the German federal parliament which brings together MPs from two independent parties. Since its foundation in 1949, the CSU has seen itself as the parliamentary representation of an independent party. Its special status as a 'parliamentary group within the parliamentary group' (Günter Buchstab) is recognised by the CDU.[10] The government of the CSU and the FW under Prime Minister Markus Söder (CSU) has been in office since 31 October 2023. It is the only government in Germany with the participation of the FW. The Free Voters originated as an electoral association which ran in local and regional elections with their own independent candidates as an alternative to the established parties. Its orientation can be described as as 'liberal-conservative' and 'value-conservative', with a focus on the expansion of local self-government. Standing in the 1998 Bavarian state elections was internally controversial, because according to the critics, the Free Voters would be leaving their actual field of activity at the local level. Since 2008, the FW are members of the Bavarian state parliament and since 2018 participated in the state government.

[9] These lists vary in length, as the administrative districts receive different numbers of seats in the Bavarian state parliament depending on the number of inhabitants.

[10] The joint parliamentary group is only possible because the two parties do not run against each other in any federal state. Until now, the CSU is only organized and active in Bavaria.

3 Data and Descriptives

3.1 Data

We use data on the four latest federal (2009, 2013, 2017, and 2021) and state elections (2008, 2013, 2018, and 2023) measured at the municipality level. Data are provided by the Federal Statistical Office of Bavaria. We construct (second) vote shares for the major parties competing at both levels by dividing the votes by party through the valid votes.[11]

The Bavarian relocation dataset was manually compiled from the BayernAtlas. This dataset includes the program name, managing state ministry, agency address, job relocation figures, and relocation status. Completion dates for relocations were obtained from the annual report on the Homeland Strategy program. For agencies not included in these reports, we conducted manual searches in local newspapers to determine the exact relocation dates. The average relocation was small, and amounted to 55 jobs, and 7 study places. Figure 1 shows the municipalities treated more than once in our sample. Since 2015, agencies have been iteratively relocated from the sending locations, mainly Munich, to other regions that are on average 180 km away. Some localities were treated more than once. For those, we count the first relocation as treatment period.

Our control variables, population, unemployment, employment, and tax income per capita, are sourced from the German Regional Database ('Regionalstatistik'). The Bavarian government relies on these statistics to determine which areas to subsidize and consider for the public employment relocation program. We account for pre-treatment trends in these statistics by calculating the log differences between 2009 and 2014.

To account for long-term municipal preferences for certain political platforms, we also consider the log differences in vote shares for the CSU and Freie Wähler in state elections before the relocations between 2003 and 2013. Since the AfD did not participate in the 2013 state election, we use the log differences in AfD vote shares between the 2013 and 2017 federal elections. The right-wing party AfD was founded in 2013. Although they participated in the federal elections of the same year, they did not participate in the Bavarian state elections happening at the same time. Therefore, to control for preferences for a right-wing party platform, we use the log differences in AfD vote shares between the 2013 and 2017 federal elections. This is not a bad control since we only analyze the AfD vote shares in state elections as outcomes from 2018 onwards.

3.2 Descriptive statistics

table 1 shows descriptive statistics for the outcome variables, table 1 and table 2 for the control variables. The 2008 election marked a major disruption for the CSU in Bavaria. For the first time in over 30 years, the CSU missed the absolute majority and had to enter a coalition government (then with the liberal-conversative party FDP). Compared to the preceding election in 2003, the CSU lost 18 percentage points on average. Since 2018, the CSU has governed together with the right-wing conservative party FW (German: Freie Wähler) who have enjoyed an increased support since 2013. Although the far-right populist party AfD was founded in February 2013, it did not compete in the 2013 Bavarian state elections, the focus being on the federal elections

[11] Note that for the state elections, the Bavarian Statistical Office publishes the total votes and the first votes. Thus, to calculate the second votes, we subtracted the first votes from the total votes.

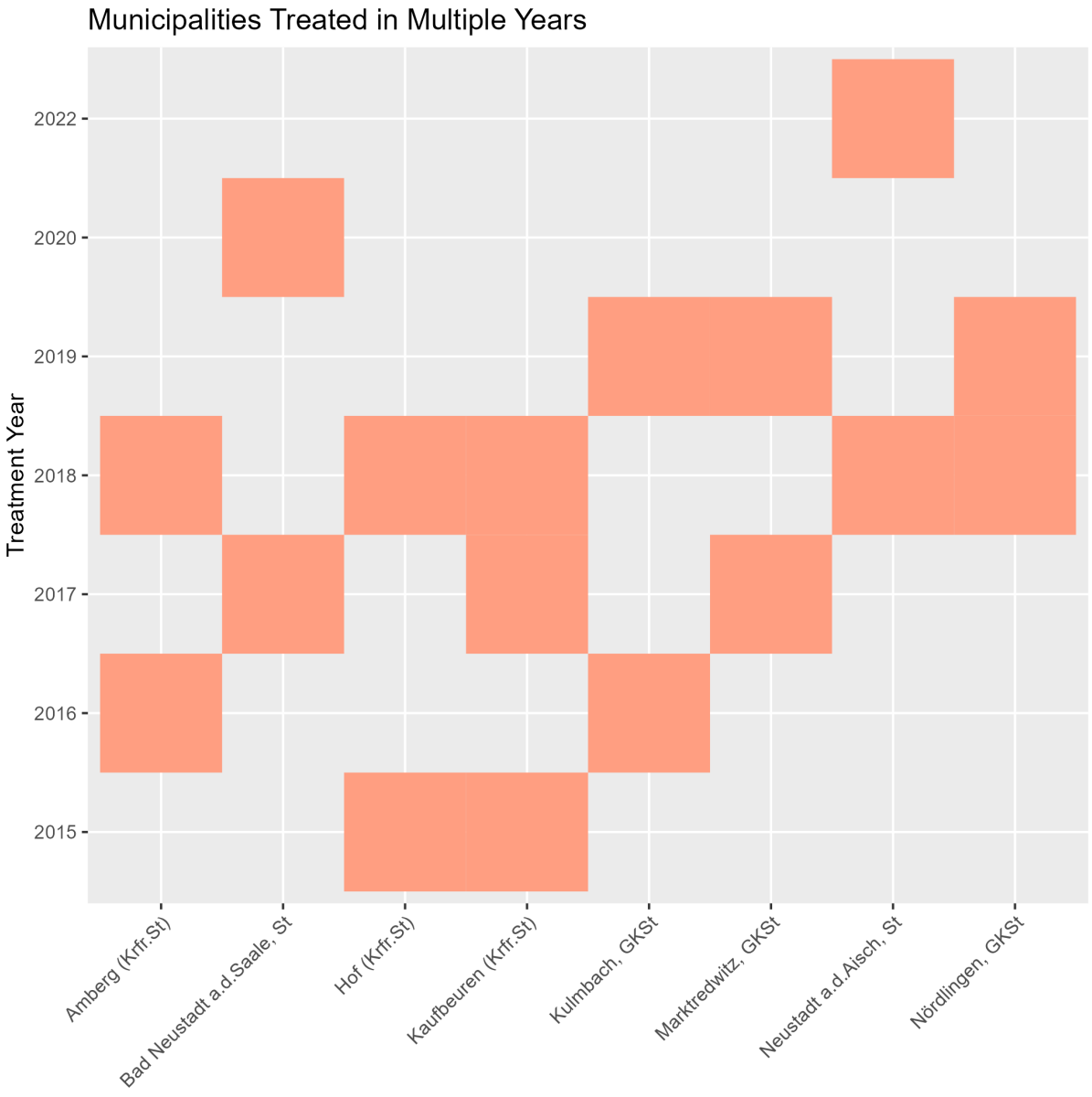


Figure 1: Municipalites that were treated more than once until 2022. For example, Hof was treated in 2015, and then again in 2018.

that took place the same year. In the 2018 state elections, the AfD won 11% of the votes, in 2023 16%.

