

# Settlement Location Shapes the Integration of Forced Migrants: Evidence from Post-war Germany\*

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## Abstract

Following one of the largest displacements in human history, almost eight million forced migrants arrived in West Germany after WWII. We study empirically how the settlement location of migrants affected their economic, social and political integration in West Germany. We first document large differences in integration outcomes across West German counties. We then show that high inflows of migrants and a large agrarian base hampered integration. Religious differences between migrants and natives had no effect on economic integration. Yet, they decreased intermarriage rates and strengthened anti-migrant parties. Based on our estimates, we simulate the regional distribution of migrants that maximizes their labor force participation. Intra-German migration in the 1950s brought the actual distribution closer to its optimum.

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# 1 Introduction

At the end of 2018, UNHCR, the UN Refugee Agency, counted more than 70 million forced migrants, including 25.9 million refugees and 41.3 million internally displaced people (IDPs) (UNHCR 2019).<sup>1</sup> This is the highest level recorded by UNHCR in its 70 years of existence. The dramatic increase in the number of forced migrants has sparked heated debates about the ability of receiving regions to integrate forced migrants into their economies and societies. As a response to rising migrant numbers, many Western countries have introduced dispersal policies or re-location bans to prevent immigrant concentration in large cities (Brell et al. 2020, Fasani et al. 2018), and the European Union continues to debate mechanisms for allocating forced migrants between member countries (Hatton 2015, Fernández-Huertas Moraga and Rapoport 2015).

One key motivation for assigning forced migrants to resettlement location is to foster their integration (Bansak et al. 2018, Brell et al. 2020). However, many important questions on the effect of resettlement location on integration outcomes still await conclusive answers. Does it matter, for instance, whether forced migrants are re-settled to agrarian or industrialized regions, to culturally close or distant regions, in small or large numbers? This paper addresses these questions in the context of one of the largest forced population movements in history, the displacement of Germans from East and Central Europe during and after World War II. At the time, authorities could not account for local integration prospects when settling forced migrants, due to the size and pace of the inflow and the chaotic post-war circumstances. Furthermore, strict moving restrictions prevented migrants from sorting into specific regions after their arrival. These features of our historical setting allow us to abstract from many confounding factors that usually complicate empirical analyses of the effect of resettlement location on integration.

Between 1944 and 1950, eight million displaced Germans, so-called expellees (*Heimatvertriebene*), arrived in West Germany. The majority of them (55 percent or 4.4 million) were IDPs who came from the eastern provinces that Germany ceded after World War II. The remaining ones had lived in East and Central Europe before the war, mostly in the Czech Sudetenland or in the eastern territories that Germany had lost after World War I. The mass inflow of expellees dramatically increased the West German population. By 1950, every sixth West German resident was an expellee. The integration of the economically impoverished newcomers into the West German economy and society is widely seen as one of the key challenges that the war-ridden country faced after 1945 (Connor 2007, Grosser 2006).

This paper uses newly digitized administrative data at the county level to provide a comprehensive empirical assessment of the regional conditions that influenced the economic, social, and political integration of expellees. As we document in the first part of the paper, integration outcomes differed strongly across West German counties. These differences were not hidden from contemporary observers (Reichling 1958, Pfeil 1958). Our empirical analysis in the second part of the paper tests the three key hypotheses that have been put forward by historians and social scientists to explain the differences in integration outcomes (Connor 2007, Pfeil 1958, Schulze 2002). First, we assess whether high population shares of expellees hampered integration. Second, we check whether agrarian regions were less successful in integrating expellees than industrialized

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<sup>1</sup>The key difference between refugees and IDPs is that the latter never cross an international border to find safety while the former do (UNHCR 2019).

regions. Third, we test whether religious differences between expellees and non-expellees hampered integration. We measure integration by a broad set of economic, social and political outcomes, which include expellees' labor force participation, inter-marriage rates between expellees and native West Germans, and electoral support for expellee and anti-expellee parties. We find that regional conditions were indeed key for integration outcomes.

Three features of our setting are crucial for the empirical analysis. First, integration outcomes varied widely across the 526 West German counties in our data. The expellee labor-force-to-population rate in 1950, for instance, ranged from 31.6% to 59.0%. Second, expellees encountered very different local socioeconomic conditions. West German counties were not only very different in their sectoral employment structure and predominant Christian confession. They also differed strongly in the population share of expellees, which ranged from 1.8% to 44.1% in 1950. Third, our historical setting arguably creates quasi-exogenous variation in the regional distribution of expellees. In particular, the initial distribution was driven by the geographic proximity to expellees' origin regions, not by integration prospects (Connor 2007, Müller and Simon 1959, Nellner 1959). At the end of World War II, Germans from Eastern Europe fled from the approaching Red Army to nearby regions in West Germany. Expellees thus gathered in the eastern parts of West Germany that were most accessible to them.

While expellees did not choose their initial location based on integration prospects, the local housing supply did influence their resettlement location in West Germany. Authorities in West Germany, overwhelmed by the size and pace of the inflow, were unable to distribute expellees according to their religious affiliation or local job prospects. Instead, their prime concern was to provide expellees with a roof over their heads (Nellner 1959). Yet, most of the housing stock laid in ruins after the war. One key challenge for our empirical analysis is thus that war destruction might have driven both the regional distribution of expellees and their integration outcomes. We ease this concern by controlling for various indicators of war destruction. We then show that conditional on covariates, regional expellee shares do not correlate with the pre-war economic situation. Likewise, the skill level of expellees did not differ systematically across regions.

The occupying powers imposed severe restrictions on intra-German migration until 1949. The initial regional distribution of expellees thus persisted for several years after the war. Our empirical analysis uses an instrumental variable strategy to address remaining concerns that expellees relocated endogenously within Germany after their initial placement. The instruments isolate the variation in regional expellee shares and religious distance that is due to the initial placement of expellees, not their later movements.

Our key results underline the importance of the socioeconomic conditions at the resettlement location for expellee integration. First, the regional expellee share had strong negative effects on the economic, social and political integration of expellees in 1950, i.e., five years after the war. A one standard deviation increase in the expellee share of a county decreases labor force participation of expellees by 0.4 standard deviations (5%), reduces inter-marriage rates by 0.3 standard deviations (4.3%) and increases the support for anti-expellee parties by 0.4 standard deviations (15%). These findings are in line with the hypothesis that higher expellee shares intensified labor market competition and increased tensions between natives and expellees.

Second, a large agrarian base had an even stronger adverse effect on expellees' labor force

participation: A one standard deviation increase in the 1939 agricultural employment share reduces expellees' labor force participation rate by 0.5 standard deviations (7.7%). A large agrarian base also worsened social and political integration outcomes. These findings highlight the potential costs of policies that send forced migrants to rural areas to avoid the formation of ghettos in the cities.

