Wealth of Tongues: Why Peripheral Regions Vote for the Radical Right in Germany

Daniel Ziblatt *Harvard University*
Hanno Hilbig *Harvard University*
Daniel Bischof *University of Zurich*

February 2, 2021

Abstract

Why do voters for the radical right tend to cluster in specific geographic locations? Many scholars have emphasized the economic roots of radical right support. Other scholarship highlights the role of the urban-rural divide, contending that the radical right finds support in low population density locations due to distinctive social values and strong place-based social identities found in rural areas. To date, however, we do not have a full grasp of the sources of these latter factors nor an understanding of the historical roots that explain their emergence. We argue that what is frequently classified as the "rural" bases of radical right support in previous research is in part a proxy for something entirely different: communities that were in the historical "periphery" in the center-periphery conflicts that shaped modern nation-state formation. Inspired by a classic state-building literature that emphasizes the prevalence of a "wealth of tongues" (Weber 1976)—or nonstandard linguistic dialects in a region—as a definition of the periphery, we use data from more than 725,000 geo-coded responses in a linguistic survey in Germany to show that voters from historically peripheral geographic communities are more likely to vote for the radical right today.

Corresponding Email: dziblatt@g.harvard.edu. We are thankful for comments by Christian Breunig, Noah Daponte-Smith, Noam Gidron, Peter Hall, Silja Häusermann, Thomas Kurer, Pauliina Patana, Catherine de Vries, and Markus Wagner. We also thank all participants and their thoughtful feedback at our panels at the 2019 EPSA and APSA conferences, as well as seminar audiences at WZB Berlin and Harvard University. We also thank for a range of suggestions made during an invited talk by Daniel Bischof at the university of Mannheim and university of Konstanz. We are extremely thankful to Alfred Lameli and Adrian Leemann for sharing their linguistic data with us on which this article is based upon. Daniel Bischof thankfully acknowledges funding from the Swiss National Science Foundation (SNF Ambizione Grant, NO. 179938).

1 Introduction

Why do voters for the radical right tend to cluster in specific geographic locations? Some scholars have emphasized the economic roots of the political geography of radical right support, showing how regions with a declining manufacturing base and heightened economic hardship leave them more vulnerable to the appeals of the radical right (Broz, Frieden, and Weymouth 2020; Colantone and Stanig 2018*b*; Autor et al. 2016). Other scholarship highlights the role of the urban-rural divide, noting that in rural regions a different constellation of social values and strong place-based social identities lead to the rejection of mainstream political elites and their values (Cramer 2012, 2016; Fitzgerald 2018; Rodden 2019; Maxwell 2019, 2020). To date, however, we do not have a full grasp of the sources of these latter patterns nor an understanding of the historical roots that explain their emergence.

We argue that what is frequently classified as the "rural" bases of radical right support in previous research is in part a proxy for something entirely different: communities that were in the historical "periphery" during the center-periphery conflicts that shaped the formation of modern nation-states (Lipset and Rokkan 1967). Regions that were historically in the periphery during the building of nation-states were marked by low-status cultural markers—chief among them local dialects and languages—that left citizens defensive of their local communities and alienated from the national political community (Rokkan and Urwin 1983; Rokkan 2009).

Our main contention is that voters from such historically peripheral geographic communities are more likely to vote for the radical right today. The mechanism standing behind this proposition is that citizens from geographic regions with clearly identifiable lower status cultural markers such as a nonstandard dialect or language possess higher sentiments of being "left behind" and higher levels of out-group resentment. This in turn motivates voting for challenger parties such as radical right populist parties. We expect also that this pattern becomes even stronger in moments in which the perception of cultural threats'—such as the large influx of refugees—emerges, and especially so if populist radical right parties frame the influx of refugees as such a threat.

We highlight the role of one attribute that classic works on state formation (Lipset and Rokkan 1967; Hechter 1972; Scott 1998) identify as a hallmark of peripheral communities but that political scientists to date have rarely explored: dialect and dialectal distance from a national standard lan-

guage. We also draw on recent insights from the field of sociolinguistics that analyzes links between language or dialect and place-based social identity (Remlinger 2009; Becker 2009). Regions which are, in dialectal terms, "closer" to the national standard language reflect the accumulation of a history of greater economic interaction and cultural exchange with the political center. By contrast, residents in regions with more distinct dialects are likely to be culturally distant and part of smaller social networks that do not extend far beyond their place of residence, and as a result possess stronger local place-based cultural markers. Focusing on the German case—a country rich in dialects—, we rely on dialectal data of more than 725,000 geo-coded responses stemming from work by Elspaß (2005) and Leemann, Derungs, and Elspaß (2019), which then enables us to measure how distinct a given regional dialect is compared to standard German.

We test our argument by studying the electoral rise of the radical-right *Alternative für Deutschland* (AfD) party in the 2010s in Germany. We combine the Leemann, Derungs, and Elspaß (2019) dialectal distance measure with electoral results from the 2017 federal elections and public opinion data from the German Longitudinal Election Study (GLES). We find support for the hypothesis that peripheral communities with a higher prevalence of nonstandard German are more predisposed to radical-right parties. In both county-level and individual data, greater dialectal distance to standard German is associated with a significant and substantively meaningful increase in voting for the radical-right AfD party. We then present suggestive evidence, consistent with existing theory (Enos 2014), that outgrowth hostility is activated in these communities by an external threat: The correlation between dialectal distance and radical-right voting is strongest when refugee inflows were at their peak during the recent so-called "refugee crisis".

To ensure that our results are not driven by unobserved confounders, we conduct a range of additional tests. We show that our results are robust to the inclusion of standard economic and demographic covariates, both on the aggregate and the individual level. Our results remain unchanged when we control for nationalism, attachment to the locality, urbanization, migration, geographical isolation, and historical patterns of racism and Anti-Semitism, among a range of other controls. In addition, we include increasingly fine-grained fixed effects to demonstrate that unobserved regional heterogeneity does not underlie our findings. Following Imbens (2003), we conduct sensitivity analyses by estimating how strong an omitted confounder would need to be to control away the main

finding (Cinelli and Hazlett 2020). We show that a hypothetical omitted variable as twice as strong as the unemployment rate would not change the substantive conclusions of our analysis. Taken together, these additional tests strongly suggest that our results are not a result of unmeasured confounding.

2 Why the Radical Right Clusters in Specific Geographic Locations

Radical right voting is frequently analyzed at the individual level, as scholars weigh the importance of alternative individual correlates of voter support of radical right parties (Inglehart and Norris 2016; Gidron and Hall 2017; Guiso et al. 2020). Recently there has also been attention to the fact that the populist radical right parties' support clusters in specific geographic locations. Scholars have observed, for example, that in Europe and North America, economically thriving cities are locations of "cosmopolitan" attitudes, and also show less support for the radical right. By contrast, the countryside and regions in economic decline appear to be locales where radical right parties do well electorally and where the Brexit movement found the bulk of its support in 2016. One popular account portrays this as the divide between cosmopolitan "anywheres" who are not connected to any particular location and parochial "somewheres" who are deeply attached to their home communities (Goodhart 2017). Whatever is driving these spatial patterns, a growing point of convergence across this literature is that important determinants operate at the level of geographically specific *areas* and not just individuals (Broz, Frieden, and Weymouth 2020).

Two sets of explanations have emerged to explain these geographic patterns. One strand of research highlights how economic shocks triggered by globalization have asymmetrically affected some regions within countries more than others. Autor, Dorn, and Hanson (2013) for example, demonstrate that in local labor markets in the United States with a higher share of workers in industries that compete with imports from China, (like textiles or electronic goods), trade shocks led to greater unemployment, lower labor force participation, and reduced wages before 2008.[1]

Similar patterns have been on display in Europe as well. For example, Colantone and Stanig (2018*a*) show that the share of public support in favor of the Brexit referendum was greater in the UK's regions most exposed to Chinese import competition.[2] Additional work by Broz, Frieden, and

[1] In later work, Autor et al. (2016) show these same regions showed greater support for Donald Trump in 2016.
[2] Further, individual-level data in the same study show that the import shock variable correlates with Brexit support

Weymouth (2020) highlights how long-term de-industrialization—more advanced in some locations within countries than others—has had downstream effects on labor force participation rates, youth out-migration, declining property values, local tax revenue shortfalls, and even the prevalence of the opioid epidemic and public health outcomes. And, communities marked with these conditions show higher support for populist right-wing parties. In sum, empirical research makes clear that economic shocks associated with globalization and de-industrialization have had a variegated impact within countries, which is associated with the geographic clustering of radical right support.

But because the economic drivers of radical right voting are intertwined with cultural developments, a second strand of literature has zeroed in on a different facet of this problem: the escalation of an urban-rural split in electoral politics. Rodden's (2019) evidence points to the sharp and growing political divide between rural regions and cities, suggesting that over the course of the twentieth century in many established democracies, economic development has led not the decline of this geographic split but rather to its growth. Today, in the United States population density is a stronger predictor of voting patterns than at the beginning of the twentieth century (Rodden 2019: 4). The drivers of this phenomenon are closely related to the economic developments described above. Technological change, the decline of manufacturing, and the rise of the knowledge economy all contribute.

But in this account, the causal channel linking urban-rural economic divides to political outcomes is different. The pathway is distinctly cultural and embedded in conflicting social values and associated political attitudes. According to Rodden (2019) for example, in dynamic knowledge-based cities in which high skill workers increasingly live, distinctively "cosmopolitan" values, life-styles, and political preferences are found that sharply diverge from the less secular and more traditional social values prevalent in the rural areas inhabited by lower-skilled workers who feel "left behind" by the global economy (see also Iversen and Soskice 2020).