Year	2003			2008			2013			2018			2023		
Variable	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
CSU vote share	2031	67	8.5	2031	49	7.7	2031	54	7.8	2031	42	6.9	2031	39	7.4
AfD vote share	2031	0	0	2031	0	0	2031	0	0	2031	11	3.1	2031	16	4.2
Freie Waehler vote share	2031	4.6	4.1	2031	12	5.8	2031	10	5.5	2031	14	5.8	2031	21	9.6

Table 1: Summary statistics for outcome variables. Data was extracted from the German Regional Database, and the Bavarian Statistical Office. Vote shares are in percent.

Variable	N	Mean	Std. Dev.	Min	Pctl. 25	Pctl. 75	Max
Control Variables							
Population	2031	-0.00061	0.04	-0.3	-0.025	0.023	0.28
Unemployment	2031	-0.26	0.22	-1.2	-0.39	-0.13	0.92
Employment	2031	0.09	0.049	-0.36	0.06	0.12	0.49
Tax Income per cap.	2031	0.15	0.061	-0.5	0.13	0.18	0.84
Population btw. 18-30 yrs	2031	0.0046	0.1	-0.59	-0.057	0.064	0.57
CSU Vote Share	2031	-0.23	0.1	-0.88	-0.28	-0.17	0.2
Freie Waehler Vote Share	2031	0.99	0.67	-1.2	0.54	1.4	3.5
AfD Fed. Vote Share	2056	1.2	0.37	0.2	0.95	1.4	2.6

Table 2: Summary statistics for control variables. Data was extracted from the German Regional Database, and the Bavarian Statistical Office. We take the log differences between 2009 and 2014 for all economic, and demographic control variables except for the tax income per capita, where we take the 2010 to 2014 log differences. For the controls concerning prior voting outcomes, we take the 2003-13 log differences for the CSU, and the FW vote share. For the AfD, we take the log 2013-17 vote shares of the local results for the federal elections because they didn't participate in the 2013 state elections.

4 Identification strategy and method

4.1 Main Specification

In our baseline approach, we estimate a canonical difference-in-differences model following equation 1, exploiting variation in time across the different relocation waves and across space:

$$\Delta y_{it} = \alpha_j + \delta_t \beta reloc_{it} + \Delta X_{it}^{'} \gamma + \epsilon_{it}, \tag{1}$$

with Δy_{it} as the change in party vote shares in municipality i between election year t and $t-1$. The dummy $reloc_{it}$ assumes the value one if a municipality is targeted by a relocation program (and remains one in all subsequent years) and zero otherwise. $X_{it}^{'}$ is a matrix of location and time-specific covariates. α_j denotes district-specific time-invariant factors, δ_t denotes common time effects for all municipalities and ϵ_{it} is the time-varying municipality-specific error. Our coefficient of interest is β which measures the effect of the relocation program on municipalities' party vote share change. Note that, since we estimate equation 1 in differences, this has the same effect as demeaning and thus accounts for municipality fixed-effects. Identification relies on the main assumption that in absence of the relocation program, voting patterns would have

evolved in parallel between treated and untreated municipalities conditional on controlling for differences in their economic structure. We examine this assumption visually by plotting the development of vote shares over time and treatment groups. Figures A1, A2 and A3 show the results of this exercise for the CSU, the Freie Wähler and the AfD. Overall, we do not observe major deviations between vote shares in treated and control municipalities for all three parties in the pre-treatment period.

With difference-in-differences, the strict assumption of an exogenous source of variation is not necessary for a causal interpretation of our results. In a perfect experiment, the Bavarian state government would have randomly chosen target destinations so that we could simply compare mean party vote shares between treatment and control group before and after the relocation to get a causal estimate of our parameter of interest. Our knowledge of the institutional details helps us in addressing potential concerns of selection bias. We know that a subset of target regions were areas with particular need for action (RmbH, *Räume mit besonderem Handlungsbedarf*) whose definition is based on a structural indicator. Any municipality whose structural indicator fell below 90 percent of the Bavarian average was initially classified as RmbH. Controlling for the observable municipality characteristics (via $X_{it}^{'}$) entering this structural indicator, we make sure to only compare economically similar regions. In a similar vein, we exclude sending locations which are usually larger cities and on clearly differential growth paths than structurally weaker areas. Following equation 1, we argue that conditional on the characteristics defining RmbH, target locations **within districts** are as good as randomly assigned. To make this argument even stronger, in a robustness check, we restrict the treatment group to regions with special need for action.

4.2 Heterogeneity in Treatment Timing

Given the staggered nature of treatment timing, we know that the canonical difference-in-difference estimates might be biased. Thus, we advance our baseline estimator to the estimator following Callaway and Sant'Anna (2021). This estimator splits the treated municipalities into cohorts based on their treatment timing and creates long-differences for all cohorts, comparing each of them separately to never-treated units or not-yet-treated units.

In our case, the outcome voting results are measured every five years, while the relocations happen yearly. Therefore, we adapt our treatment cohorts to match the election periods. We assign all municipalities that were treated between 2015 and 2017 to the 2018 cohort, and all municipalities treated between 2019 and 2021 to the 2023 cohort. We do not assign municipalities that were treated in the same year to the respective cohorts because we don't know exactly when the relocation happened. Since it might have happened after the elections, we decided to exclude them from the sample. Additionally, we only analyze relocations completed until 2021, as we depend on the yearly government report to assign treatment periods, and it hasn't been released for the following years yet.

The base period for comparison is always the first pre-treatment period for each cohort. This means that for each estimation, the parallel trends assumption only has to hold between two periods for a single cohort and the control group, and not all periods analyzed, which makes it very flexible.

For the Callaway Sant'Anna estimator, the cohort-specific average treatment effect (ATT)

is defined as:

$$ATT(g,t) = E\left[Y_{it}(g) - Y_{it}(\infty) \mid \mathcal{G}i = g\right] \tag{2}$$

The effect is identified by comparing the expected change in outcomes for a given cohort g g between periods g 1 g1 and t t with those for units that are either yet-to-be-treated or never-treated:

$$ATT(g,t) = E\left[Yit - Y_{i,g-1}(\infty) \mid \mathcal{G}i = g\right] - E\left[Yit - Y_{i,g-1}(\infty) \mid \mathcal{G}i \in \mathcal{G}comp\right], \tag{3}$$

where $\mathcal{G}_{comp} = g' : g' > t$. To aggregate these cohort-specific effects into a single event-study parameter, we use:

$$ATT_l^w = \sum_g w_g \times ATT(g, g+l), \tag{4}$$

Here, l represents the number of periods after the policy was implemented. For statistical inference, bootstrap methods are employed.

5 Results

5.1 Main results

In the baseline specification, we run a simple difference-in-differences regression on a municipality-election-year-panel. The treatment variable is coded as an interaction term and assumes the value of one in all years after a given municipality received treatment, i.e. a relocated public institution, and zero otherwise. As dependent variables, we use the percentage change in the CSU, Freie Wähler, and AfD vote shares at the four Bavarian state elections between 2008-2023. Standard errors are clustered at the district level and we include year as well as district-level fixed-effects.