Third, regional differences in the expellee share and in pre-war agricultural employment alone account for more than 60% of the variation in expellees' labor force participation. They were thus key determinants of regional integration outcomes.

Fourth, differences in the religious confession between expellees and natives significantly reduced inter-marriage rates and increased the vote share of anti-expellee parties. Yet, they had no effect on expellees' labor market outcomes. These findings are consistent with the notion that shared values and traditions facilitate the social integration of forced migrants.

Fifth, political integration takes time to complete. We find that throughout the 1950s, religious distance and the share of expellees remain strong predictors of the success of anti-expellee parties. The impact of the share of expellees is receding with time but remains statistically significant until 1970.

Finally, we use our empirical estimates to calculate the regional distribution of expellees that maximizes their labor force participation. The optimal distribution increases expellees' labor force participation rate by almost one standard deviation (11%) relative to the actual distribution, bringing expellee participation to the level of natives. This highlights the importance of location for expellee integration. We also show that expellee movements in the 1950s brought the actual distribution of expellees closer to its optimum. Policies that restrict the movement of forced migrants are thus potentially harmful for integration, as they prevent refugees from moving to regions with better labor market conditions.

*Related Literature.* Our paper contributes to several strands of the literature. First, it advances a growing literature on the economic integration of forced migrants (see Becker and Ferrara 2019, Brell et al. 2020, Ruiz and Vargas-Silva 2013, for an overview). Recent evidence suggests that forced migrants typically perform worse on the labor market than economic migrants (Brell et al. 2020, Fasani et al. 2018), with the possible exception of the US (Cortes 2004).<sup>2</sup> The integration of refugees is less challenging if they arrive early in life (Evans and Fitzgerald 2017) and are proficient in the local language (Auer 2018). Policy options that can accelerate refugee integration include facilitating labor market access (Marbach et al. 2018) and reducing the length of the asylum process (Hainmueller et al. 2016, Hvidtfeldt et al. 2018). Our paper suggests that the resettlement location is key for integration outcomes, in addition to individual migrant characteristics and early labor market access.

Most directly related to our paper is a growing literature that uses refugee placement policies

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<sup>2</sup>The labor market integration of forced migrants is likely to differ from that of economically motivated migrants for several reasons (Becker and Ferrara 2019, Brell et al. 2020). First, forced migrants have often suffered from traumatic experiences before and during their flight, which may also impede their economic integration. Second, forced migrants have only very limited control over when to leave their home and where to go. Their skills and socio-demographic composition might thus be less tailored to the receiving region's labor market needs. Third, uncertainty over the settlement status and length is likely to be larger for forced migrants. This uncertainty might, in turn, affect their incentives to invest into country-specific human capital.

to study the effect of ethnic enclaves on labor market outcomes of refugees. Several studies show that living in an ethnic enclave can increase refugee earnings, and that this positive effect increases with the “quality” of the enclave as measured, e.g., by average earnings or employment probabilities of network members (Damm 2009, Damm 2014, Edin et al. 2003). These findings are consistent with the idea that job opportunities are communicated through ethnic networks. However, Beaman (2012) cautions that larger networks, while transmitting useful information, also increase competition among network members. She shows that an increase in the number of *recently* resettled refugees worsens labor market outcomes of newly arrived refugees in the US. Her result might be of particular importance in our context, as expellees arrived within a relatively short period of time and might thus not have benefited from the knowledge of earlier arrivals. Our paper adds to the literature on ethnic enclaves by studying social integration in addition to labor market outcomes, and thus a broader set of outcomes.<sup>3</sup> Moreover, our analysis focuses on IDPs, who constitute the majority of forced migrants today, rather than on refugees.<sup>4</sup> This distinction is likely to matter for the effect of migrant concentration on integration outcomes. For instance, the positive information effect of migrant networks might be less relevant for IDPs than for refugees, as the former typically face no language barrier and may be better accustomed to local job search channels.

Our paper also advances a small quantitative literature on the effects of the displacement for expellees. Bauer et al. (2019) document that expellees faced considerably higher mortality risks than non-displaced West Germans. Only expellees in the top income quintile overcame this adverse displacement effect. In prior work, Bauer et al. (2013) focus on the impact of forced migration on income, wealth, and the occupational position of the displaced and their offspring. They show that in 1971, expellees still earned significantly lower incomes than native West Germans and were over-represented among unqualified workers. Falck et al. (2012) show that the relative occupational position of expellees did not improve after the Federal Expellee Law was enacted in 1953. They thus conclude that the law did not achieve its aim of improving the labor market prospects of expellees. Whereas prior empirical literature provides important insights into the country-wide situation of expellees on the labor market, we consider spatial heterogeneity in integration outcomes.<sup>5</sup> Our paper shows that the initial resettlement location markedly shaped expellee integration.<sup>6</sup>

More generally, our paper contributes to a growing literature on the economic effects of displacement following conflict or natural disasters (reviewed in Becker and Ferrara 2019, Ruiz and

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<sup>3</sup>Other outcomes studied in the literature on ethnic enclaves include student achievement (Åslund et al. 2011) and racial harassment (Dustmann et al. 2011).

<sup>4</sup>A sizeable minority of expellees lived outside Germany before the displacement, especially in the Czech Sudetenland, and might thus be regarded as refugees. However, even these refugees shared many similarities with the native population, a characteristic typically associated with IDPs. Germans in the Sudetenland, for instance, not only spoke German as their mother tongue, but also sent their children to separate German schools (Seton-Watson 1938).

<sup>5</sup>In a similar spirit, Ruhose and Piopiunik (2017) show that local conditions are an important mediating factor for the effect of immigration on crime. In particular, they show that the inflow of ethnic Germans from the former Soviet Union had a larger impact on crime rates in German regions with high pre-existing crime levels and high unemployment rates.

<sup>6</sup>Pfeil (1958) studied already in 1958 whether expellee employment, i.e., one of our outcome variables, varied with the regional expellee share, but did so in a (univariate) correlation analysis. We also extend her work by considering political integration as an additional outcome. We describe evidence from *qualitative* studies when we discuss our hypotheses below.