Other work also clarifies how a clash in social values rooted in the urban-rural divide is driving politics in advanced democracies. Catherine Kramer's (2016) ethnographic evidence on rural communities in the Midwest of the United States suggests that it is resentment over the presence of the urban-rural divide itself that has electoral consequences. Rural voters who are economically

whether or not respondents themselves are in manufacturing sectors, indicating voters behave sociotropically and react to conditions in their region regardless of individual labor market status (see also Colantone and Stanig 2018*b*).

dislocated with strong sense of place-based identity also feel culturally distant from—and resentful of—cities making populist appeals attractive. And in an analysis of the urban-rural divide in Europe, Maxwell (2019, 2020) highlights the contrast between positive attitudes towards immigration in large "cosmopolitan" cities and more negative attitudes in the "nationalist" countryside.

Maxwell, more systematically than others, also attempts to sort out the sources of the attitudinal gap on this key issue that activates the radical right. He asks: Is the urban-rural divide on attitudes towards immigration contextual (i.e. something about living in cities makes people feel more positive about immigration)? Or is it compositional (i.e. something about the types of people who live in cities)? Maxwell's evidence supports the latter position. Using panel data in which he traces voters' residential mobility and social attitudes over time, he demonstrates that individuals moving to cities (i.e. context) do not directly become more cosmopolitan. Rather, preexisting attitude differences between urban and rural residents and self-sorting (i.e. composition) explains much of the urban-rural social values gap (see also Iversen and Soskice 2020). As a result, Maxwell concludes that his "main take away message" is that the geographical clustering of attitudes towards immigration is usefully conceptualized as a "second-order manifestation of deeper demographic and cultural divides" (Maxwell 2019: 473).

But, what exactly are these "deeper" cultural divides? And how do we study them? Here is where we reach the limits of existing literature. Contemporary economic change and the growing urban-rural gap are clearly important drivers of the regional clustering of radical right voting in economically "left behind" regions. But this literature itself suggests there are also longer-standing historical cultural divides that preceded recent economic developments that may continue independently to shape where the radical right clusters. But the precise content of these cultural and historical divides—and how to study them empirically—has remained elusive.

3 Cultural divides between center and periphery

One answer to the question of the source of these regional divides is suggested in the pioneering work of Lipset and Rokkan (1967) who over fifty years ago argued that in the historical process of nation-state formation, a variety of political cleavages emerged to shape contemporary politics. One important cleavage in this framework is the historical "center-periphery" division be-

tween the centralizing core that pursued the standardization of national integration and the culturally distinctive outlying areas of the nation-state that were peripheral to the nation-building project. In Lipset and Rokkan's original framework, the center-periphery cleavage emerged between a culturally-homogenizing high status state-building center and a lower status geographic periphery in defense of local culture—language, local dialect, ethnicity, or religion. In this framework (see also Rokkan and Urwin 1983; Rokkan 2009), because citizens in historically peripheral regions often carried lower status cultural markers, like dialect, dress, and customs that were marginal to the nation-state process, providing the raw materials for a collective self-perception of marginality within the national political community. Lipset and Rokkan (1967: 13) dub these "bastions of primordial local culture." In Eugen Weber's classic work on French state-building, *Peasants into Frenchmen* (1976: 67), for example, Parisian primary school inspectors and tax authorities as late as the early twentieth century viewed the periphery as a land of "savages," where civilization was absent and a "wealth of tongues" (i.e. regional dialects) hindered the operation of officialdom.

Indeed, the periphery in nation-states was usually defined by two features: their low social status within the nation-state and the prevalence of identifiable cultural markers such as dialect or nonstandard language that reinforced that status. In James Scott's account of state-building, for example, the state's efforts to make society "legible" were hindered by peripheral regions' linguistic diversity (Scott 1998; Gellner 1993). Further, these regions were targets of what David Laitin has called state-directed "language rationalization" efforts (Laitin 1992: 10-14) and that Michael Hechter has more pointedly described as "internal colonialism" (Hechter 1972)—a process of subjugation and standardization of cultural differences that aimed at stamping out nonstandard regional languages (Hechter 1972: 191-205).

Understandably, citizens in such locations believed they suffered distributive injustices in terms of power, wealth, and prestige. This in turn prompted a "politics of cultural defense," (Lipset and Rokkan 1967: 12), shaping residents' perception of themselves, elites, and outsiders. Scholarship has contended that this center-periphery divide began to recede in salience in the middle of the twentieth century, but also that it can be activated—and some scholarship has shown—it has in recent years re-emerged in some settings as a salient political cleavage (Alonso and Fonseca 2012), in part explaining the emergence of regional political parties across Europe.

There are empirical and theoretical reasons to believe that citizens in these historically and culturally fringe regions Rokkan's periphery would be more likely to support anti-immigrant radical right political parties today. First, scholarship has demonstrated that at the individual level, low self-perceived status generates support for radical right anti-immigrant political parties (Gidron and Hall 2017; Kurer 2020). Second, a vast literature in sociolinguistics has demonstrated both that regional dialects are more enduring than modernization theory might expect (Edwards 2013: 69) and that speakers of low status dialects again, especially low status regional dialects continue to su er discrimination in housing, employment, and negative evaluations in terms of perceived prestige, skill, trustworthiness, and education (Edwards 2009; Segrest Purkiss et al. 2006; Purnell, Idsardi, and Baugh 1999; Du Bois 2019: 93). Third, social identity theory has clari ed that even weak in-group cultural markers, evoke outgroup resentments (Tajfel, Billig, and Bundy 1971; Tajfel 1978).

Taken together, we, therefore, expect two mechanisms at the individual level associated with living in historically peripheral regions to generate subjective assessments of marginalization and hostility towards outsiders. First, analogous to the nding that individual-level low self-perceived status drives alienation from the establishment and support for radical right vote (Gidron and Hall 2017; Kurer 2020), we expect that residents in what amounts to historically low status regions also take on similar orientations. Second, ndings in sociolinguistics and social identity theory expect that clear cultural markers of the in-group such as dialect or language generate hostility towards outsiders. Together, this creates a sentiment of feeling left behind in these communities, which in turn motivates voting for challenger and radical right populist parties,. We also expect that this pattern might become even stronger in a moment in which the perception of cultural threats (Tajfel, Billig, and Bundy 1971; Tajfel 1978; Enos 2014) such as the large in ux of refugees emerges. And, nally, this is further exacerbated if populist radical right parties frame the in ux of refugees as such a cultural threat.

4 Data

How can we study these cultural divisions, and how do we get an empirical grip on the center-periphery divide? Research in the eld predominantly uses survey data to disentangle how local factors a ect voting. One important example is Fitzgerald (2018) who uses questions on how close

or attached respondents feel to their community, linking this to stated support for radical right parties. Though revealing of an important set of attitudinal correlations, such research tells us little about what social or macro characteristics of a locality matter for voting since the main variables of interest are measured on the attitudinal and individual level.

In contrast, we propose a measure which is measured on the behavioral and community level. We do so by relying on one characteristic of localities we elaborated in our theoretical discussion above: language, more precisely dialects. A dialect is a subvariety of a language that di ers from other subvarieties along three dimensions: vocabulary, grammar, and pronunciation (Edwards 2009: 63). We measure the strength of a dialect in a given region. As we have noted, the state-building and political development literature makes clear that a strong regional dialect that departs from the standard variant of a language is a key descriptive characteristic of the periphery (Weber 1976; Rokkan and Urwin 1983). Based on further research in sociolinguistics, we know that nonstandard dialects remain a source of a variety of social identities for many groups. Speci cally, these include place-based identities (Labov 1963; Remlinger 2009, 2017). As a result, dialects are used as a marker to judge peoples' origins and capabilities.

We employ two data sources to measure how distant a given dialect is compared to standard German. One of them is based on contemporary data collected by the German magazine Der Spiegel (see: Elspaÿ et al. 2018; Leemann, Derungs, and Elspaÿ 2019), while the second relies on a linguistic survey of about 40,000 schools in the late 19 th century (Lameli et al. 2014). We use the contemporary dialect data as a proxy for regions that were in the historical periphery in our main analyses. The historical data serves as evidence for the validity of the contemporary dialect data.

4.1 Contemporary dialectal data

The most comprehensive mapping of current regional German dialects is a unique online survey conducted by the German magazine Der Spiegel (see Elspaÿ et al. 2018). In 2015,Der Spiegel created a publicly accessible dialect quiz, where individuals answer a number of questions related to regional di erences in dialect. [3] Quiz respondents are shown a description of a verb, noun or adjective. They

[3]The questions of the quiz itself is no longer available online. However, a related article can be found at https://www.spiegel.de/wissenschaft/mensch/dialekte-quiz-wo-spricht-man-so-wie-sie-a-1030362.html. Our data spans the period from April 2015 June 2019, when we received the data. We have no information on the date of each quiz response.

are then asked to select the regional version of the word from a list of choices. An example is a question on the informal version of the verb `to chat': In East Germany, the majority of respondents use `quatschen', speakers closer to the North-Western coast employ `schnacken' and Bavarians use `ratschen'[4]. In total, respondents answer 24 questions, each aimed at the regional version of a specific noun, verb or adjective. Importantly, these 24 questions relate to differences in pronunciation, grammar, and vocabulary, and therefore capture all relevant dimensions of what constitutes a dialect. While the quiz was not created for scientific purposes, the 24 questions are directly based on a prior linguistic research project aimed at describing regional differences in German dialects, the Atlas der Deutschen Alltagssprache (Atlas of Colloquial German, see Elspaß 2005).