Table 3: Baseline results for state elections

	(1) Δ AfD	(2) Δ CSU	(3) Δ FW
Treat × Post	-0.514*	2.323***	-1.611***
	(0.264)	(0.509)	(0.346)
Observations	4078	6117	6074
R^2	0.367	0.586	0.468
District FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Mean dep.var.	6.05	-3.28	2.79

The baseline results show a statistically significant and positive effect of the relocation program on the CSU vote share: in receiving municipalities, the CSU vote share in the following state election was 2.3 percentage points higher. This finding is particularly striking agains the background that the CSU lost on average around 3 percentage points in votes during our sample period. For the Freie Wähler party we observe the opposite pattern. Despite an average increase in support of 2.8 percentage points, the party did not benefit from the relocation pro-

Table 4: Change in turnout at state elections

	(1) Δ turnout	(2) Δ turnout
Treat × Post	0.264	0.038
	(0.232)	(0.203)
Observations	8070	8070
R^2	0.559	0.598
District FE	No	Yes
Year FE	Yes	Yes
Controls	Yes	Yes
Mean dep.var.	4.35	4.35

gram: their vote share decreased in treated municipalities compared to untreated municipalities by around 1.6 percentage points. For the far-right populist AfD, estimates reveal a vote share differential of -0.5 percentage points between treatment and control group. However, this effect is only statistically significant at the 10%-level and turns statistically insignificant once we include municipality fixed-effects instead of district fixed-effects.

Another interesting margin to examine is whether the relocation program was successful in boosting voter turnout in targeted regions. Thus, we run our baseline estimates with the change in turnout at state elections as dependent variable. As results in table 4 show, we do not find any statistically significant effect of the relocation program on voter turnout. Thus, our baseline findings for the parties are not explained by a general mobilization effect, but rather a change in voting patterns.

In table 5, we repeat the baseline analysis for the federal elections. We document that the effects of the state policy also "spilled over" to the federal level. Apparently, the CSU also benefited at the federal level from the relocation program, but to a lower degree than at the state level which was responsible for its implementation: The CSU's federal vote share in treated municipalities was 0.7 percentage points higher compared to the control group, roughly a third of the baseline state-level estimate. For the AfD, we observe a negative point estimate of -0.3 percentage points, which does, however, not turn out statistically significant. Interestingly, the coefficient for the Freie Wähler is quite comparable to the baseline effect: They lost to a similar extent – -1.5 percentage points – both at the federal and state level.

5.2 Heterogeneity Analysis

We evaluate the impact of the relocation program on the vote shares of CSU, Freie Wähler, and AfD using the estimator proposed by Callaway and Sant'Anna (2021). The results indicate a positive effect on the CSU vote share in the first election following the relocation program, as depicted in Figure 2. On average, the CSU vote share increases significantly by 3.1 percentage points in municipalities that received relocations. The observed effect is primarily driven by municipalities treated before 2018, as shown in Figure 3.

Conversely, in Figure 4 we observe a reduction of approximately 1.8 percentage points in the Freie Wähler vote share, although this effect is not statistically significant. Due to the AfD's

Table 5: Baseline results for federal elections

	(1) Δ AfD	(2) Δ CSU	(3) Δ FW
Treat × Post	-0.306	0.712**	-1.514***
	(0.208)	(0.291)	(0.224)
Observations	4006	6003	4006
R^2	0.851	0.871	0.727
District FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Mean dep.var.	3.08	-4.08	3.41

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

absence in the 2013 state elections, we can only analyze the effect of relocations on their vote share in the 2023 election, using the 2018 election as the sole pre-treatment period. The lower panel of Figure 5 illustrates that for municipalities treated before 2023, the AfD vote share decreased significantly by an average of 1.22 percentage points.

We also analyze turnout in the heterogeneity framework. When splitting the ATT by cohort, we find a negative, insignificant effect of the relocations on turnout. In fig. 6 we see that the negative effect is more pronounced for the 2023 cohort - a reduction by 1.15 percentage points in turnout, than for the 2018 cohort with a reduction by -0.30 percentage points.

However, when we look at time since treatment, we find a negative, and significant effect of -0.72 percentage points on turnout in the first election after a relocation relocation took place in a municipality. fig. 7 shows that turnout is generally lower every second second election indicating a trend.

5.3 Geographic Spillover Effects

We implement two types of geographic spillover analyses. First, we define all geographic neighbors to treated municipalities based on whether they share a common border and exclude them from the control group. Second, we use this group of neighbors as alternative treatment group (and simultaneously exclude the treated municipalities from the estimation sample). Results from the this exercise point towards some spillover effects at least for the CSU. When we exclude the neighbors of treated municipalities, the treatment effect for the CSU is 2.5 percentage points, so quantitatively slightly larger than in the baseline. For the Freie Wähler the coefficient of -2.1 percentage points also exceeds the baseline estimate, but to a larger degree than for the CSU. When we use the neighbors of treated municipalities as treatment group, however, we only find a positive effect for the CSU. Given that it is marginally statistically significant at the 10%-level, we do not want to over-interpret this finding.

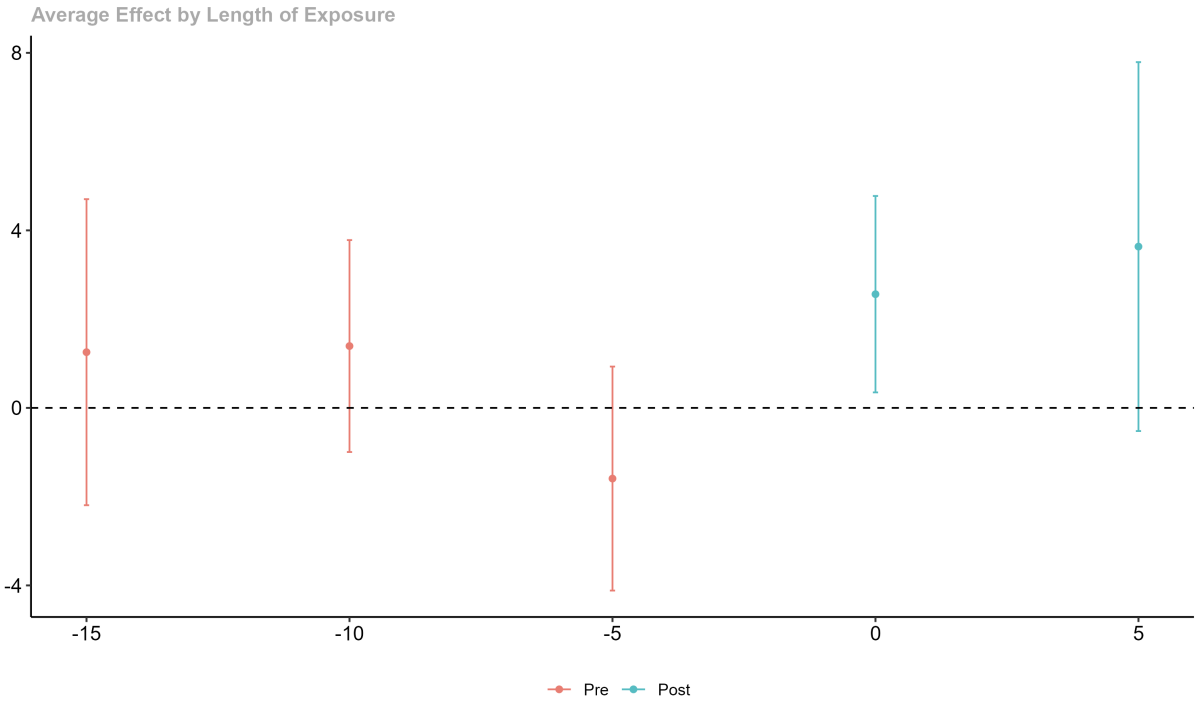


Figure 2: Event Study - CSU vote share. Estimated based on the Callaway and Sant'Anna (2021) estimator. The state election outcomes are measured every five years.