Vargas-Silva 2013). Sarvimäki et al. (2019) investigate the long-term effects of the displacement of Finns from areas ceded to the Soviet Union after World War II. While they find a positive effect of displacement on the long-term income of farmers, the literature mainly documents negative economic effects of conflict-driven displacement.<sup>7</sup> In post-war Bosnia and Herzegovina, employment rates are lower for displaced Bosnians than for Bosnians who stayed behind (Kondylis 2010). Negative effects of conflict-driven displacement on consumption levels are also documented for Colombia (Ibáñez and Vélez 2008) and Northern Uganda (Fiala 2015). In contrast, the literature on natural disasters tend to find positive economic effects on the displaced. Nakamura et al. (2016) study the eruption of a volcano that destroyed a third of the houses in a town on the Icelandic Westman Islands. People living in these houses experienced significant gains in their lifetime earnings and education if they were younger than 25 years at the time of the eruption. Likewise, victims of Hurricane Katrina in the US experienced income gains in the long run (Deryugina et al. 2018, Groen et al. 2020). Importantly, none of these papers studies how the displacement effect varies with characteristics of the initial resettlement location.

A number of studies have also exploited the quasi-experimental variation in our setting to study the effect of expellee inflows on receiving regions. In particular, prior work has studied the effect on structural change (Braun and Kvasnicka 2014), native labor market outcomes (Braun and Mahmoud 2014, Braun and Weber 2016), regional population patterns (Braun et al. 2017, Schumann 2014, Wyrwich 2018), local taxes and spending (Chevalier et al. 2018), and native educational outcomes (Semrad 2015). In contrast to these papers, we study how the uneven distribution of expellees, along with religious differences and the economic structure of receiving counties, affected expellee integration outcomes.

Finally, our result that expellee inflows increased the vote share of anti-expellee parties is consistent with recent evidence for Denmark. Dustmann et al. (2019) exploit variation in the timing of refugee allocation, induced by a dispersal policy that randomly distributed refugees across Denmark. They find that outside urban municipalities, allocation of larger refugee shares between elections increases the vote share of anti-immigration and center-right parties. Recent studies also provide evidence that refugee inflows, or immigrant inflows more generally, increase the vote share of right-wing parties in Austria (Halla et al. 2017), Germany (Otto and Steinhardt 2014) and Greece (Vasilakis 2018).

## 2 The Flight and Expulsion of Germans from Eastern Europe

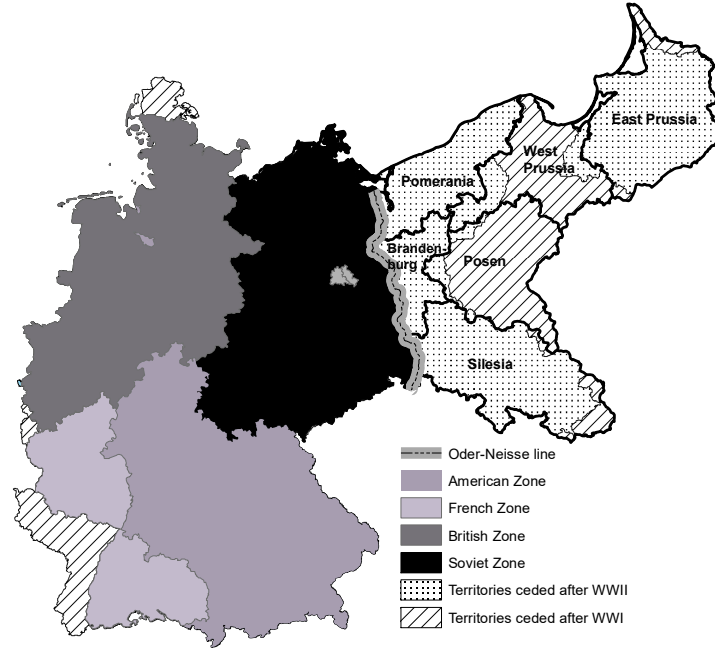
We begin with describing the flight and expulsion of Germans from Eastern Europe, the regional distribution of expellees in West Germany, and their socio-demographic characteristics relative to the native West German population. Henceforth, we will refer to those territories east of today’s German-Polish border that Germany relinquished after World War I or II as eastern territories. Figure 1 depicts the territories that Germany ceded after the two world wars.

The ceded eastern provinces, home to most expellees, had all been an integral part of the German Reich or Prussia for decades if not centuries. Therefore, expellees and natives were

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<sup>7</sup>Becker et al. (2020) document positive effects of forced migration on educational attainment. Exploring the displacement of Poles in the aftermath of World War II, the authors show that descendants of forced migrants are more educated today. They argue that the experience of forced migration shifted preferences away from material consumption and towards human capital investment.

Figure 1: Germany's Territorial Losses 1919-45 and its Division in 1945



Base maps: MPIDR (2011).

similar in several important respects. They both spoke German as their mother tongue, though with different dialects,<sup>8</sup> and had both been educated in German schools.

*Flight and Expulsion.* Between 1944 and 1950, 12-14 million Germans were displaced from Eastern Europe. The displacement took place in three phases which we briefly describe in the following (for further details see Connor 2007, Douglas 2012, Schulze 2011).

The first phase of the displacement took place at the final stages of World War II. It began when Soviet troops entered East Prussia in October 1944. The Soviet offensive prompted more than six million people from Germany's eastern territories to flee westwards (Oltmer 2010). Since the Nazis often delayed organized evacuations until it was too late, many people fled on their own. They either took the last trains or ships out of the territories under attack or fled on foot. As a consequence, the initial destination of the displaced in the West was largely determined by the available escape routes (Müller and Simon 1959). Many East Prussians, for instance, rushed to the ports on the Baltic Sea and boarded ships that brought them to North Germany.

After Nazi Germany's surrender in May 1945, authorities in Poland, soon to be followed by those in Czechoslovakia, began expelling the remaining German population. These so-called 'wild' expulsions, which marked the second phase of the displacement, were not yet sanctioned by an international agreement. Ethnic Germans were forced out of their homes on short notice and gathered in holding camps. They were then either put on trains, or were marched to the border and driven into occupied Germany. The wild expulsions thus increased expellee numbers

<sup>8</sup>There are many individual stories of expellees that were discriminated against in everyday life based on their dialect (see, e.g., Kossert 2008) but it remains unclear how representative these stories are. Survey evidence from June 1948 suggests, however, that half of the expellees in the American Occupation Zone were dissatisfied with their treatment by the local West German population (Merritt and Merritt 1970).

especially in Germany’s eastern border regions. Existing estimates suggest that during the wild expulsions, 800,000 to 1,000,000 people were displaced from Czechoslovakia alone (Douglas 2012).

The third phase of the displacement began in August 1945 when the Soviet Union, the United Kingdom and the United States concluded the Potsdam Agreement. The Agreement shifted the border between Germany and Poland westwards to the Oder-Neisse line (see Figure 1). The eastern parts of Pomerania and Brandenburg, and most of East Prussia, were placed under Polish control. The rest of East Prussia went to the Soviet Union. German territories west of the Oder-Neisse line were divided into four occupation zones: a French zone in the southwest, a British zone in the northwest, an American zone in the south, and a Soviet zone in the east. The three Western zones were later merged into the Federal Republic of Germany (henceforth: West Germany), the focus of our analysis. The Soviet zone became the German Democratic Republic (henceforth: East Germany).