After completing the quiz, a predictive algorithm estimates the region where the person is from. Finally, respondents are asked to evaluate the accuracy of the prediction and can enter their hometown.[5] About two-thirds of all respondents enter their hometown, allowing us to trace responses to a specific location. In total, about 725,000 respondents indicate where they are from. We use this information to create a county-level measure of dialectal distance between a given county and region of Hannover, the area that is most strongly associated with standard German (for more elaboration on standard German and its relation to the Hannover dialect, see Mills 1985: 142; Polenz 2009: 123). Given the large sample, the number of respondents in each county is high. As we show in Figure A.1 in the Appendix, the majority of counties have more than 1,000 respondents. In a first step, we obtain the most common (modal) answer in each county for each of the 24 dialect questions that are part of the Spiegel quiz. For each county i, the modal answer to quiz item k takes on the value X_i^k. In the following, we will refer to the modal answer in each county as a county-specific dialect characteristic. Depending on the dialect characteristic, X_i^k can take between 2 and 24 different values. In standard German, the k^{th} dialect characteristic takes on the value $X^k_{\text{Standard German}}$. We define the distance between a given regional dialect and standard German as follows:

$$d_i = f\left(\sum_{k=,} \tilde{\mathbb{1}}\dots\right), \quad X_i^k = X^k_{\text{Standard German}} \tag{1}$$

[4]The Spiegel quiz is partially based on a similar quiz created by the New York Times. In the American context, an example of regional lexical difference is the use of the words `pop' and `soda' to refer to a sweetened carbonated drink.

[5]We expect that respondents will usually indicate the place where they grew up rather than their current place of residence if the two are not the same.

The sum on the right-hand side counts the number of times a region shares a dialect characteristic with standard German, which can be at most 24. We then reverse this measure such that d_i measures dialectal distance between a given county and standard German. It can range from 0 (a dialect that is equal to standard German) to 24 (shares no characteristics with standard German). We chose this measure of dialectal distance in accordance with prior work on the e ect of dialects, chie y Falck et al. (2012), who use the same de nition of distance in conjunction with the 19 th-century data described in Section 4.2.

A potential drawback of our method is that it requires dialect characteristics to be exactly the same to count towards the distance measure. To ensure that the results are not driven by our choice of the dialectal distance measure, we also calculate the dialectal distance using the average Jaro-Winkler distance between the prototypical characteristics. The Jaro-Winkler distance accounts for cases when dialect characteristics are similar, but not exactly the same (for more details see Cohen et al. 2003). The two measures are highly correlated, and our main results are similar across the two dialectal distance measures.

In Figure 1, we present the county-level distance from standard German across Germany. Unsurprisingly, the counties surrounding the Hannover region (shaded in white) are most similar to standard German. We also observe a pronounced North-South divide: Southern German dialects are markedly more di erent from standard German than in the Northern part of the country. The two Southernmost states, Bavaria and Baden-Wuerttemberg exhibit the greatest distance to standard German. To ensure that our results are not driven by the apparent North-South divide, we estimate all models with state xed e ects. The xed e ects allow us to analyze dialectal variation within states, rather than across states.

In a supplementary analysis in the appendix, we examine potential correlates of dialectal distance, based on survey and aggregate-level data (see section A.3). We observe that stronger dialects correlate with lower integration into surrounding areas, greater social engagement in the community, increased skepticism towards outsiders, and stronger suspicion of elites. Generally, these patterns corroborate that dialectal distance is indicative of center-periphery divides.

Figure 1: Dialectal distance from standard German by county.

Note: Greater values indicate that the local dialect is more distant from standard German. The region shaded in white in the Northern central part of the country is Hannover, the region that most closely approximates standard German.

4.2 Historical dialectal data

As a secondary data source, we use historical dialectal data from the Deutscher Sprachatlas (`Atlas of the German Language', see Falck et al. 2012; Lameli et al. 2014), a survey conducted in the late 19th century. This data allows us to validate the contemporary dialect data. In addition, the data serves as a closer approximation for historical patterns of the center-periphery divide, as it was measured prior to the turbulent 20th century.

To create the Deutscher Sprachatlas, the linguist Georg Wenker surveyed over 40,000 elementary schools across the German Empire, asking students and teachers to translate 40 German sentences into their local dialects. Akin to the 24 dialect characteristics in the Der Spiegel data, Wenker's

successor Ferdinand Wrede used Wenker's surveys to identify 66 `prototypical characteristics' of the German language. Much like the 24 characteristics in the Leemann, Derungs, and Elspaÿ (2019) data, we can use those 66 characteristics to construct a 19 th -century distance measure between county-level dialects and standard German. [6]

Before turning to our main results, we use the historical dialectal data to validate our contemporary measure. We emphasize that the contemporary measure, while based on linguistic research (Elspaÿ 2005), was intended to serve mainly journalistic purposes. In contrast, the historical measure was the result of one of the most signi cant linguistic surveys ever conducted in Germany (Lameli et al. 2014). To ensure the quality of the data collected through the Der Spiegel online survey, we examine the correlation between the contemporary and the historical dialectal distance. While we expect that dialects change over time, they will likely not diverge completely. Indeed, the correlation between the 19th -century Wenker data and the Spiegel quiz data is 0.84. We visualize the relationship between the two measures in Figure A.2 in the Appendix. The high correlation con rms that the contemporary dialectal distance indeed picks up on variation in dialects as measured in prior linguistic research.

One of our main contributions is to argue that location-speci c dialects are often a central component of place-based social identity and have political consequences. But the question still arises: how well do linguistic patterns in Germany actually capture the broader phenomenon we aim to study? Below we report evidence that other survey-based measures of place-based social identity are in fact associated with our area of primary interest: local dialectal di erences.

5 Empirical strategy

We model the electoral success of the radical-right AfD party as a function of the dialectal distance between a given county and standard German. County-level AfD vote shares in the most recent federal elections (2017)are our dependent variable. [7] In addition, we add a number of relevant covariates as well as xed e ects to account for unexplained regional heterogeneity. We focus on potential confounders that have previously been shown to predict voting for radical-right parties.

[6] We elaborate more on the details of the Wenker data in Section A.6 in the Appendix.

[7] 2017 is the rst year that the AfD ran on an explicit anti-immigration platform. In the 2013 general election, the AfD was most strongly associated with Eurosceptic and economics issues.

5 Empirical strategy

To complement the aggregate electoral results, we use data from the German Longitudinal Election Study (GLES). The relevant outcomes in the GLES are a binary measure of AfD vote intentions as well as an 11-point AfD likability scale.

We estimate a set of linear models that can be described as follows:

$$y_{i;j} = \alpha + \beta_j + \gamma d_{i;j} + \delta' X_{i;j} + \varepsilon_{i;j}$$

Here, $y_{i;j}$ is the outcome of interest for unit i in-state j, which is either radical-right voting or individual attitudes. Our main independent variable is $d_{i;j}$, the dialectal distance between a given county i and standard German. We always standardize $d_{i;j}$ such that coefficients can be interpreted as the effect of a one standard deviation increase in dialectal distance. We also include a vector of covariates $X_{i;j}$ as well as state fixed effects β_j.[8] For all county-level models, we control for regional GDP/capita, average wages, population density, unemployment rates, total population, % Catholic, the share of commuters, the physical distance to the state capital, and the CDU/CSU vote share in the 2013 general election. We provide summary statistics for all outcomes and explanatory variables in Table A.1 in the Appendix.

We concede that causal identification is difficult in the context of our research question. We rely on the assumption that dialectal distance is independent of the potential outcomes, conditional on county covariates and fixed effects. The strongest threat to identification is omitted variable bias, namely that unobserved factors drive our findings. In a series of robustness checks, we address confounding through additional control variables, more fine-grained geographical fixed effects, a design-based weighting approach as well as a sensitivity analysis. As we elaborate in section 6.3, the additional analyses leave us with little reason to believe that our results are driven by unobserved confounding.

[8] The notation we use refers to counties, which form the basis for our main result. For counties, the level of observation is the same as the level at which dialectal distance is measured. Given the structure of the GLES data, the dialectal distance for survey analyses is measured at the level of the electoral district survey respondents are nested within districts.

6 Results

6.1 Aggregate electoral results

In Table 1, we demonstrate that there is a signi cant and positive association between dialectal distance from standard German and the electoral success of the AfD. Depending on the speci cation, a one standard deviation increase in distance from standard German is associated with a 0.78 1.17 percentage point decrease in the voting for the AfD. The observed e ect corresponds to a decrease of about 0.2 standard deviations in AfD voting [9], con rming that dialectal distance is a substantively meaningful predictor of radical-right voting. This relationship holds both when comparing across German states (model 1, no state xed e ects) and within states (model 2, including state xed e ects). Crucially, controls for population density, commuting, and distance to state capitals ensure that we are not simply picking up on urban-rural divides. What is more, we account for time-invariant regional di erences by including state xed e ects. As a consequence, the e ect is not solely an artifact of a North-South or East-West divide.

In the next step, we examine the relationship between the 19 th-century dialect data and radical-right voting in models 3 and 4. We nd comparable results, both in terms of direction and magnitude.[10] The fact that results are similar using the 19 th-century data is reassuring, as it may be better suited to pick up on historical center-periphery divides. Taken together, the results suggest that dialectal distance is a signi cant and substantially meaningful predictor of radical-right voting.

Given its history as a divided country, patterns of radical-right voting di er between East and West Germany. Since the fall of the Berlin Wall in 1989, the East has voted in higher numbers for radical right parties such as the `Nationaldemokratische Partei Deutschlands (NPD)' and the `Republikaner' and a similar pattern holds true for the AfD. This might suggest that the relationship between parochialism and AfD voting is particularly strong in East Germany. However, as we show in the Appendix Table A.3 this is not the case. Splitting the sample into East and West shows that the association between parochialism and AfD voting holds in both parts of the country, although the e ects are imprecise given the lower sample size in East Germany.

[9] The standard deviation of the dependent variable in model 2 is 5.3

[10] We stress that all covariates and the state boundaries used for the xed e ects are post-treatment with respect to the historical dialectal distance measure. Therefore, the results in model 4 should be treated with caution.

Table 1: E ects of dialectal distance on radical right voting in 2017.