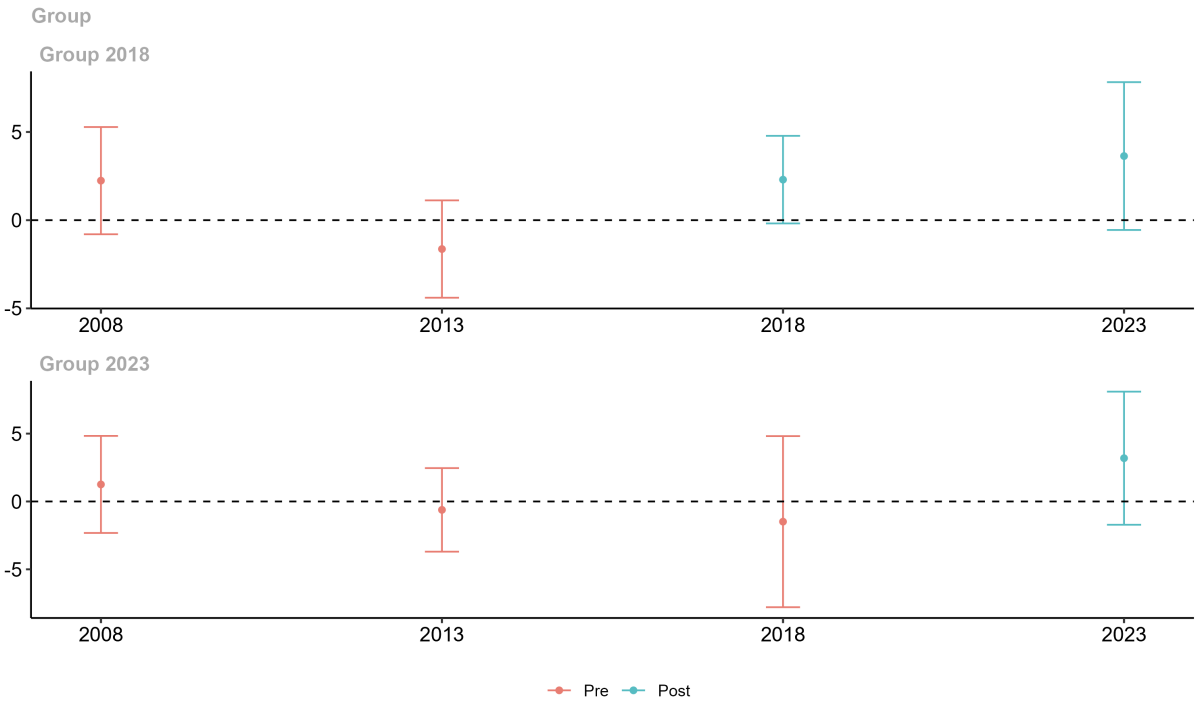


Figure 3: Event Study by Treatment Cohort - CSU vote share. Estimated based on the Callaway and Sant'Anna (2021) estimator. The state election outcomes are measured every five years.

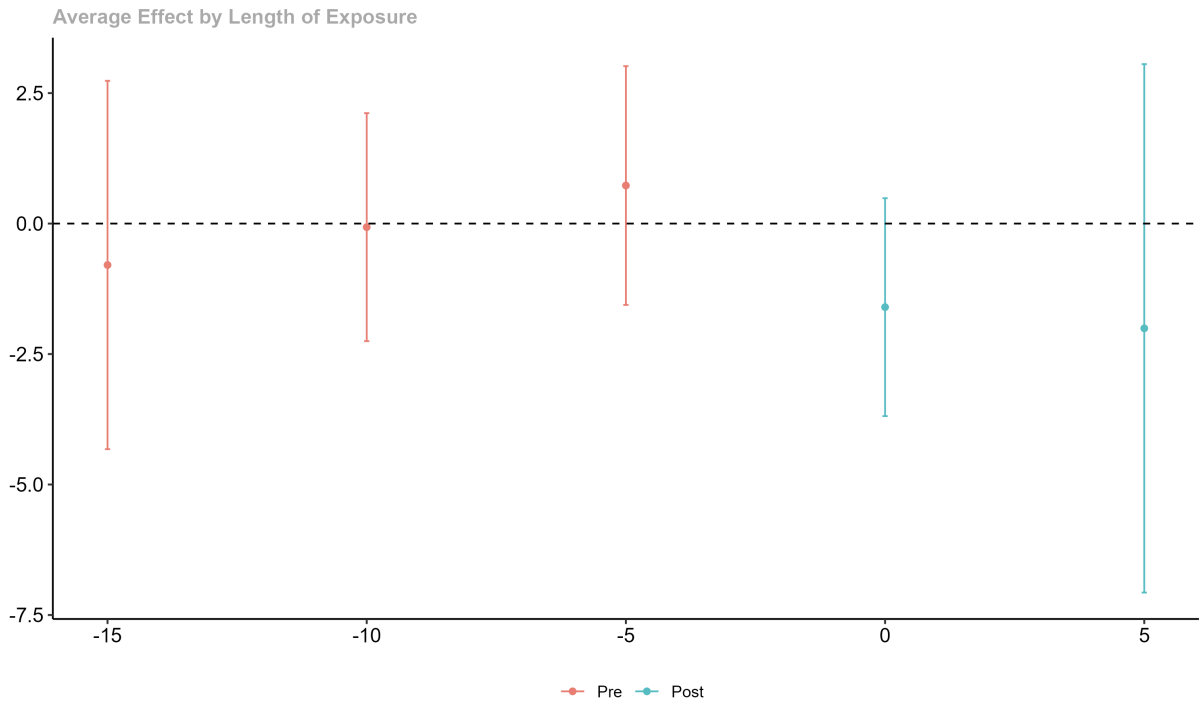


Figure 4: Event Study - Freie Waehler vote share. Estimated based on the Callaway and Sant'Anna (2021) estimator. The state election outcomes are measured every five years.