The Potsdam Agreement of August 1945 legalized the expulsions of Germans from Eastern Europe and stipulated ‘that the transfer to [postwar] Germany of German populations, or elements thereof, remaining in Poland, Czechoslovakia, and Hungary, will have to be undertaken’. In November 1945, the Allied Control Council approved a timeline for the organized expulsion of the estimated 6.65 million Germans who were still living in Poland, Czechoslovakia, and Hungary at that time. The council also set quotas for the expellee intake of each occupation zone (but did not regulate the distribution of expellees within occupation zones). Most of the organized expulsion transfers took place in 1946, but transfers continued on a smaller scale until 1950. Germans were either brought to holding camps or immediately put on often overloaded trains, which brought them to reception points in occupied Germany.

*Regional Distribution.* By September 1950, 7.876 million expellees had settled in West Germany where they accounted for 16.5% of the population.<sup>9</sup> The majority of them—around 4.42 million—had lived in the eastern territories that Germany ceded after World War II, namely in Silesia (2.05 million), East Prussia (1.35 million), Pomerania (0.89 million) and Brandenburg (0.13 million). In addition, 1.91 million expellees came from the Sudetenland, the German-speaking part of Czechoslovakia which Nazi Germany annexed in September 1938. The remaining expellees had mostly lived in the eastern territories that Germany ceded after World War I, namely in Posen and West Prussia. Many of the expellees were descendants of German settlers who had arrived in East and Central Europe centuries ago (Connor 2007).

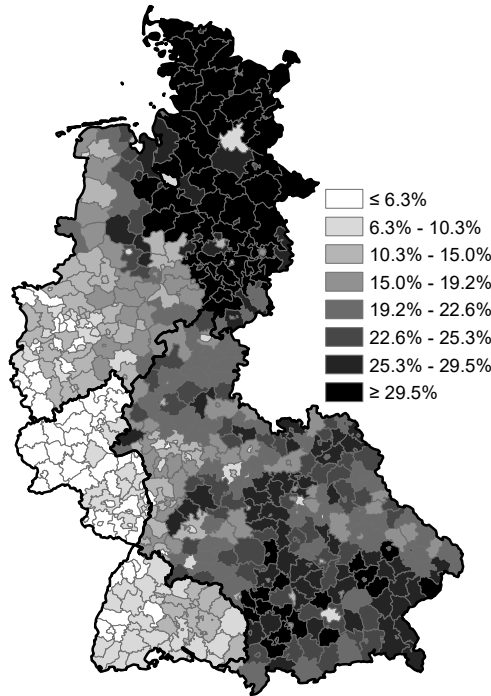
Importantly, expellees were settled very unevenly across West Germany. Figure 2 depicts the county-level population shares of expellees in September 1950. Three main facts stand out. First, the overall population share of expellees was much lower in the French occupation zone (6.6%) than in the American (18.7%) and British (17.2%) zones. This was because the French initially refused to accept any newcomers into their zone. The French had not been invited to

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<sup>9</sup>In comparison, immigration from the Soviet Occupation Zone (SBZ) was still relatively small at the time. The 1950 census counted 1.04 million people who had resided in the SBZ (excluding Greater Berlin) in 1939. Across counties, the share of migrants from the SBZ correlates positively with the expellee share but only moderately so (correlation coefficient of 0.30). Intra-German migration then picked up dramatically in the 1950s. The official emergency processing centres (Notaufnahmелager) for refugees from the German Democratic Republic counted 2.6 million arrivals from 1950 until the construction of the Berlin Wall in 1961 (Bundesministerium für Gesamtdeutsche Fragen, 1961).



Figure 2: Population Share of Expellees in West German Counties, 9/1950



*Notes:* The figure shows the population share of expellees on 13 September 1950. The bold line depicts the border of the three occupation zones. The graph divides the population into eight equally numerous subsets (octiles).

*Source:* Statistisches Bundesamt (1955b). *Basemap:* MPIDR (2011).

the Potsdam conference. Therefore, they did not feel obliged to the commitment of the Potsdam agreement to secure an ‘equitable distribution’ of expellees across occupation zones.

Second, the population share of expellees was considerably higher in the eastern parts of the American and British occupation zones than in the western parts. This is particularly evident for the British zone where the expellee share was well above 30% in the north-east but as low as 5% in the far west. During this first phase of the displacement at the final stages of the war, the displaced sought shelter in those regions of West Germany that were closest to their former homelands and thus most accessible to them (Müller and Simon 1959). The ‘wild expulsions’ of the second phase only worsened these imbalances and over-proportionally increased the expellee share in areas close to West Germany’s eastern border. Even the organized transports of the third phase typically brought expellees to reception points in the east of each occupation zone.

Third, on average, the population share of expellees was higher in rural areas than in cities. This was because many cities were in shambles after the war. Since housing was scarce, the military governments in the American and British occupation zones restricted settlings in cities (Müller and Simon 1959). Instead, expellees were often housed in more rural areas where the housing stock had suffered less from bombing (Burchardi and Hassan 2013, Connor 2007). This rural-urban divide added to the regional imbalances, as the rural areas in the northeast and southeast of Germany were already overburdened with expellees due to their geographical proximity to the eastern territories and the Sudetenland.

Importantly, local economic conditions were not among the factors that determined the

distribution of expellees. Overwhelmed by the pace and the size of the inflow, the military administration was unable to distribute expellees according to their local job prospects. As the contemporary geographer and statistician Werner Nellner put it (Nellner 1959, p. 73): “The entirely confusing political and economic situation and the abruptness of this pouring-in [of the expellees] did not allow for a sensible distribution of the expellees into areas where they could find work.” We will back up this conclusion empirically when we describe our empirical strategy.

Another important consequence of the absence of a “sensible distribution” was that expellees were not distributed according to their skills. In particular, the Allied authorities did not account for expellees’ previous occupation (Connor 2007). Many Germans from the industrialized Sudetenland, for instance, ended up in the neighboring rural parts of Bavaria, which were heavily dependent on agriculture and tourism. Expellees’ skills are thus unlikely to correlate with local characteristics. Appendix F provides supportive evidence for this conclusion.

The very unequal regional distribution of expellees remained largely unchanged in the first few years after the war. The occupying powers severely restricted the ability of Germans to change residence, and initially banned relocation altogether. After the ban was relaxed in 1947, moving still required permission from military authorities (permission was primarily granted for family reunification). It was not until the foundation of West Germany in May 1949 that the general freedom of movement was restored (Müller and Simon 1959, Ziemer 1973).<sup>10</sup>

*Socio-demographic Characteristics.* Since the ceded eastern provinces had been part of the German Reich since 1871, most expellees and natives had lived in the same country for decades. Expellees were also not a selected sub-group of their home regions, as virtually all Germans living east of the Oder-Neisse line fled or were expelled.