	DV: AfD Vote share, 2017			
	Contemporary data		Historical data	
	(1)	(2)	(3)	(4)
Dialectal distance	0.778	1.172	0.898	0.478
	(0.264)	(0.354)	(0.188)	(0.230)
Mean of DV	13.39	13.33	13.4	13.34
N	400	392	399	391
R^f	0.021	0.828	0.028	0.810
State FE		D		D
Covariates		D		D

Notes: Standard errors are shown in parentheses. The dialectal distance is standardized. The rst two models use the contemporary dialectal distance measures, while the latter two models use the 19 th-century measure. The county-level covariates are GDP/capita, average wages, population density, unemployment rate, total population, % catholic, commuters per capita and distance to the respective state capital. p < .01; p < .05; p < .1

6.2 Individual-level results

We now examine the relationship between dialectal distance and political preferences on the individual-level. We begin with panel evidence of the German Longitudinal Election Survey (GLES, see Schmitt-Beck et al. 2010). We use the survey data to complement the aggregate electoral results discussed in the previous section. While aggregate data is informative to study actual behavior, survey data also allows incorporating additional individual-level controls such as income, education, social class as well as nationalism. A second advantage is that there are 18 GLES waves between 2013 and 2018. This allows us to gauge whether place-based identities were `activated' as communities experienced an unprecedented in ux of outsiders during the 2010s refugee crisis.

The GLES survey includes information on the electoral districts where respondents reside. Accordingly, we aggregate the Elspaÿ et al. (2018) dialect quiz responses to the level of the electoral districts. There are 299 electoral districts in Germany, which means that each district contains, on average, about 1.3 counties. Aside from the changing level of aggregation, the de nition of the dialectal distance measure remains the same as discussed in section 4.1. From the GLES, we select (1) two items asking about vote intentions in the next general election and (2) an item that asks respondents to report positive or negative feelings towards the AfD party. The vote intention items simply ask respondents to indicate their most likely vote choice for both the district candidate and the

party vote choice in the next general elections. The party attitude item asks respondents to rate the AfD party on an 11-point scale.[11] In a rst step, we pool 18 GLES waves between June 2013 and March 2018. We then estimate the e ect of dialectal distance on individual vote intentions and attitudes towards the AfD party.

We present the results from the pooled sample in Table 2. Across 18 waves of the GLES, we nd that dialectal distance predicts an increase in the likelihood to vote for the AfD party. Likewise, respondents are more likely to rate the AfD favorably when dialects in their electoral district are stronger. We control for respondents' gender, age, education, employment status, income, the urbanity of their location and separately also for their self-rated nationalism. The main results are statistically di erent from zero and mirror the ndings in section 6.1, where we document similar patterns on the aggregate level.

We emphasize that our conclusions remain unchanged when we control for nationalist attitudes. In two GLES waves, respondents are asked to share their opinion on three items relating to nationalistic ideology. To form a composite scale of nationalism, we sum those three items. [12] By controlling for nationalism among the GLES respondents, we verify that we are not merely picking up on nationalist attitudes. Our results remain substantively meaningful even when we condition on nationalism. Similarly, the correlation between dialectal distance and voting for the AfD remains signi cant if we control for local attachment a factor well established to predict radical right voting outside of Germany (Fitzgerald 2018).

Finally, we utilize the panel structure of the GLES data to better understand how the correlation between dialectal distance and favorable attitudes towards the AfD varies across time. We focus on a pivotal time period in recent German history, the German refugees crisis. Instead of pooling all 18 waves, we estimate model 3 from Table 2 separately for each GLES wave. In Figure 2, we report the association between dialectal distance to standard German and favorable attitudes towards the AfD party, across all 18 waves.

[11] The exact wording is Was halten Sie so ganz allgemein von [der Afd]? , which translates to What do you think of / what is your attitude towards the AfD party . Respondents answer on an 11-point scale, ranging from very negative to very positive.

[12] The index is a 15 point scale based on three questions. The questions are: (1) how important is being German for your identity , (2) how likely are you to use the word `we' versus `they' when speaking of the German people and (3) how well does the adjective `German' suit you? Each item allows respondents to pick from ve answer categories, each measuring di erent levels of agreement with the survey question. As a result, our composite index ranges from one to fteen, with greater values indicating higher degrees of nationalism

Table 2: E ects of dialectal distance on radical right voting intentions and likability.

	AfD vote intentions						AfD scalometer		
	Candidate vote			Party vote			Range: 1 11		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dialectal distance	0.011	0.023	0.015	0.010	0.016	0.013	0.225	0.253	0.226
	(0.004)	(0.007)	(0.005)	(0.004)	(0.007)	(0.005)	(0.050)	(0.064)	(0.055)
Nationalism scale		0.022			0.020			0.262	
		(0.002)			(0.002)			(0.021)	
Local attachment			-0.003			-0.007			-0.037
			(0.006)			(0.005)			(0.054)
National attachment			-0.004			-0.002			0.066
			(0.007)			(0.006)			(0.063)
Mean of DV	0.06	0.12	0.07	0.09	0.08	0.13	3.31	2.93	3.22
N	31,019	3,414	4,975	31,019	3,414	4,975	33,104	3,581	5,265
Unique respondents	2,089	1,992	2,012	2,089	1,992	2,012	2,089	2,065	2,073
R^f	0.016	0.073	0.025	0.016	0.063	0.023	0.047	0.121	0.052
East-West FE	D	D	D	D	D	D	D	D	D
Covariates	D	D	D	D	D	D	D	D	D

Notes: The tables contains coe cient estimates from 9 linear models. The rst six models predict the AfD cote intentions for party and candidate votes in the AfD in the next general election. The nal three models predict positive attitudes towards the AfD party. The main independent variable is dialectal distance to standard German, aggregated to the level of electoral districts. We pool 18 waves of the German Longitudinal Election Study (GLES). Standard errors, clustered by respondent, are shown in parentheses. The covariates are respondent gender, age, education, employment status, income, nationalistic attitudes and urbanity of the place of residence. $p < .01$; $p < .05$; $p < .1$

We nd suggestive evidence for a stronger correlation between dialectal distance and favorable attitudes towards the AfD as the refugee crisis becomes more salient. In 2013, political elites and the media did not heavily engage with questions of migration, the term refugee crisis was not yet topical at the time. In our results, we nd that the e ect of dialectal distance in 2015 is more than twice as large as in 2013.[13] The rst public reports about a large in ux of refugees to Europe and Germany started in 2014 when the number of asylum-seekers started to increase signi cantly in comparison to 2013 with 627,000 people seeking asylum across Europe. Thus, the ndings we report here can be read as suggestive evidence in line with the mechanism that the increase in "outsiders" and the perception of crisis leads to a stronger relationship between place-based identity and voting for radical-right parties. Most importantly, refugees in Germany are assigned proportionally to the population size of each state making refugee in uxes in relation to population sizes almost equal across states. This means that we have little reason to assume that the in ux of refugees had stronger direct e ects for certain communities. Instead, it appears that the perceptions of the in ux di erentially activated support for the radical right across regions.

[13] To formally test this, we run an interaction model with a dummy variable indicating the waves surveyed prior (up until wave 7) and during the refugee crisis. We nd a signi cant di erence between the coe cients prior to the refugee crisis and the rst wave during it.

Figure 2: E ects of standardized dialectal distance on AfD likability scale over time.

Note: We plot coe cients and 95% con dence intervals from models estimated separately for each GLES wave. On the x-axis, we indicate the rst day of data collection for each wave. The models follow the speci cation in model 5 in Table 2.

6.3 Robustness

In addition to the main results, we conduct several additional checks to ensure that our results are not driven by unobserved confounding, idiosyncrasies in the sample, the choice of covariates, the model speci cation, or the operationalization of the outcome.

In a rst step, we show that the results are robust to including two additional controls. To ensure that our measure of dialectal distance is not confounded by a history of nationalism or racism, we add an indicator for a history of pogroms in the 1920s (taken from Voigtländer and Voth 2012) and the NSDAP (Nazi party) vote share in 1933 as additional controls. In columns 2 and 3 in Table A.3 in the Appendix, we show that the e ect size and signi cance remain unchanged when we include these controls.

Second, we demonstrate that our results are robust to an alternative operationalization of the outcome. As shown in section 4.1, our dialectal distance measure requires exact matches between

characteristics of regional dialects and standard German. We relax this requirement in Table A.4. Here, we instead use the Jaro-Winkler distance, which takes into account words that are similar, but not exactly the same. [14] We show that the choice of dialectal distance measure does not change our conclusions. Substantively, the e ect sizes are similar to what we show in our main speci cation in Table 1.

Third, we add xed e ects for Regierungsbezirke (administrative districts), the administrative level below federal states. [15] While state xed e ects likely already account for a large degree of unobserved regional heterogeneity, the smaller administrative districts allow us to account for an even greater amount of spatial confounding. As we show in Table A.5 in the Appendix, adding administrative district xed e ects does not change our substantive conclusions.

Fourth, we use a bootstrap approach to examine whether our results are a ected by uncertainty in the measurement of our dialectal distance variable. As mentioned before, the county-speci c dialectal distance measure is based on a sample of dialect quiz respondents who are from the county in question. To incorporate measurement uncertainty, we re-sample from all quiz respondents and then calculate all county-speci c dialectal distances using the resulting 500 bootstrap samples. We then re-estimate our main models for each bootstrap sample. In Section A.5.1 in the Appendix, we show that incorporating measurement uncertainty in this manner does not change our conclusions

Fifth, we address post-treatment bias through the use of the sequential-g estimator (see Homola, Pereira, and Tavits 2020: for an example in a similar setting). As stated before, the majority of our control variables likely measured after `treatment', i.e. after the development of local dialects. In Section A.5.2 in the Appendix, we demonstrate that our conclusions remain unchanged when accounting for post-treatment bias.