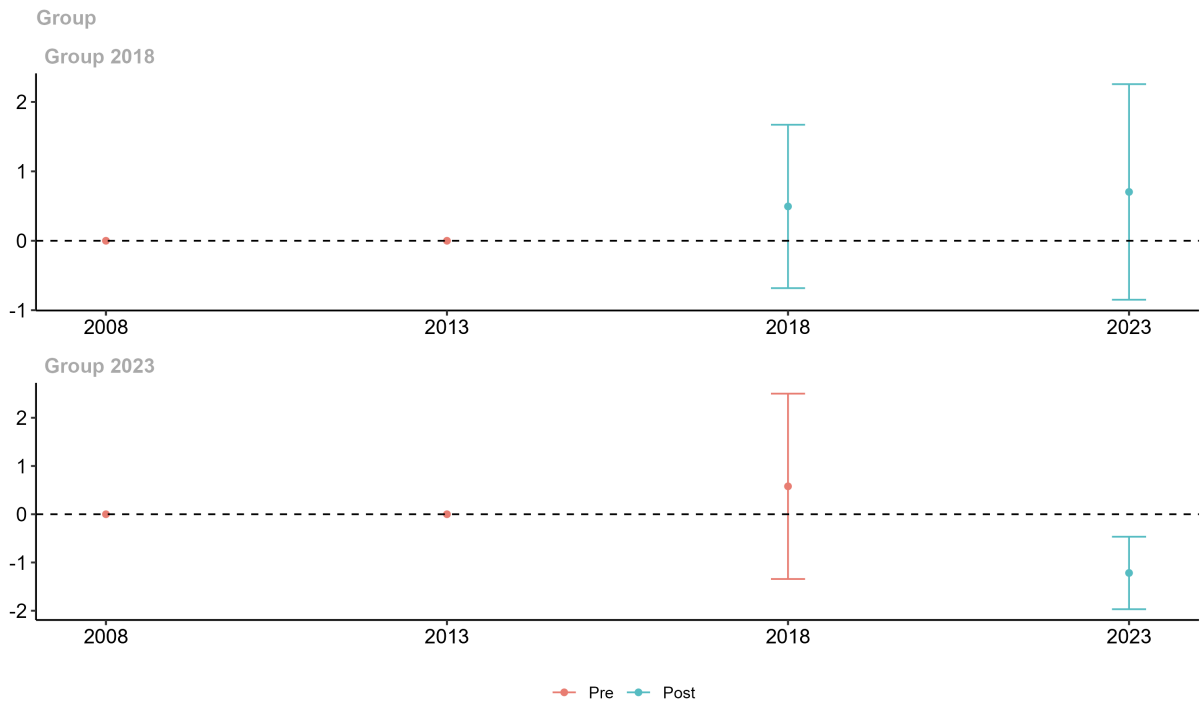


Figure 5: Event Study by Treatment Cohort - AfD vote share. Estimated based on the Callaway and Sant'Anna (2021) estimator. The state election outcomes are measured every five years. The first panel shows that we do not observe AfD vote shares on the state level before 2018, and hence, the value for the pre-treatment periods are 0.

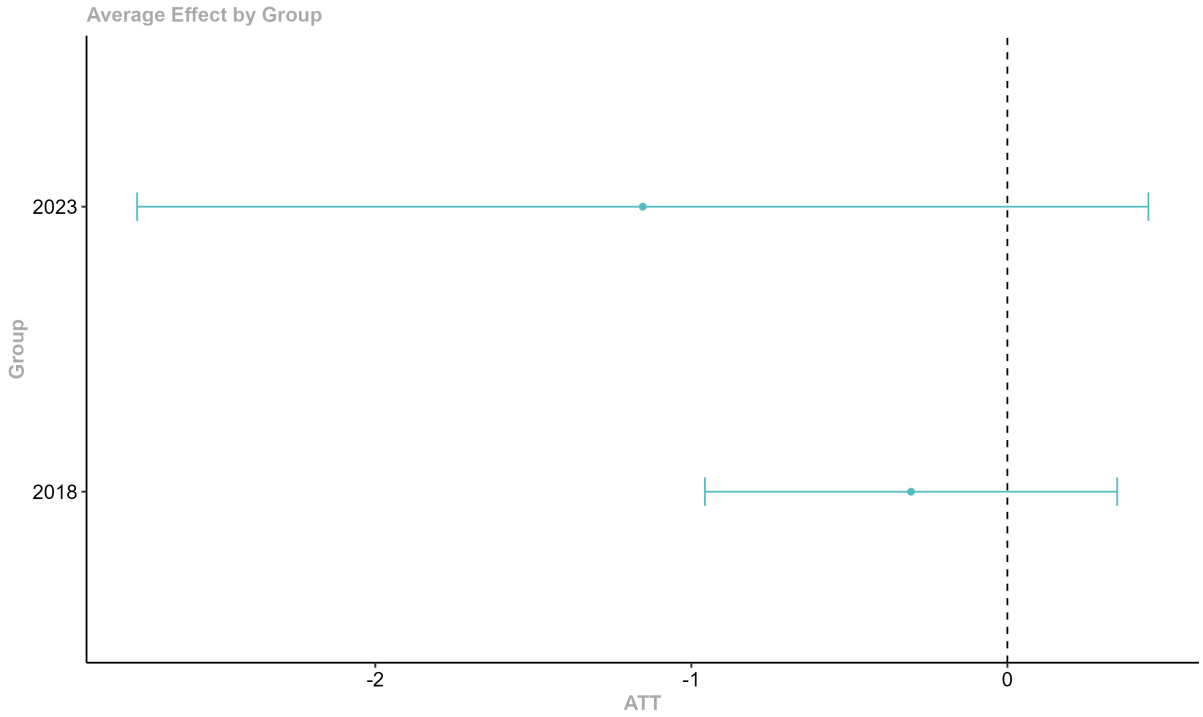


Figure 6: ATT estimator for turnout with Callaway and Sant'Anna (2021) estimator by cohort. Treatment cohorts were adjusted to match election periods.

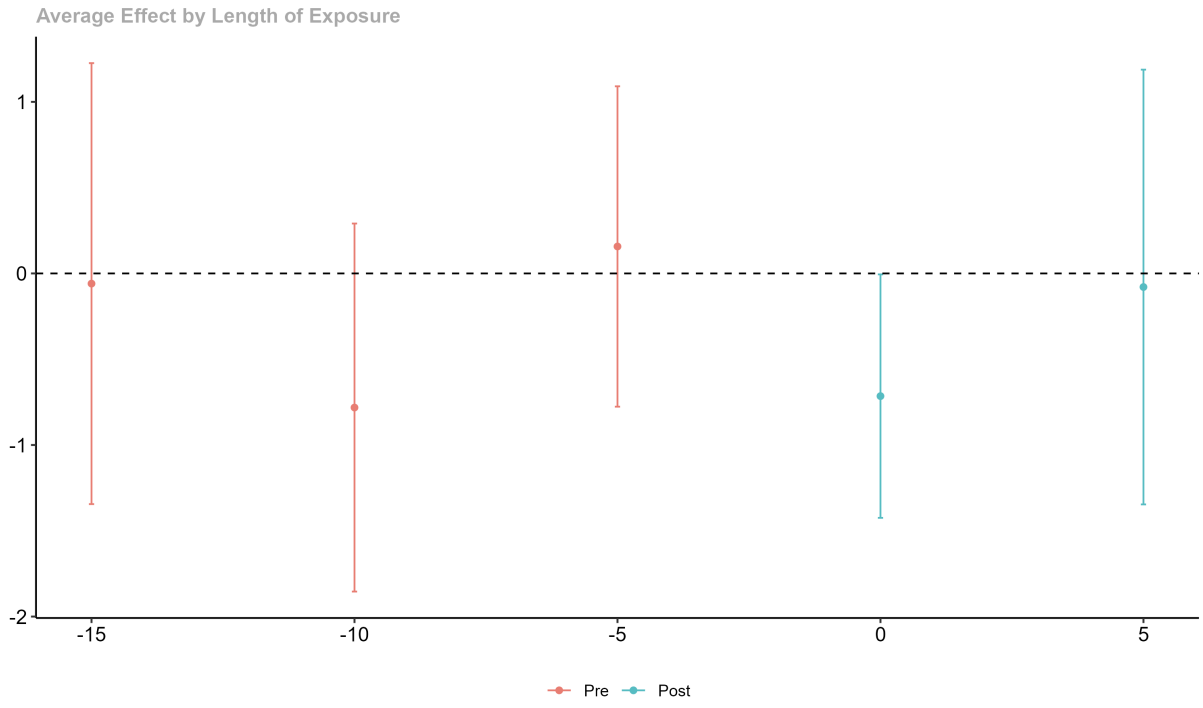


Figure 7: Event study on turnout based on Callaway and Sant'Anna (2021) estimator. Treatment cohorts were adjusted to match election periods.