As a result, socio-demographic characteristics of expellees and natives were similar. Table B1 in the Appendix shows that females outnumbered males both in the expellee and the non-expellee population, a legacy of the two world wars. Expellees were slightly younger, somewhat more likely to be single, and slightly better educated than the remainder of the population. Overall, however, differences between expellees and natives were small, especially when compared to other migration episodes.

The shares of Catholics and Protestants were also very similar in the expellee and non-expellee population (see again Table B1). The expellee inflow had nevertheless a significant effect on the denominational structure at a *regional level*. As the expellees could not choose their initial destination based on the predominant confession, many Catholic expellees ended up in predominately Protestant regions and vice versa (Connor 2007). In Bavaria, for instance, the number of exclusively Catholic or Protestant parishes fell from 1,564 in 1939 to just nine in 1950 (Menges 1959). Appendix Section A describes the effect of the expellee inflow on the regional denominational structure in greater detail.

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<sup>10</sup>The severe moving restrictions lead to a correlation coefficient between the county-level population shares of expellees in 1946 and 1950 of 0.966.

### 3 The Regional Integration of Expellees in West Germany

The integration of eight million expellees into the West German economy and society posed a paramount challenge to the war-ridden country. This section presents descriptive evidence on the economic, social and political integration of expellees by 1950 (and thus on their short- to medium-run integration). We show that the degree of integration varied greatly across West German counties. We then outline the factors that can potentially explain these differences, drawing on previous analyses of historians, sociologists, and contemporary observers.

*Economic Integration.* We consider the employment situation of expellees as our indicator for the economic integration of expellees, in line with contemporary observers (Connor 2007). We use the share of economically active persons in the expellee population (henceforth, labor force participation rate) as our main indicator and consider the share of employed persons in the population (henceforth, employment rate) as an alternative indicator.<sup>11</sup> Both indicators are based on the population and occupation census of 17 September 1950 (the first post-war census of 29 October 1946 did not contain data on expellee employment at the county level). While the labor force participation rate is available for all West German counties, the employment rate is not available for counties in the federal states of Südbaden and Württemberg-Hohenzollern. Appendix D.1 discusses the definition and data sources of the two indicators in greater detail.

In West Germany as a whole, 42.2% of all expellees participated in the labor market in September 1950. This is 4.2 percentage points lower than the participation rate of natives (46.4%, also calculated over the full population). Differences between natives and expellees were even more pronounced with respect to the employment rate: 44.2% of the native population but only 35.9% of the expellee population were employed in September 1950.

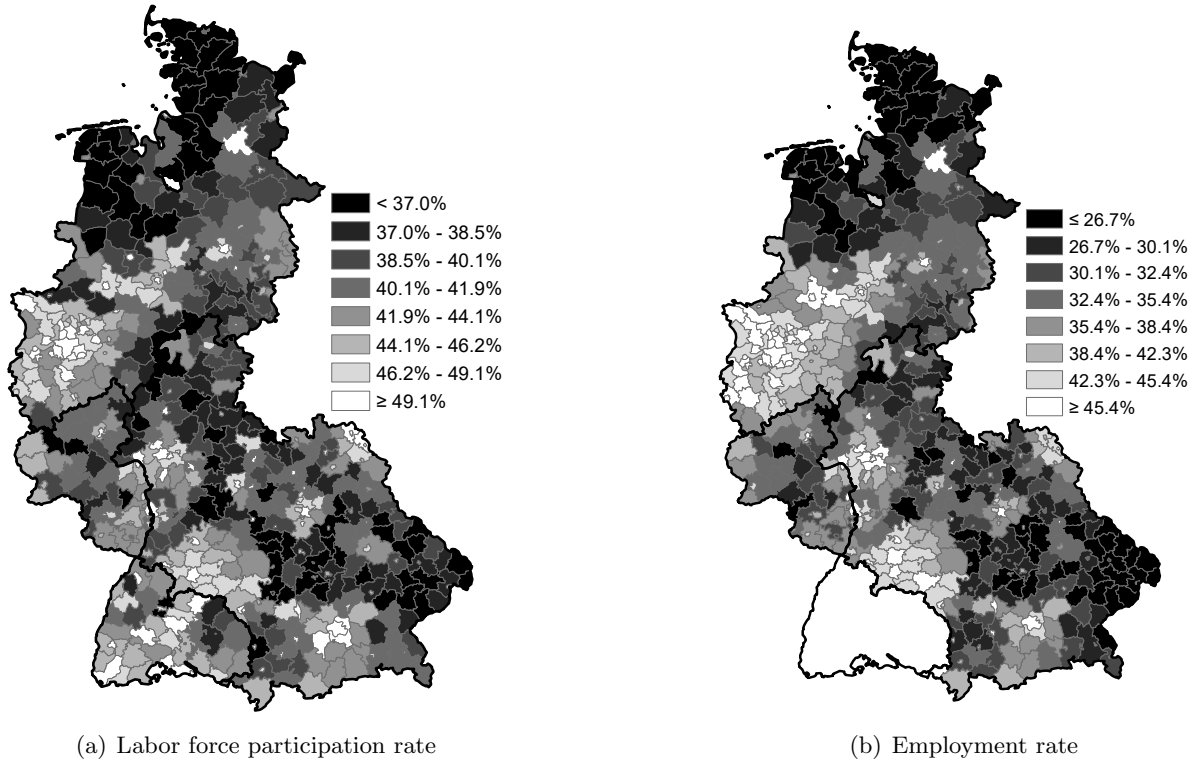
Figure 3 illustrates regional variation in the labor market integration of expellees. The left panel shows that the labor force participation rate of expellees varies from 37.0% or less in regions in the lowest octile to 49.1% or more in the highest octile. Labor force participation is particularly low in the north, north-west, and south-east of West Germany and particularly high in the west and south-west of the country. The right panel, which depicts the employment rate of expellees in West German counties, reinforces these observations. The employment rate ranges from 26.7% or less in regions in the lowest octile to 45.4% or more in the highest octile. The correlation between labor force participation and employment rates is 0.928.