Finally, we use an alternative, design-based approach to estimate treatment e ects. In doing so, we rely on the covariate balancing propensity score for continuous treatments (see Imai and Ratkovic 2014) to (1) estimate a propensity score model for treatment assignment and (2) obtain covariate balancing weights. The propensity score uses all covariates and state xed e ects that we

[14] See Cohen et al. (2003) for a precise de nition. As before, we calculate the distance for each of the 24 dialect characteristics and then average them, such that $d_i^{J\text{-}W} = \frac{1}{f...} \sum_{k=,}^{f...} d^{J\text{-}W}(X_i^k, X^k_{\text{Standard German}})$, where $d^{J\text{-}W}$ is the Jaro-Winkler distance.

[15] The `administrative district' unit only exists in the four large states of Bavaria, Northrhine-Westfalia, Hesse and Baden-Wuerttemberg. For all other states, the administrative district unit is not distinct from the federal state. Taken together, there are 31 administrative districts.

include in our main model. While the dialectal distance treatment remains correlated with some of the covariates, CBPS weighting greatly improves balance. In Section A.6 in the Appendix, we present the results. In the weighted models, the estimated e ect of dialectal distance on AfD voting is comparable in magnitude and signi cance to our base models.

6.4 Sensitivity to unobserved confounding

As an alternative approach to address confounding, we implement an additional sensitivity analysis (Imbens 2003). Although we already control for several social, demographic and economic variables, it is impossible to account for all possible confounders. One alternative approach would be to nd a suitable instrument for our dialectal measures. Yet, nding an instrument that ful lls the exclusion restriction for dialectal distance which has deep cultural and historical roots in communities seems unlikely.

Instead, we implement a sensitivity analysis to gauge how strong an unobserved confounder would have to be to invalidate our ndings (for a more in-depth discussion of such methods, see Imbens 2003). We implement the sensitivity using the method and package developed by Cinelli and Hazlett (2020). We use the main results from the second model in Table 1 as the baseline model for the sensitivity analysis.

In Figure 3, we present the results of the analysis. A point in the plot represents a hypothetical unobserved confounder. The x-coordinate represents the partial R^2 of the confounder with respect to the treatment (dialectal distance) and its y-coordinate represents the partial R^2 with respect to the outcome (radical right voting). For reference, we have included the partial R^2 values for the unemployment rate as well as a hypothetical confounder that is twice as strong as the unemployment rate (see also table A.7 in the Appendix, where we show the same quantities for all covariates). The numbers shown next to the variable names in the plot indicate the e ect size if an unobserved confounder with the same strength were included in the model. If we had failed to include a confounder that is as twice as strong as the unemployment rate by far the strongest predictor in our models the estimated e ect size would drop to 0.73. To put it di erently, even if there was an unmeasured confounder as twice as strong as the unemployment rate, adding it would not change the substantive conclusions of our paper.

Figure 3: Sensitivity analysis

Notes: Results from the sensitivity analysis proposed by Cinelli and Hazlett (2020). The plot indicates how strongly confounders would have to be correlated with the treatment and the outcome to reduce the estimated e ect size to zero (dashed red line). The original e ect size from table 1 is shown in the bottom left corner the scenario where there is no unmeasured confounding. The red diamond shape indicates partial correlations for unemployment rates and a hypothetical confounder that is twice as strong as the unemployment rate. The interpretation of the two control variables is as follows: if we were to include a confounder as strong as the unemployment rate, the estimated e ect size would drop to 0.95.

7 Conclusion

Recent scholarship has made great strides in understanding how individual-level characteristics shape the proclivity for supporting the radical right (Gidron and Hall 2017; Inglehart and Norris 2016; Hangartner et al. 2019). As useful as these approaches are, political science has not given equivalent attention to the question of how the structure of local social ties in the locations where voters actually live, shape their predisposition to vote for the radical right. We seek to speak to this question by studying how deeper, historical roots and cultures drive voting for the radical right.

We argue that communities that were in the historical periphery during the center-periphery con icts that shaped the formation of modern nation-states are more likely to vote for the radical right (Lipset and Rokkan 1967). This is so because being historically at the periphery of a nation-state provides clearly identi able lower status markers such as diverging social norms and dialects. This

in turn results in a stronger feeling of being left behind and, thus, a rejection of political elites.

Empirically, we approximate peripheral communities by using original data on dialects in Germany, based on a unique online dialect survey of 725,000 respondents and a 19th century linguistic survey. We then show that peripheral communities are indeed more likely to vote for the radical right both on the aggregate as well as the individual level. We also demonstrate that this correlation is unlikely to be driven by omitted variable biases.

Our focus on how dialect reflects Lipset and Rokkan's (1967) classical cleavage between center and periphery represents a new perspective in the study of electoral behavior. A long-standing field of sociolinguistics has repeatedly demonstrated that speaking is more than a linguistic act; it is a social act and correlates with different patterns of self-presentation and identification (Labov 1963). We have demonstrated that language can be political too. Given the enduring importance of regional dialects in many national settings around the world (Garrett 2010; Upton and Widdowson 2013: 200-224), the electoral consequences of location-specific dialects are a promising area of research.

This line of research, we believe, is relevant, furthermore, because one of the emerging dynamics within established democracies is the return of geography (Autor et al. 2016; Rodden 2019). The drivers of radical right populism, it has become clear, do not always unfold evenly across a country's territory but instead have a spatial component some locations are more prone to political radicalization than others. Existing research has made clear the economic roots of this. In the United States, for example, locations that experience employment shocks due to international trade are more likely to vote populist (Autor et al. 2016; Herrera, Morelli, and Sonno 2017; Colantone and Stanig 2018b). Likewise, in established democracies, growing economic inequality, it has been argued, has activated the type of reactionary identity politics that fuels nativism and right wing radicalism (Piketty 2020). Less fully appreciated, however, to date is how economic geography interacts with non-material social patterns local patterns of social identification, culture, and norms that predispose certain communities to vote more for the radical right than others. As this paper has made clear, understanding the interaction of economic geography and these less-studied attributes of local communities in cross-national perspective remains a promising area for future research.

References

Alonso, Sonia, and Sara Claro da Fonseca. 2012. Immigration, Left and Right. Party Politics 18 (6): 865 884.

Autor, David, David Dorn, Gordon Hanson, Kaveh Majlesi et al. 2016. Importing political polarization? The electoral consequences of rising trade exposure. SSRN, https://papers.ssrn.com/sol „/papers.cfm?abstract_id= ƒ‰…•ˆ•‰.

Autor, David H, David Dorn, and Gordon H Hanson. 2013. The China Syndrome: Local Labor Market E ects of Import Competition in the United The China Syndrome: Local Labor Market E ects of Import Competition in the United States*. American Economic Review103 (6): 2121 2168.

Becker, Kara. 2009. /r/and the construction of place identity on New York City's Lower East Side 1. Journal of Sociolinguistics 13 (5): 634 658.

Broz, J. Lawrence, Je ry Frieden, and Stephen Weymouth. 2020. Populism in Place: The Economic Geography of the Globalization Backlash. International Organization p. (forthcoming).

Cinelli, Carlos, and Chad Hazlett. 2020. Making Sense of Sensitivity: Extending Omitted Variable Bias. Journal of the Royal Statistical Society: Series B (Statistical Methodology) 82 (1): 39 67.

Cohen, William W, Pradeep Ravikumar, Stephen E Fienberg et al. 2003. A Comparison of String Distance Metrics for Name-Matching Tasks. In IIWeb. Vol. 2003 pp. 73 78.

Colantone, Italo, and Piero Stanig. 2018a. Global Competition and Brexit. American Political Science Review 112 (2): 201 218.

Colantone, Italo, and Piero Stanig. 2018b. The Trade Origins of Economic Nationalism: Import Competition and Voting Behavior in Western Europe. American Journal of Political Science 62 (4): 936 953.

Cramer, Katherine J. 2016.The Politics of Resentment. University of Chicago Press.

Cramer, Katherine Walsh. 2012. Putting Inequality in Its Place: Rural Consciousness and the Power of Perspective. American Political Science Review 106 (3): 517 532.

Du Bois, Inke. 2019. Linguistic discrimination across neighbourhoods: Turkish, US-American and German names and accents in urban apartment search. Journal of Language and Discrimination 3 (2): 92 119.

Edwards, John. 2009.Language and identity: An introduction . Cambridge University Press.

Edwards, John. 2013.Sociolinguistics: A very short introduction . Vol. 365 Oxford University Press.

References

Elspaÿ, Stephan. 2005. Zum Wandel im Gebrauch regionalsprachlicher Lexik. Ergebnisse einer Neuerhebung. Zeitschrift für Dialektologie und Linguistik pp. 1 51.

Elspaÿ, Stephan, Adrian Leemann, Robert Möller, and Timo Grossenbacher. 2018. Grüezi, Moin, Servus! Wie wir wo sprechen. Rowohlt rororo.

Enos, Ryan D. 2014. Causal E ect of Intergroup Contact on Exclusionary Attitudes. Proceedings of the National Academy of Sciences 111 (10): 3699 3704.

Falck, Oliver, Stephan Heblich, Alfred Lameli, and Jens Südekum. 2012. Dialects, Cultural Identity, and Economic Exchange. Journal of Urban Economics 72 (2-3): 225 239.

Fitzgerald, Jennifer. 2018. Close to Home: Local Ties and Voting Radical Right in Europe. Cambridge University Press.

Garrett, Peter. 2010. Attitudes to Language . Cambridge University Press.

Gellner, Ernest. 1993. Nations and nationalism . Cornell University Press.

Gidron, Noam, and Peter A. Hall. 2017. The Politics of Social Status: Economic and Cultural Roots of the Populist Right. British Journal of Sociology 68 (S1): S51 S80.

Goodhart, David. 2017. The Road to Somewhere: The Populist Revolt and the Future of Politics. Oxford University Press.