Table 6: Spillover effects

	Exclude neighbors			Analyse treated neighbors		
	(1)	(2)	(3)	(4)	(5)	(6)
	Δ AfD	Δ CSU	Δ FW	Δ AfD	Δ CSU	Δ FW
Treat × Post	-0.445	2.546***	-2.147***			
	(0.314)	(0.666)	(0.435)			
Treat × Post (neighbor)				-0.224	1.191*	-0.398
				(0.255)	(0.640)	(0.436)
Observations	3485	5231	5194	3934	5906	5864
R^2	0.384	0.607	0.482	0.375	0.590	0.469
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep.var.	5.89	-3.29	2.78	6.01	-3.28	2.80

5.4 Robustness Checks

As a preliminary robustness check, we also implement other new estimators in the difference-in-differences literature and compare them with the results from the Callaway and Sant'Anna (2021) estimator. We implement the regular TWFE, the Borusyak *et al.* (2024), the Roth and Sant'Anna (2023), and the Sun and Abraham (2021) estimator. TWFE might be biased towards zero as we know from the literature since early treated units might serve as control group for later treated units. Borusyak *et al.* (2024) is an imputation estimator treating the fundamental problem of causal inference, where do not observe the counterfactual as a missing data problem. Roth and Sant'Anna (2023) provides a more efficient way to estimate design-based policies, where the rollout is as good as random. We note that we do not know if this is the case in our set-up. We know that availability of building sped up the relocation process, while localities where construction was needed receiving an agency later in the problem. However, we can't be sure if other factor, such as local political leniency towards the coalition parties determined the rollout speed. Sun and Abraham (2021) disentagles the ATT into cohorts, similarly to Callaway and Sant'Anna (2021). However, the base period is dynamic, and not the period before the policy started, making it less flexible than Callaway and Sant'Anna (2021).

fig. 8 shows the event study plots for the changes in vote shares for the incumbent parties CSU, and FW (Freie Wähler). The positive effect of the policy on the CSU vote share is confirmed by the Borusyak *et al.* (2024) estimator. However, since the other estimator are not as flexibel as the Callaway and Sant'Anna (2021) estimator in terms of for long the parallel trends assumption needs to hold, the results are mostly insignificant. The negative effect on the FW vote shares is confirmed by all estimators, except for TWFE, and Sun and Abraham (2021). The effect remains insignificant as in the main event study estimation.

fig. 9 displays the event study plot for the changes in vote shares for the far-right party AfD, and fig. 10 shows the robustness check for the previous turnout results. Both effects are insignificant in all other estimators.

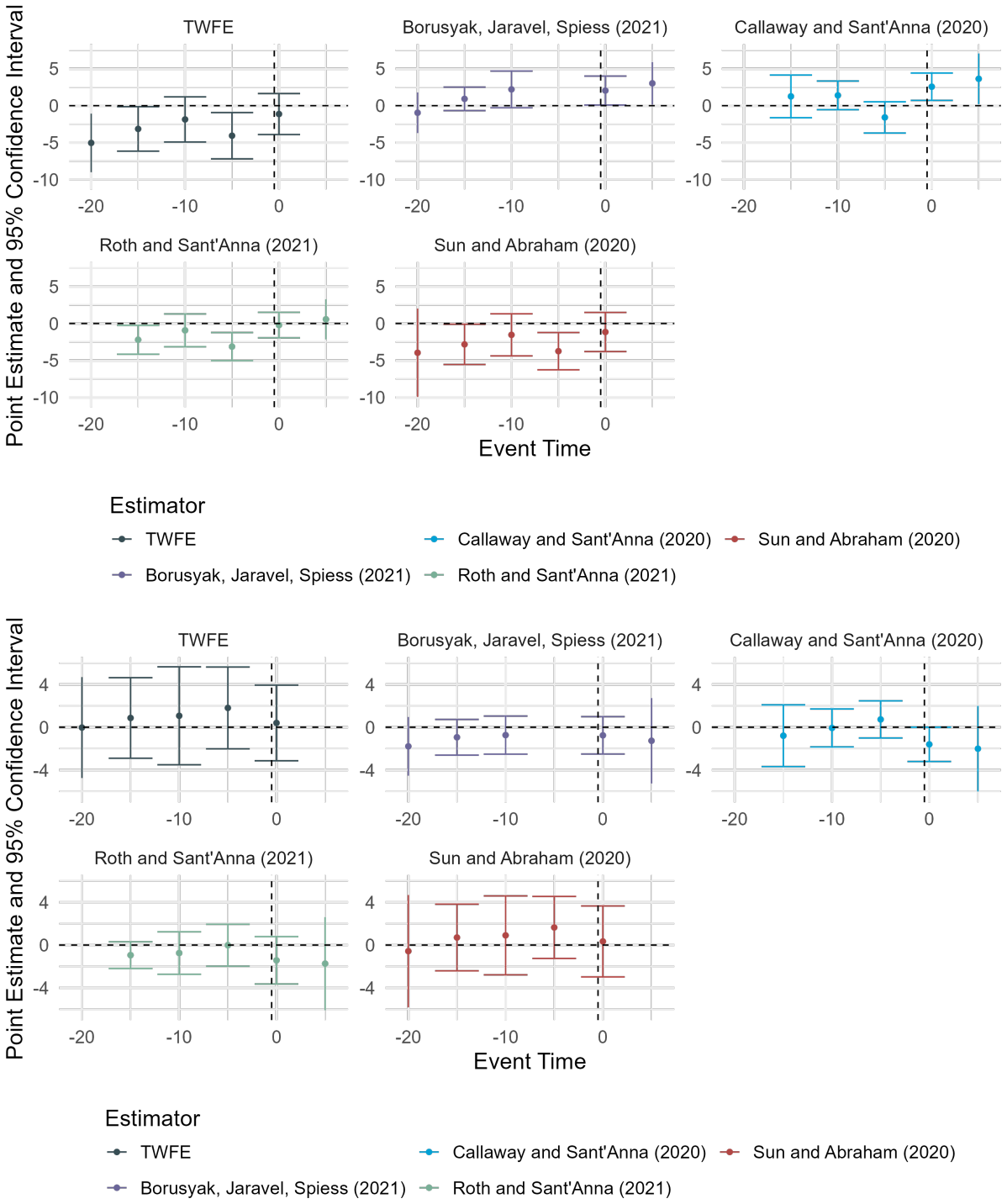


Figure 8: Robustness Check for CSU (upper panel), and FW (lower panel) vote shares using the TWFE, Borusyak *et al.* (2024), the Callaway and Sant'Anna (2021), the Roth and Sant'Anna (2023) and the Sun and Abraham (2021) estimators.