*Social Integration.* Following contemporary sociologists (Müller 1950, Poepelt 1959), we use intermarriage rates between expellees and non-expellees as an indicator for the social integration of expellees. Intermarriage rates compare the actual number of marriages between non-expellees

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<sup>11</sup> We cannot calculate the share of economically active or employed expellees in the working-age population, as data on the expellee population by age is only available at the district level, but not at the more disaggregated county level. However, as a robustness check, we calculate a proxy for the county-level expellee population of working age by multiplying the district-level share of expellees aged 18 to 65 with the county-level expellee population. We then use this proxy to calculate the share of economically active persons in the expellee population aged 18 to 65. Our conclusions are unchanged when using this variable as our measure for economic integration. This is to be expected as selection into specific regions was of little concern in our historical context, and regional differences in the age distribution of expellees were therefore small (Appendix Section G reports the age distribution separately for regions with high and low expellee inflows as well as for agrarian and non-agrarian regions).

Figure 3: Labor Market Integration of Expellees, 9/1950



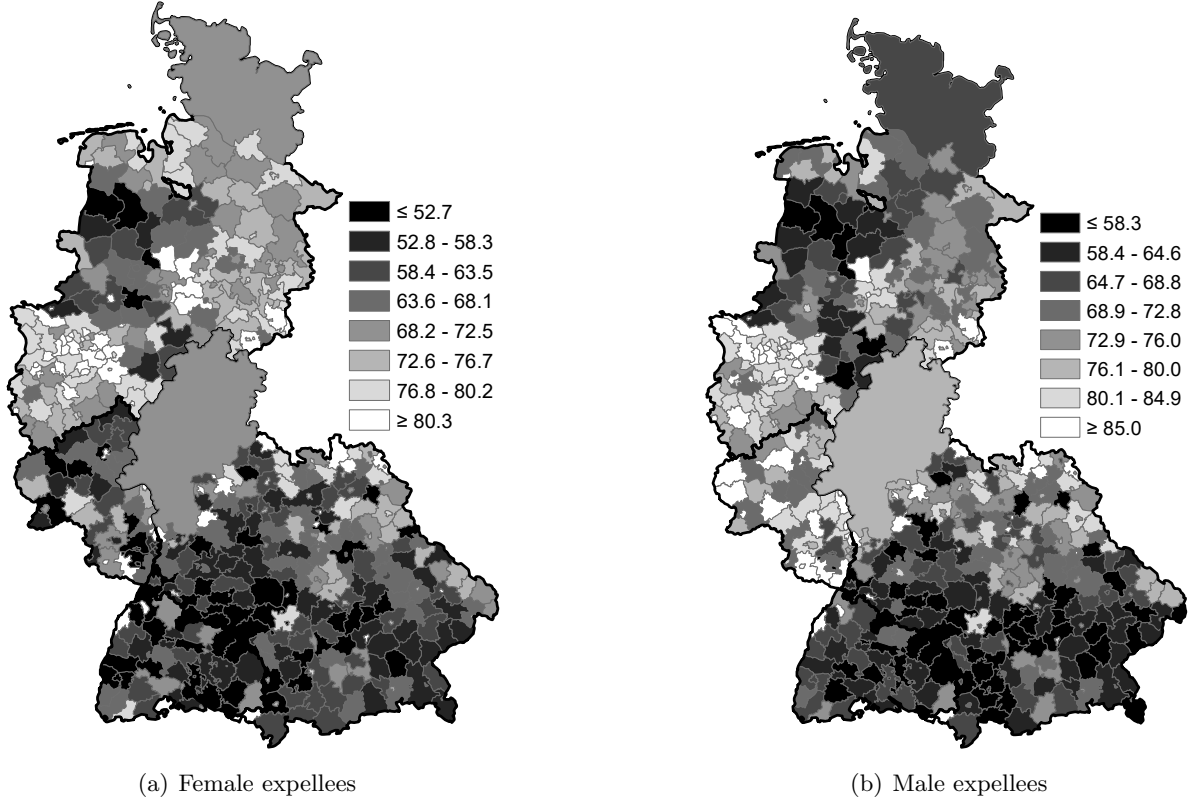
*Notes:* The figure reveals considerable variation in the labor market integration of expellees. The labor force participation rate is the share of economically active persons in the expellee population (Panel (a)) and the employment rate is the share of employed persons in the population (Panel (b)). See Appendix D.1 for details. The bold line depicts the border of the three occupation zones. The employment rate is not available for counties in the federal states of Südbaden and Württemberg-Hohenzollern. The graphs divide the population into eight equally numerous subsets (octiles).

*Sources:* Own calculations based on Statistisches Bundesamt (1955b) and Pfeil (1958). *Basemap:* MPIDR (2011).

and expellees to the hypothetical number expected if the expellee status would not have played any role for the choice of a spouse (see Appendix D.2 for details). The intermarriage rates are based on new marriages within the past year (flow variable) and vary between 0 (no marriages between expellees and non-expellees) and 100 (expellee status plays no role for the choice of a spouse). Higher values of intermarriage rates hence reflect better social integration. Importantly, intermarriage rates do not depend mechanically on the relative population size of expellees and non-expellees and are thus a common measure in analyses of the marriage behavior between different social groups.

The average intermarriage rates across West German counties are 67.0 for expellee women and 71.9 for expellee men; expellees and non-expellees are significantly less likely to marry each other than what a random match suggests. Again, Figure 4 reveals substantial regional heterogeneity for intermarriage rates of both female and male expellees. For female (male) expellees, the intermarriage rate varies from 52.7 (58.3) or less in regions in the lowest octile to 80.3 (85.0) or more for regions in the highest octile. Intermarriage rates are particularly low in the south and in parts of the north-west of West Germany and particularly high in the west.

Figure 4: Inter-Marriage between Expellees and Non-Expellees, 1950



*Notes:* The figure shows substantial variation in the intermarriage rates between expellee women and non-expellee men (Panel (a)) and between expellee men and non-expellee women (Panel (b)). See Appendix D.2 for details on the calculation. The bold line depicts the border of the three occupation zones. The intermarriage rates are only available at the federal state level for the states of Hesse and Schleswig-Holstein. The graphs divide the population into eight equally numerous subsets (octiles).

*Source:* Poepelt (1959). *Basemap:* MPIDR (2011).