Guiso, Luigi, Helios Herrera, Massimo Morelli, and Tommaso Sonno. 2020. Economic Insecurity and the Demand of Populism in Europe. Working Paper, http://www.heliosherrera.com/populism.pdf .

Hangartner, Dominik, Elias Dinas, Moritz Marbach, Konstantinos Matakos, and Dimitrios Xefteris. 2019. Does Exposure to the Refugee Crisis Make Natives More Hostile? American Political Science Review 113 (2): 442 455.

Hechter, Michael. 1972. Internal Colonialism: The Celtic Fringe in British National Development . Transaction publishers.

Herrera, Luigi Guiso H., Massimo Morelli, and T. Sonno. 2017. Demand and Supply of Populism. SSRN, https://papers.ssrn.com/sol „/papers.cfm?abstract_id= ƒŠƒ…ˆ„.

Homola, Jonathan, Miguel M. Pereira, and Margit Tavits. 2020. Legacies of the Third Reich: Concentration Camps and Out-group Intolerance. American Political Science Review p. (forthcoming).

Imai, Kosuke, and Marc Ratkovic. 2014. Covariate Balancing Propensity Score. Journal of the Royal Statistical Society: Series B (Statistical Methodology) 76 (1): 243 263.

Imbens, Guildo W. 2003. Sensitivity to Exogeneity Assumptions in Program Evaluation. American Economic Review 93 (2): 126 132.

References

Inglehart, Ronald, and Pippa Norris. 2016. Trump, Brexit, and the Rise of Populism: Economic Have-Nots and Cultural Backlash. SSRN, https://papers.ssrn.com/sol „/papers.cfm?abstract_id= ƒ‰‚‰‡†Š

Iversen, Torben, and David Soskice. 2020. Democracy and Prosperity: Reinventing Capitalism Through a Turbulent Century. Princeton University Press.

Klingemann, Hans-Dieter. 2009. The Comparative Study of Electoral Systems. Oxford University Press.

Kurer, Thomas. 2020. The declining middle: Occupational change, social status, and the populist right. Comparative Political Studies 53 (10-11): 1798 1835.

Labov, William. 1963. The Social Motivation of a Sound Change. Word 19 (3): 273 309.

Laitin, David D. 1992. Language repertoires and state construction in Africa . Cambridge University Press.

Lameli, Alfred, Volker Nitsch, Jens Südekun, and Nikolaus Wolf. 2014. Same Same But Di erent: Dialects and Trade. German Economic Review 16 (3): 290 306.

Leemann, Adrian, Curdin Derungs, and Stephan Elspaÿ. 2019. Analyzing Linguistic Variation and Change Using Gami - cation Web Apps: The Case of German-Speaking Europe. Plos One 14 (12): 1 29.

Lipset, Seymour M., and Stein Rokkan. 1967. Party Systems and Voter Alignments. New York: Free Press.

Maxwell, Rahsaan. 2019. Cosmopolitan Immigration Attitudes in Large European Cities: Contextual or Compositional E ects? American Political Science Review 113 (2): 456 474.

Maxwell, Rahsaan. 2020. Geographic Divides and Cosmopolitanism: Evidence From Switzerland. Comparative Political Studies 53 (13): 2061 2090.

Mills, Anne E. 1985. The Acquisition of German. The cross-linguistic study of language acquisition 1: 141 254.

Piketty, Thomas. 2020. Capital and Ideology . Harvard University Press Cambridge.

Polenz, Peter. 2009. Geschichte der deutschen Sprache. Walter de Gruyter.

Purnell, Thomas, William Idsardi, and John Baugh. 1999. Perceptual and phonetic experiments on American English dialect identi cation. Journal of language and social psychology 18 (1): 10 30.

Remlinger, Kathryn. 2009. Everyone up Here: Enregisterment and Identity in Michigan's Keweenaw Peninsula. American Speech 84 (2): 118 137.

Remlinger, Kathryn A. 2017. Yooper Talk: Dialect as Identity in Michigan's Upper Peninsula . University of Wisconsin Press.

Rodden, Jonathan. 2019. Why Cities Lose: The Deep Roots of the Urban-Rural Political Divide. New York, NY: Basic Books.

References

Rokkan, Stein. 2009. Citizens, Elections, Parties: Approaches to the Comparative Study of the Processes of Development. ECPR Press.

Rokkan, Stein, and Derek W Urwin. 1983. Economy, Territory, Identity: Politics of West European Peripheries. Sage Publications.

Schae er, Merlin, Ruud Koopmans, Susanne Veit, Mareike Wagner, and Jonas Wiedner. 2011. The Ethnic Diversity and Collective Action Survey (Edcas): Technical Report. WZB Discussion Paper, https://www.ssoar.info/ssoar/handle/document/ ƒ„‰•‡.

Schmitt-Beck, Rüdiger, Hans Rattinger, Sigrid Roÿteutscher, and Bernhard Weÿels. 2010. Die deutsche Wahlforschung und die German Longitudinal Election Study (GLES). In Gesellschaftliche Entwicklungen im Spiegel der empirischen Sozialforschung. Springer pp. 141 172.

Scott, James C. 1998. Seeing like a state: How certain schemes to improve the human condition have failed. Yale University Press.

Segrest Purkiss, Sharon L., Pamela L. Perrewé, Treena L. Gillespie, Bronston T. Mayes, and Gerald R. Ferris. 2006. Implicit sources of bias in employment interview judgments and decisions. Organizational Behavior and Human Decision Processes 101 (2): 152 167.

Tajfel, Henri Ed. 1978. Di erentiation Between Social Groups: Studies in the Social Psychology of Intergroup Relations. Academic Press.

Tajfel, Henri, M.G. Billig, and R.P. Bundy. 1971. Social categorization and intergroup behaviour. European Journal of Soc 1 (2): 149 178.

Upton, Clive, and John David Allison Widdowson. 2013. An Atlas of English Dialects: Region and Dialect. Routledge.

Voigtländer, Nico, and Hans-joachim Voth. 2012. Persecution Perpetuated: The Medieval Origins of Anti-Semitic Violence in Nazi Germany. Quarterly Journal of Economics 127 (3): 1339 1392.

Wagner, Gert G, Joachim R Frick, and Jürgen Schupp. 2007. The German Socio-Economic Panel Study (SOEP)-evolution, Scope and Enhancements..

Weber, Eugen. 1976. Peasants Into Frenchmen The Modernization of Rural France, 1870-1914. Stanford University Press.

A Appendix

Contents

A Appendix

A.1 Summary statistics

Table A.1:Summary statistics, county level

	Mean	SD	Min	Max	Valid obs.
Dialectal distance					
Distance from standard German	10.60	4.69	0.00	18.00	401
Distance from standard German (Jaro-Winkler)	0.17	0.09	0.00	0.33	401
Aggregate voting outcomes					
AfD vote share 2017 (%, party)	13.39	5.33	4.94	35.46	400
AfD vote share 2017 (%, candidate)	12.09	5.91	0.00	37.40	400
County-level covariates					
CDU/CSU vote share 2017 (%, party)	43.29	7.41	25.98	63.47	400
Tot. population (1000s)	206.46	242.16	34.27	3613.49	401
Pop. density / km2	533.60	702.71	36.00	4686.00	401
Nominal GDP (EUR)	7269.56	9094.59	1087.70	109571.23	399
Nominal wage (EUR)	3698.72	4567.90	530.08	52825.89	399
Share Catholic (2011)	0.33	0.24	0.02	0.88	392
Unemployment rate (%)	6.46	3.15	1.40	16.70	392
Out-migration / capita (internal, 2017)	0.04	0.02	0.02	0.20	398
In-migration / capita (internal, 2017)	0.04	0.01	0.02	0.12	398
Combined migration / capita (internal, 2017)	0.08	0.03	0.04	0.31	398
In-commuters / capita (2017)	0.15	0.11	0.03	0.75	399
Out-commuters / capita (2017)	0.16	0.05	0.05	0.31	399
Avg. in-commuting distance (km, 2017)	48.51	17.14	14.73	122.15	398
Avg. out-commuting distance (km, 2017)	54.64	20.27	19.69	158.11	398
Dist. to state capital (km)	84.95	57.26	0.00	267.02	400
Pogroms in 1920s (0/1)	0.79	0.41	0.00	1.00	401
NSDAP vote share, 1933 (%)	45.31	11.03	15.60	78.21	396

Notes: The table shows summary statistics for all dependent and independent variables on the county level. The total number of counties is 401. The last column gives the number of counties for which the variable in question is not missing.

A.2 Respondents per county

Figure A.1:Spiegel dialect survey responses per county

Note: The Figure shows the number of respondents per county.

A.3 Correlates of dialectal distance

To assess correlates of our dialectal distance measure, we rely on evidence from four di erent large-scale surveys in combination with aggregate data. We use the Ethnic Diversity and Collective Action Survey (EDCAS, see Schae er et al. 2011), the German Socio-Economic Panel (SOEP, see Wagner, Frick, and Schupp 2007), the German Longitudinal Election Study (GLES, see Schmitt-Beck et al. 2010) as well the German sample of the Comparative Study of Electoral Systems (CSES, see Klingemann 2009).

Our rst data source is the 2010 Ethnic Diversity and Collective Action Survey (EDCAS, see Schae er et al. 2011). With an e ective sample size of around 5,200, EDCAS is a large and comprehensive survey that includes, in addition to socio-economic and demographic information, a large number of survey items related to attitudes towards immigrants, social capital, social cohesion and trust. From EDCAS, we select survey items that ask respondents to report on civic engagement, local contact with natives and migrants as well as the amount of time a respondent has lived in the local area. For each respondent, we also observe the zip code area where he or she resides. Since German zip code areas are smaller than counties, we could theoretically disaggregate the Spiegel dialect survey responses to the zip-code level. However, we refrain from doing so since (1) we want to keep the unit of measurement constant and (2) smaller geographic disaggregation comes at the cost of imprecise measurement. In addition to the county-level dialectal distance measure, the EDCAS models include controls for gender, age, education, county-level population density, county-level unemployment rate as well as state xed e ects.