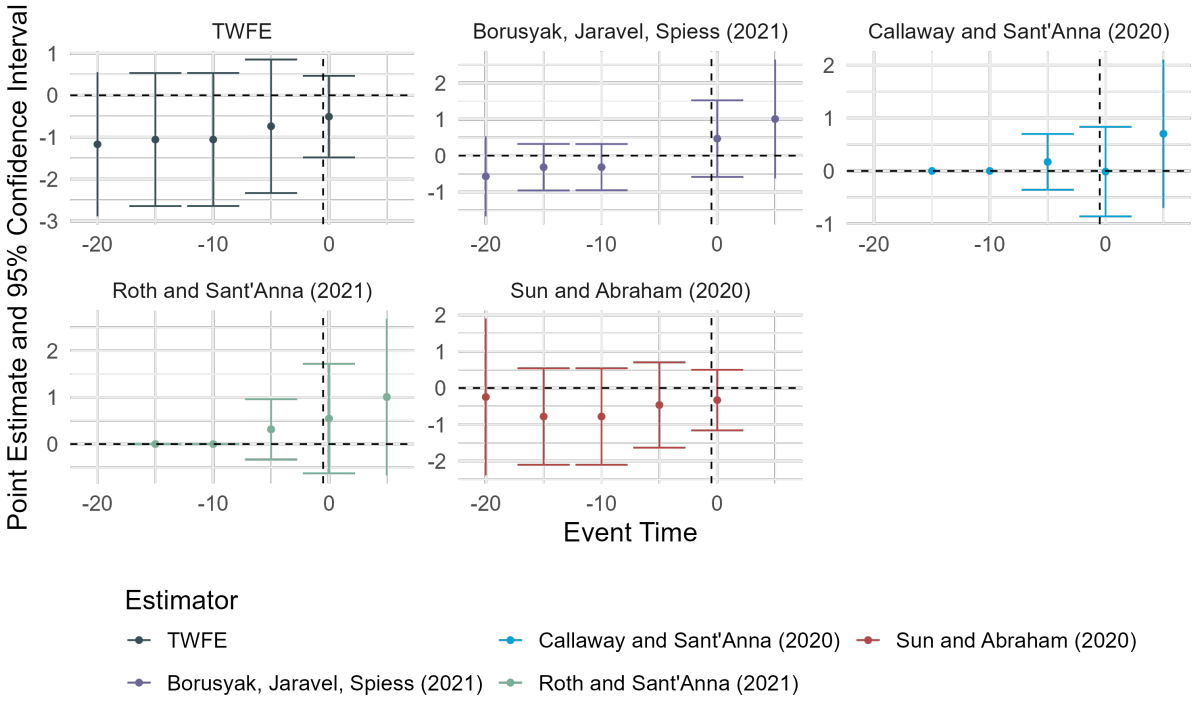


Figure 9: Robustness Check for AfD vote shares using the TWFE, Borusyak *et al.* (2024), the Callaway and Sant'Anna (2021), the Roth and Sant'Anna (2023) and the Sun and Abraham (2021) estimators.

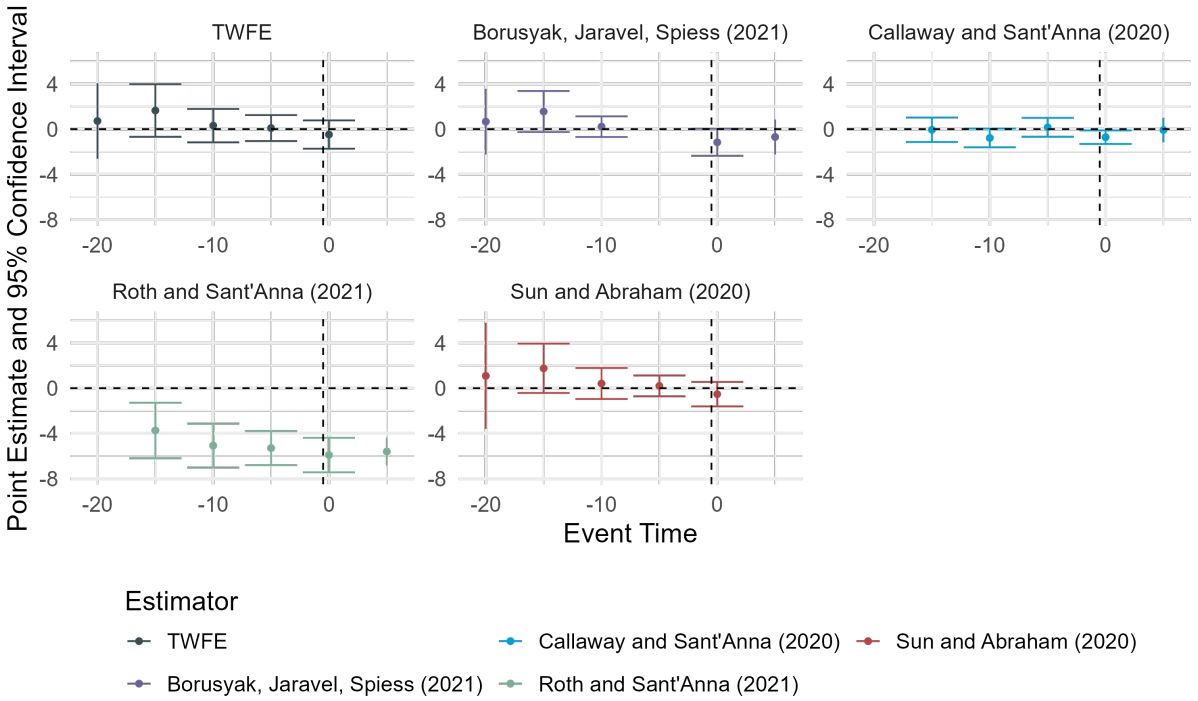


Figure 10: Robustness Check for turnout changes using the TWFE, Borusyak *et al.* (2024), the Callaway and Sant'Anna (2021), the Roth and Sant'Anna (2023) and the Sun and Abraham (2021) estimators.

6 Concluding remarks

Our study demonstrates that place-based policies can significantly influence electoral outcomes. By exploiting Bavaria's large-scale public sector relocation program, we find compelling evidence that such interventions shape voting patterns in targeted regions. The Christian Social Union (CSU), as the leading incumbent party responsible for implementing the policy, reaped substantial electoral benefits both at the state and federal levels. This suggests a strong incumbency advantage derived from visible, targeted interventions in economically distressed areas.

Conversely, the smaller coalition partner, the Free Voters (FW), experienced electoral losses in treated regions, highlighting the nuanced political consequences of such policies. Importantly, our findings indicate that the relocation program had some success in containing the rise of the far-right populist Alternative for Germany (AfD) party in treated municipalities, with their vote share decreasing by approximately one percentage point, or a third of their average vote share.

These results have significant implications for governing parties and democratic stability. On one hand, governments can potentially win over voters in economically disadvantaged regions through targeted and visible place-based policy measures. On the other hand, such policies may serve as a tool to counteract the rise of populist movements that often thrive in areas feeling economically left behind.

Moreover, the limited geographical spillover effects we observed suggest that the policy's impact was largely confined to host localities, with only small spillovers to federal elections. This underscores the localized nature of such interventions and their political consequences.

In conclusion, our findings highlight the potential of place-based policies as a dual-purpose tool for governments: addressing regional economic disparities while simultaneously shaping electoral outcomes.