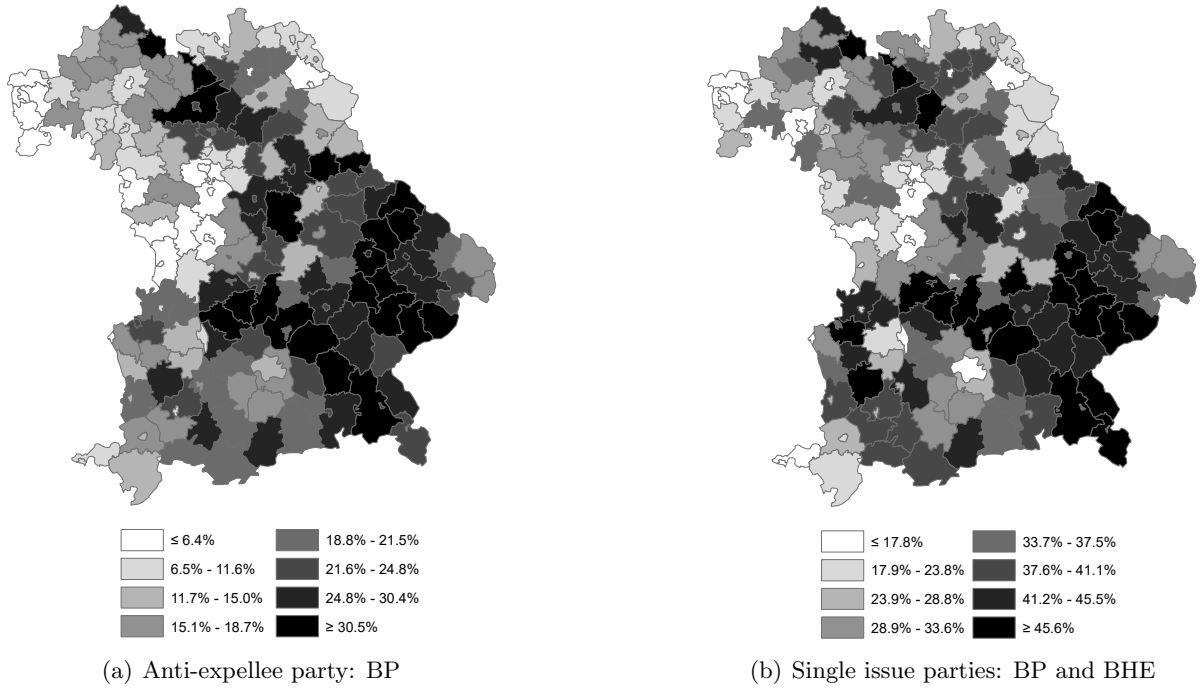
*Political Integration.* The Allies harbored deep fears that the expellees, who had full voting rights, could destabilize the young West German democracy. The Allies thus banned expellee organizations until the beginning of 1950, as they saw them as a potential source for the re-emergence of nationalism in Germany (Connor 2007). Instead, the Allies put the burden of integrating expellees politically on the established parties. The established parties, however, were often reluctant to embrace expellee demands, and some of them even campaigned on an outspoken anti-expellee stance.

Voting patterns can be studied from two perspectives, the electoral success of anti-expellee parties and that of expellee parties. Ideally, we would like to study a national election, in which both an anti-expellee and an expellee party competed for votes. However, expellee parties were still banned when West Germany's first national election was held in August 1949. Moreover, several parties only stood for election in a limited number of federal states, making it difficult to compare voting behavior across federal states.

Instead, we focus on the election for state parliament in Bavaria, the state with the highest number of expellees, in November 1950. The election offers three advantages for our purpose. First, the expellee party *Bund der Heimatvertriebenen* (BHE) stood for election, forming an elec-

toral pact with the right-wing *Deutsche Gemeinschaft* (DG). The BHE primarily represented the interests of the expellees, demanding generous compensation for lost property and the recovery of the territories that Germany ceded after World War II. Second, with the *Bayernpartei* (BP), a fiercely anti-expellee party stood for election which articulated native Bavarian concerns of being swamped by foreign expellees (Connor 2007).<sup>12</sup> Third, the election date was very close to the date of the census, allowing us to relate regional vote shares to regional characteristics elicited in the census.

Figure 5: Vote Shares in Bavarian Federal State Elections, 11/1950



*Notes:* The figure shows the vote share of *Bayernpartei* (BP) (Panel (a)) and the combined vote share of BP and *Bund der Heimatvertriebenen* (BHE) (Panel (b)) in the Bavarian state elections of 26 November 1950. The graphs divide the population into eight equally numerous subsets (octiles).

*Sources:* Bayerisches Statistisches Landesamt (1951). *Basemap:* MPIDR (2011).

State-wide, the BP received 17.9% of the vote, making it the third largest party in parliament (after the Social Democratic Party and the Christian Social Union). The BHE came fourth, receiving 12.3% of votes. In 15 out of 186 Bavarian counties, a majority of voters supported either the BP or the BHE. Figure 5 depicts the regional variation in the vote share of BP as an anti-expellee party in the Bavarian state elections of 1950 (Panel (a)). In addition, we consider the combined vote share of the two single issue parties BP and BHE (Panel (b)) as a measure of political polarization, which might impede political compromise and crisis resolution. The figure shows great variation in the vote shares across Bavaria. The BP was most successful in the south-east of Bavaria (Panel (a)), reaching as much as 37.3% in Wasserburg am Inn. It was least successful in the north-west of the country where it frequently fell short of the 5 percent hurdle required to win seats in parliament. Adding the vote share of the BHE in Panel (b) does

<sup>12</sup>In an infamous speech, Jakob Fischbacher, one of BP's founding members, even called for the expellees to be thrown out of the country (DER SPIEGEL 1947).

not markedly change the picture.

*Explaining Regional Differences in Integration.* Historians and social scientists have formulated three, not mutually exclusive, key hypotheses to explain the stark regional differences in integration outcomes. The *first hypothesis* states that high population shares of expellees were an impediment to integration. The hypothesis holds that higher expellee shares intensified the competition on the labor market, slowing down the economic integration of expellees (Braun and Weber 2016, Pfeil 1958)<sup>13</sup>. Higher expellee shares might also have intensified the tension between natives and expellees and made it easier for expellees to keep their own company (Connor 2007). This might have decreased inter-marriage rates. By slowing down economic integration, higher expellee shares might also have increased expellee support for the BHE. Moreover, the perceived threat of expellees to local traditions might have mobilized natives to vote for anti-expellee parties.

The *second hypothesis* states that the integration of expellees was more difficult in rural and agrarian regions. Contemporary economists saw capital shortages as the main cause of Germany's unemployment problem in the 1950s (Paqué 1987). These shortages were particularly pronounced in agriculture, as wartime investment had been focused heavily on industry (Vonyò 2012).<sup>14</sup> With a limited scope to substitute labor for capital, agrarian economies had little capacity to absorb surplus population (Connor 2007, Pfeil 1958). Moreover, expellees had lost all their land, and although the Expellee Land Resettlement Law of 1949 provided tax incentives for the lease or purchase of farms by expellees, there was simply not enough farmland available for the newcomers to start a business in agriculture (Connor 2007).

Resentments against expellees might also have been more pronounced in agrarian areas where especially the relations between farmers and expellees were fraught with problems (Bayerisches Statistisches Landesamt 1950, Connor 2007, Schulze 2002). The native farming community saw the newcomers as competitors for land, fearing that a land reform would eventually force them to give up some of their land. Tensions between natives and expellees in rural areas might be reflected in lower intermarriage rates and higher support for expellee and anti-expellee parties.