The second data source is the German Longitudinal Election Study (GLES, see Schmitt-Beck et al. 2010), which was conducted during the 2017 general election. GLES was created to capture political attitudes, behavior and knowledge among the German population. From GLES, we obtain a number items that relate to attitudes towards immigration. These include preferences for future immigration policy, perceived salience of immigration as a policy issues as well as support for multiculturalism as opposed to assimilation of immigrants. Unlike the other three surveys, GLES does not include information on the county where respondents live. Rather, it reports the electoral district. Therefore, we aggregate the dialectal distance measure to the electoral district rather than the county level. Electoral districts are slightly bigger than counties, but remain roughly comparable in size. There are about 300 electoral districts and about 400 counties, and electoral districts frequently consist of just one county. The GLES consists of multiple waves. We generally only include the last wave for which a given correlate of parochialism was measured, i.e. all models are cross-sectional. In addition to the county-level dialectal distance measure, the EDCAS models include controls for gender, age, education, income, a rural/urban dummy as well as state xed e ects.

The third data source is the **Comparative Study of Electoral Systems** (CSES, see Klingemann 2009). A cross-national study, we use the German CSES sample. We select three characteristics, two of them related to attitudes towards elites, and a third one related to whether immigrants should adapt to the customs and traditions of the majority. As with the GLES data, the unit at which dialects are measured is the electoral district rather than the county. All CSES models include the following covariates: gender, education, employment status, household income, population density, unemployment rates as well as state fixed effects.

The last data source is the **German Socio-Economic Panel** (SOEP, see Wagner, Frick, and Schupp 2007). The SOEP is a large annual panel study with about 20,000 respondents per wave. We use two items from the 2018 SOEP. One of them asks respondents to rate how much they trust others in general (generalized trust). The other asks respondents whether they agree with the statement that refugees enrich the German culture. The covariates used in the SOEP are gender, education, household income, age, employment status as well as state fixed effects.

From each of the four surveys, we select a number of relevant correlates. We then regress each correlate on dialectal distance to standard German as well as a number of standard socio-economic controls and state fixed effects. To ease comparison between models, we standardize both the dialectal distance measure, as well as the correlates from the four survey data sets. We present the results in Table A.2, where each row displays the coefficient from regressing a given correlate on distance from standard German.

Table A.2: Correlates of dialectal distance

Characteristic	Estimate	SE	N	Year	Source
1. Scope of contact outside of region					
In-migration[a]	−0.121	0.089	392	2017	Official data
Out-migration[a]	-0.355	0.123	392	2017	Official data
Avg. commuting distance (in)[a]	-0.093	0.107	392	2017	Official data
Avg. commuting distance (out)[a]	-0.265	0.098	392	2017	Official data
2. Social ties & contribution to community					
Friends in neighborhood	0.047	0.03	3665	2011	EDCAS
Years in the neighborhood	0.062	0.025	3761	2011	EDCAS
Active in the cultural realm	0.045	0.017	3773	2010	EDCAS
Active in politics	0.026	0.015	3775	2010	EDCAS
Active in the social realm	0.026	0.024	3772	2010	EDCAS
Voluntary service	0.048	0.018	2472	2010	EDCAS
Generalized trust	-0.05	0.0237	17831	2018	SOEP
3. Hostility towards outsiders					
Immigration of foreigners should be limited	0.256	0.13	1869	2017	GLES
Salience of immigration	-0.069	0.079	1879	2017	GLES
Support for multiculturalism	-0.181	0.108	1876	2017	GLES
Diversity is conflictual	0.075	0.028	3659	2010	EDCAS
Local culture is harmed by immigrants	0.076	0.075	1524	2017	CSES
Refugees enrich German culture	-0.066	0.032	17680	2018	SOEP
Minorities should adapt to the customs and traditions of the majority	0.086	0.101	1527	2017	CSES
4. Attitudes towards elites					
People, not elites, should make policy decisions	0.119	0.059	1518	2017	CSES
Elites are trustworthy	-0.09	0.096	1518	2017	CSES

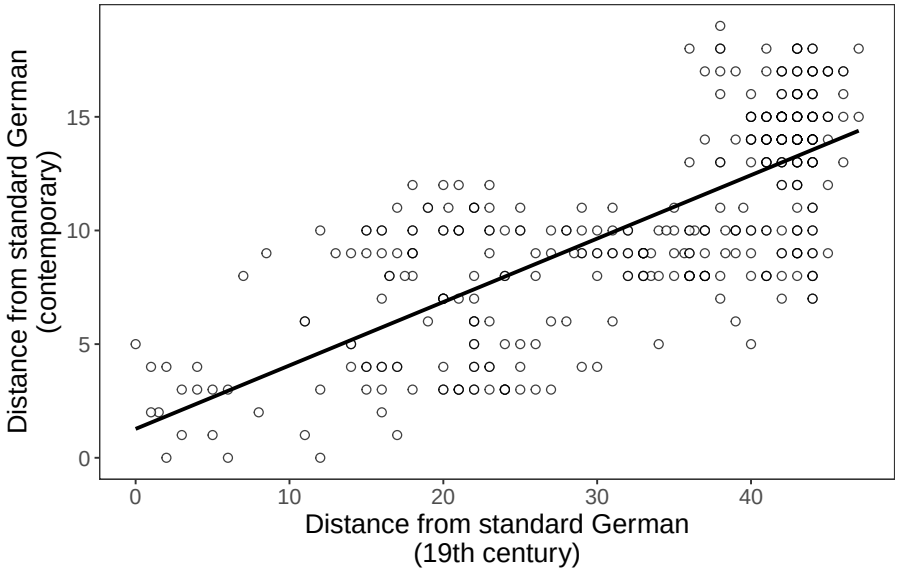
Notes: The tables shows results from regressing selected survey items on dialectal distance from standard German. The results are from separate models, where the independent variable is always the standardized dialectal distance from standard German. All outcomes are standardized. Estimates are given in first column, standard errors are given in the second column. All models include socio-economic and demographic covariates as well as state fixed effects. For more information on the model specifications and data sources, see section A.3.

[a]These results are based on county-level offical statistics rather than survey data. Data was obtained from the German Federal Statistical Office.

$p < .01$; $p < .05$; $p < .1$

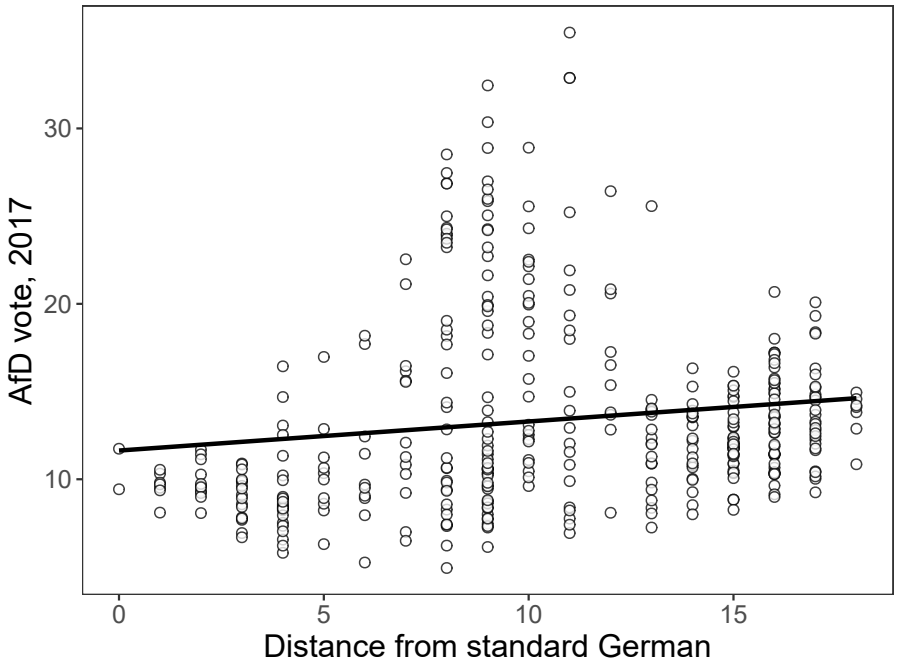
A.4 Dialectal distance measures – additional information

Figure A.2: Correlates between historical and contemporary measures of dialectal distance



Note: The Figure shows the relationship between the 18^{text}-century Wenker dialectal distance and the Spiegel measure. Greater values on both axes indicate greater dialectal distance from standard German. Note that both measures have different ranges. The solid line represents the predicted relationship from a linear model.

Figure A.3: Dialectal distance and AfD vote shares in 2017



Note: Greater values on the x-axis indicate greater dialectal distance from standard German. The solid line represents the predicted relationship from a linear model.