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Appendix

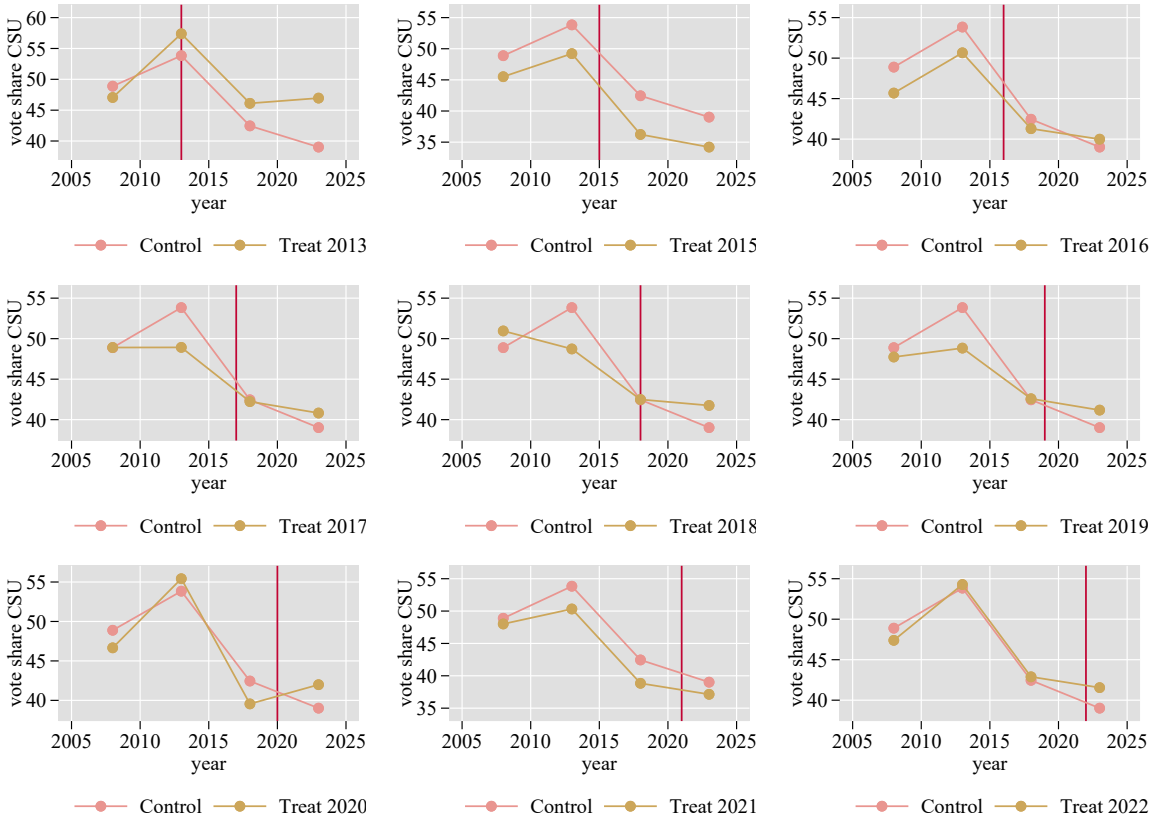


Figure A1: Vote shares for the CSU by treatment cohorts.

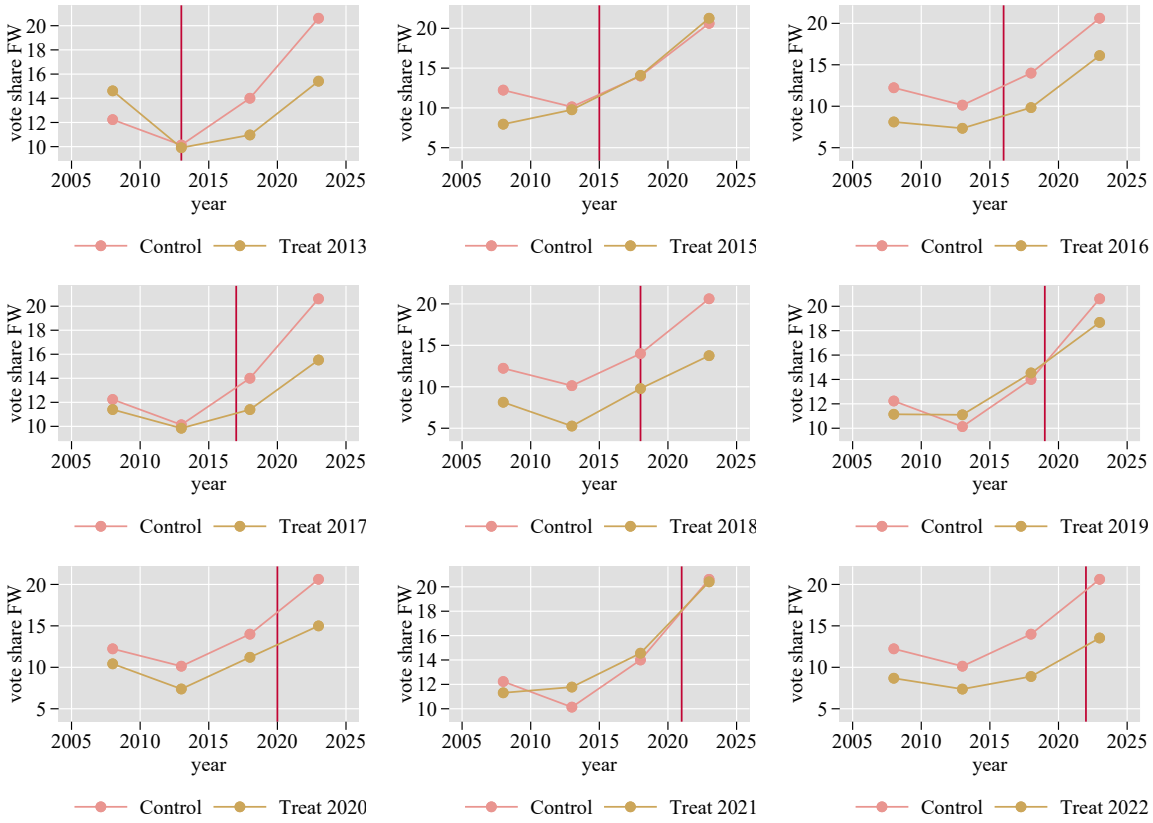


Figure A2: Vote shares for the Freie Wähler by treatment cohorts.

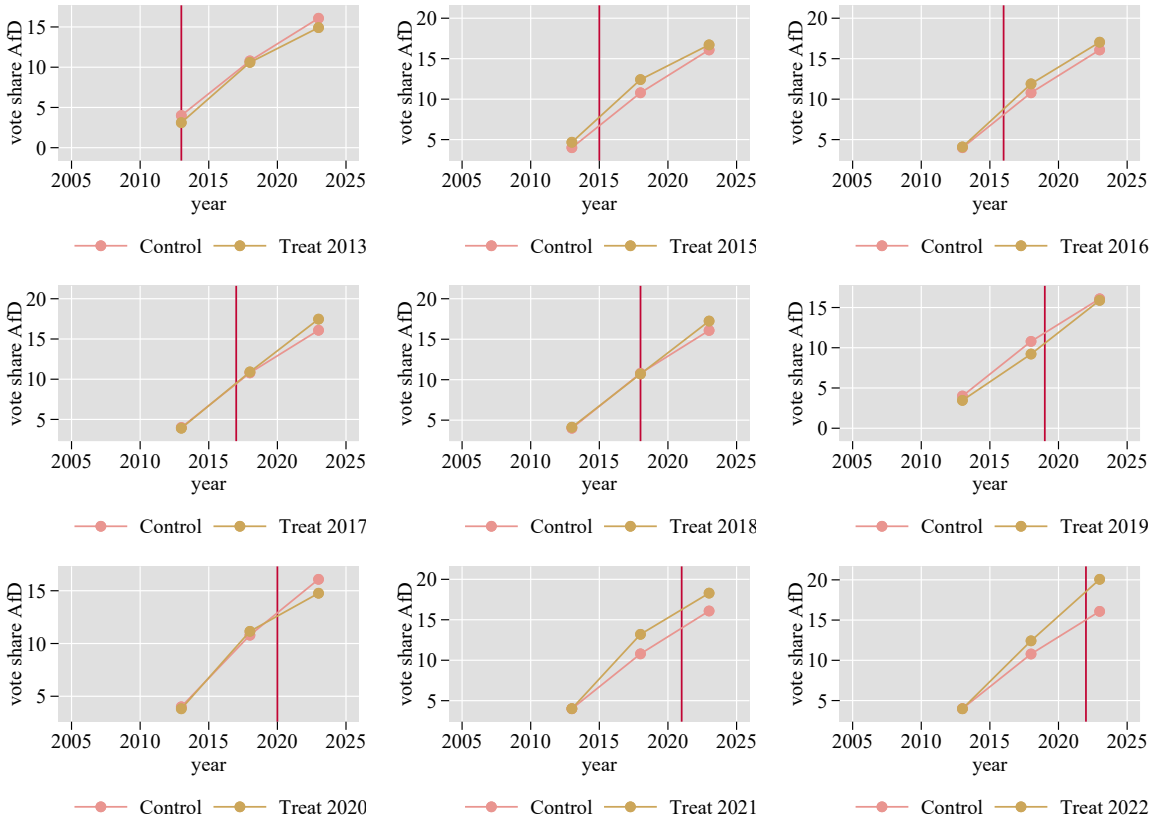


Figure A3: Vote shares for the AfD by treatment cohorts.