A.5 Robustness and sensitivity

Table A.3: Effects of dialectal distance on radical right voting – robustness

	DV: AfD vote share, 2017				
	Baseline	**Control: 1920s pogroms**	**Control: NSDAP vote share**	**West Germany**	**East Germany**
Dialectal distance	1.172	1.171	1.168	1.028	2.382
	(0.354)	(0.354)	(0.356)	(0.331)	(1.590)
Mean of DV	13.33	13.33	13.36	11.37	22.36
N	392	392	388	322	70
R^2	0.828	0.828	0.828	0.530	0.701
State FE	D	D	D	D	D
Covariates	D	D	D	D	D

Notes: Standard errors are shown in parentheses. The dialectal distance is standardized. The first model is the same baseline model as in Table 1. In the second model, we additionally control for whether a current county experienced pogroms in the 1920s. In the third model, we control for the per capita number of new NSDAP members between 1925 and 1933. In the fourth model, we control for the per-capita number of internal out-migrants. The last two models split the sample into East and West Germany. The county-level covariates are GDP/capita, average wages, population density, unemployment rate, total population, % catholic, commuters per capita and distance to the respective state capital. $p < .01$; $p < .05$; $p < .1$

Table A.4: Effects of dialectal distance on radical right voting – Jaro-Winkler distance

	DV: AfD Vote share, 2017					
	Baseline		**Jaro-Winkler**		**J-W, West Germany**	**J-W, East Germany**
Dialectal distance	0.778	1.172	0.713	1.288	1.165	1.938
	(0.264)	(0.354)	(0.265)	(0.349)	(0.326)	(1.432)
Mean of DV	13.39	13.33	13.39	13.33	11.37	22.36
N	400	392	400	392	322	70
R-squared	0.021	0.828	0.018	0.830	0.535	0.716
State FE		D		D	D	D
Covariates		D		D	D	D

Notes: Standard errors are shown in parentheses. The dialectal distance measure is standardized. The first and second models are the same as in Table 1. The third and fourth models use standardized Jaro-Winkler distance instead of the distance measure given in section 4.1. The last two models split the sample into East and West Germany, using the standardized Jaro-Winkler distance as the independent variable. The county-level covariates are GDP/capita, average wages, population density, unemployment rate, total population, % catholic, commuters per capita and distance to the respective state capital. $p < .01$; $p < .05$; $p < .1$

Table A.5: Effects of dialectal distance on radical right voting –administrative district FE.

	DV: AfD Vote share, 2017			
	Baseline distance		**Jaro-Winkler distance**	
Dialectal distance	0.778	1.607	0.713	1.397
	(0.264)	(0.407)	(0.265)	(0.406)
Mean of DV	13.39	13.33	13.39	13.33
N	400	392	400	392
R^2	0.021	0.872	0.018	0.871
Admin. district FE		D		D
Covariates		D		D

Notes: Standard errors are shown in parentheses. The first two models use the baseline dialectal distance measure, while the third and fourth model use Jaro-Winkler distance. Both distance measures are standardized. Instead of state fixed effects, we use lower-level adminstrative district fixed effects. The county-level covariates are GDP/capita, average wages, population density, unemployment rate, total population, % catholic, commuters per capita and distance to the respective state capital. $p < .01$; $p < .05$; $p < .1$

Table A.6: Effects of dialectal distance on radical right voting – CBPS weights.

	DV: AfD Vote share, 2017			
	Baseline (weighted)		**West Germany**	**East Germany**
Dialectal distance	2.024	1.592	1.752	0.675
	(0.251)	(0.233)	(0.203)	(0.426)
Mean of DV	13.92	13.92	11.32	22.28
N	392	392	322	70
R^2	0.860	0.896	0.585	0.755
State FE		D	D	D
Covariates		D	D	D
CBPS weights	D	D	D	D

Notes: Standard errors are shown in parentheses. The dialectal distance measure is standardized. The first two models are similar to the baseline models in Table 1. We weight each observations using weights given by the CBPS method (see Imai and Ratkovic 2014). The last two models split the sample into East and West Germany. The county-level covariates are GDP/capita, average wages, population density, unemployment rate, total population, % catholic, commuters per capita and distance to the respective state capital. $p < .01$; $p < .05$; $p < .1$

Table A.7: Sensitivity analysis – full results.

Variable	Partial R^f w.r.t. treatment	Partial R^f w.r.t. outcome	Adjusted estimate	Adjusted SE	Adjusted t-stat
Pop. density / km2	0.01	0.01	1.10	0.35	3.12
Tot. population	0.00	0.00	1.17	0.35	3.31
Nominal GDP	0.00	0.01	1.13	0.35	3.20
Nominal wage	0.01	0.01	1.12	0.35	3.16
Share Catholic (2011)	0.03	0.03	0.96	0.35	2.70
Unemployment rate	0.01	0.20	0.95	0.32	2.98
CDU/CSU vote share 2017 (party)	0.00	0.03	1.16	0.35	3.31
Commuters / capita (2017)	0.01	0.00	1.15	0.36	3.24
Dist. to state capital (km)	0.00	0.03	1.12	0.35	3.22

Notes: Full results from the sensitivity analysis outlined in section 6.3. Each row outlines the reduction in effect sizes for a hypothetical unobserved confounder with the same partial correlations w.r.t radical right voting and dialectal distance from standard German as the current covariates.

A.5.1 Uncertainty in the dialectal distance measure

As described in section 4.1, we use the county-specific modal quiz answers to calculate dialectal distance between a given county and standard German. Since the respondents in each county only constitute a sample of the overall county population, there is some uncertainty associated with our estimates of dialectal distance. We use a bootstrap approach to address this uncertainty. To implement this, we proceed as follows:

1. We sample from all 725,000 quiz respondents with replacement to form bootstrap sample j.
2. We then calculate county specific modal answers $X_{i;j}^{k}$ within the sample, and use the modal answers to calculate our main independent variable $d_{i;j}$. We note that this measure varies between bootstrap samples j.
3. We then estimate the main specification shown in section 5, which gives us the sample-specific coefficient estimate $ß_j$.

We repeat steps 1-3 500 times, giving us a distribution of estimates $ß_j$ for j 2 f , ; :::; †••g. This distribution allows us to quantify how much our estimates vary when we change the sample that is used to calculate the dialectal distance. We show the resulting distributions in figure A.4. We find that neither the distribution of $ß_j$ with or without adding covariates includes zero, indicating that measurement uncertainty does not lead us to falsely rejecting the null hypothesis of no effect.

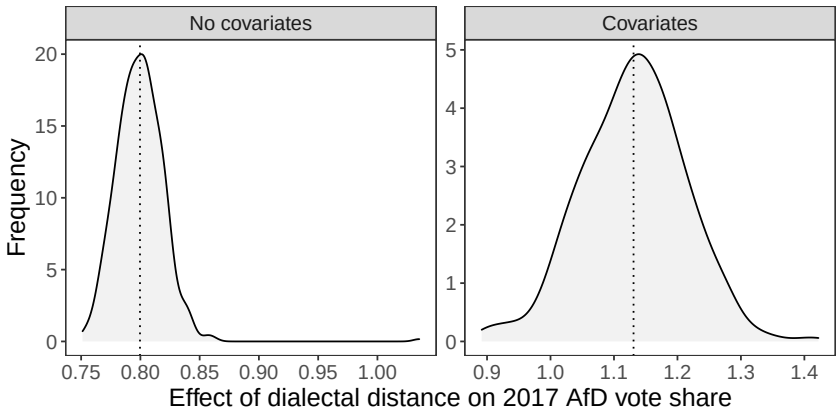
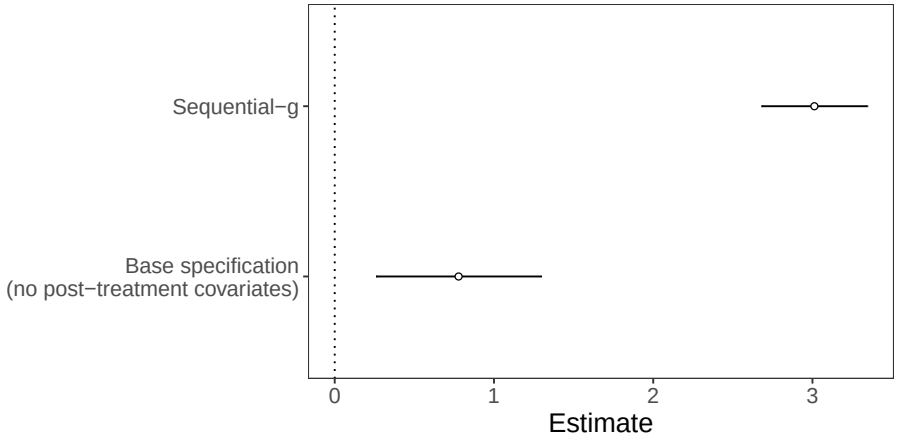


Figure A.4: *Note:* The figures show the distribution of the coefficient estimate $ß_j$ for 500 bootstrap samples. The left-hand panel shows the coefficient estimates from the model without covariates, while the right-hand side corresponds to the full model. The dotted vertical lines indicate the mean of each distribution. See the preceding discussion for more details.

Figure A.5: Comparing sequential-g estimates with unadjusted estimated



Note: The figure shows the unadjusted coefficient from the first model in table 1, as well as the sequential-g estimates, using bootstrapped standard errors.

A.5.2 Accounting for post-treatment bias

In our main specification (see table 1), we run unconditional models, as well as models that condition on a range of contemporary variables. In a basic regression specification, this may induce post-treatment bias. Therefore, we rely on the sequential-g estimator, which allows us to include post-treatment controls without inducing post-treatment bias. For more information, we refer to Homola, Pereira, and Tavits (2020) for an example of the sequential-g estimator in a similar setting. In figure A.5, we compare the coefficient from the base specification that excludes covariates with the coefficient based on the sequential-g estimator. We find significant and positive effects in both cases. The sequential-g coefficient estimate is noticeable larger, although we caution against over-interpreting its magnitude.

A.6 Dialectal distance: historical data

It is taken from the *Deutsche Sprachatlas* (see Falck et al. 2012; Lameli et al. 2014), a large-scale survey of the German language that was originally conducted in the late 19th century. Based on the survey, we use a measure of *dialectal distance* between the dialect spoken in a given region, and the standard German dialect that is spoken in the Hannover area in Northern Central Germany. This dialectal distance measure measure serves as a proxy for cultural remoteness, our main independent variable.

Initiated by the Georg Wenker in 1879, the *Deutscher Sprachatlas* survey was aimed at documenting differences between regional dialects. Wenker surveyed over 40,000 elementary schools across the whole German Empire, asking students and teachers to translate 40 German sentences into the local dialects. Respondents were specifically asked to use phonetic spelling when translating the example sentences, preserving regional