The *third hypothesis* states that religious differences between expellees and natives shaped integration outcomes. Qualitative regional studies indicate that expellees were more readily accepted in the predominantly Protestant state of Lower Saxony if they were Protestants themselves (Brelie-Lewien and Grebing 1997, Schulze 2002). Studies of Catholic Westphalia and Protestant Northern Hesse reach similar conclusions (Exner 1999, Spiegel-Schmidt 1959). Consequently, religious differences between expellees and natives might have slowed down the social integration of expellees, and might have increased the support for particularist parties. Religious differences might also have been an impediment to economic integration of expellees if they led to labor market discrimination.

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<sup>13</sup>Braun and Weber (2016) study the dynamic labor market effects of the expellee inflow through the lenses of a search and matching model. The model predicts higher expellee inflows to reduce the job finding rate. While the focus of the paper is on native workers, a lower job finding rate also implies lower employment and labor force participation rates among expellees.

<sup>14</sup>Vonyò (2012) shows that across the 11 West German states, unemployment is negatively correlated with the employment share in industry. He attributes this correlation to the parallel existence of surplus capacity in urban industry and capital shortage in the rural economy.

Summing up the above, we have the following three testable hypotheses:

**H1.** Higher population shares of expellees deteriorate integration outcomes.

**H2.** Agrarian regions were less successful in integrating expellees.

**H3.** Religious differences between expellees and non-expellees hinder integration.

## 4 Empirical Strategy

To test the three hypotheses, we exploit regional variation across West German counties<sup>15</sup>. We do not focus on larger municipalities as our unit of observation, as many other economic studies of post-war Germany do (see, e.g., Chevalier et al. 2018, Redding and Sturm 2008), since we are explicitly interested in the difference between agrarian and non-agrarian areas. Our data come from various data sources that we have digitized for our analysis. The sources include the population and occupation censuses of 1939, 1946, 1950, and 1961,<sup>16</sup> the housing census of 1950, administrative statistics on the Bavarian state elections of 1950, 1954, 1958, 1962, 1966, and 1970, sales tax statistics for 1935, marriage statistics for 1948-1952, and the county folder (*Kreismappe*) of the Institut für Raumforschung. Appendix C lists the data source(s) for each variable. The data and code used in our analysis are available at Braun and Dwenger (2020).

*OLS Estimation.* Let  $Y_{it}$  be a particular indicator for the economic, social, or political integration of expellees (expellee labor force participation, expellee-native intermarriage, vote for anti-expellee party) in county  $i$  in year  $t$ . Our basic regression specification is:

$$Y_{it} = \alpha + \beta_1 \text{ExpelleeShare}_{i50} + \beta_2 \text{AgricultureShare}_{i39} + \beta_3 \text{ReligiousDistance}_{i50} + X_{i39}\gamma + u_{it}, \quad (1)$$

where  $X_{i39}$  is a vector of control variables for 1939 characteristics and  $u_{it}$  is an error term. Our three main explanatory variables of interest are the population share of expellees in 1950 ( $\text{ExpelleeShare}_{i50}$ ), the agricultural employment share in 1939 ( $\text{AgricultureShare}_{i39}$ ),<sup>17</sup> and the Euclidean distance between the religious affiliations of expellees and non-expellees in 1950 ( $\text{ReligiousDistance}_{i50}$ , see also Appendix A).  $\text{AgricultureShare}_{i39}$  is meant to capture the effect of both economic and non-economic characteristics of agrarian regions on integration outcomes. Hypotheses H1, H2, and H3 would imply that all three explanatory variables have a negative effect on integration outcomes.

Since counties vary widely in population size, we follow the recommendations in Solon et al. (2015) and report results from both population-weighted regressions (as our baseline) and unweighted regressions (as a robustness check). We use robust standard errors clustered at the

<sup>15</sup>While there are 556 of such counties in 1950, a few of them experienced changes in their administrative borders between 1939 and 1950. We account for these border changes by merging counties, so that county borders are comparable over time (see Appendix E for the details). This leaves us with 526 counties.

<sup>16</sup>To the best of our knowledge, there exist no records of the underlying historical micro census data. Instead, we digitized aggregated county-level data published mostly by the German Statistical Office.

<sup>17</sup>We focus on the pre-war rather than the post-war agricultural employment share because the latter is affected by the size of expellee inflow (Braun and Kvasnicka 2014). Moreover, any policy that assigns forced migrants to different resettlement location would have to do so based on pre-inflow rather than post-inflow regional characteristics. In additional robustness checks, available from the authors upon request, we nevertheless use the agricultural employment in 1950 as explanatory variable (sometimes instrumenting it with the share in 1939). Results are very similar to our baseline estimates.



level of 160 local German labor market regions, as defined in Institut für Weltwirtschaft (1974).<sup>18</sup> In additional specifications, we also estimate semi-parametric models that allow for nonlinear effects of the expellee share.

As discussed, we consider three sets of integration indicators  $Y_{it}$ . First, we use the labor-force-to-population ratio of expellees in 1950 as our main indicator for economic integration, and consider the employment-to-population ratio as an alternative indicator. Second, we use intermarriage rates between expellees and non-expellees in 1950, also calculated separately for expellee men and women, as indicators for social integration. Third, we use the vote share of the anti-immigrant BP in 1950 as our main indicator for political integration, and consider the sum of the vote share of BP and the expellee party BHE as an alternative indicator. We also study mid- and long-term voting patterns until 1970.

Estimating equation (1) by ordinary least squares (OLS) will yield a consistent estimate of our variables of interest if they are uncorrelated with the error term. That is, the expellee share in 1950, the agricultural employment share in 1939, and the religious distance between expellees and natives in 1950 must not be correlated with any unobserved factor that affects the economic, social or political integration of expellees.

An obvious challenge to this identifying assumption is the potentially endogenous self-selection of expellees into regions. There are two core concerns: (i) Self-selection of expellees into regions with better integration prospects, and (ii) self-selection of expellees with specific skills or demographic characteristics into specific regions. We discuss both concerns in the following.

First, expellees might have self-selected, based on unobservable characteristics, into West German regions where they saw higher chances of integration. Causality would then run from integration outcomes to the expellee share,<sup>19</sup> and the estimate of the expellee share ( $\beta_1$ ) would be upward biased. Endogenous self-selection is arguably most severe with respect to economic integration, since the primary concern of expellees in the post-war period was economic deprivation (Connor 2007) rather than social or political exclusion. In fact, the intra-Germany migration of expellees in the 1950s was primarily motivated by labor market prospects (Ambrosius 1996, Braun and Weber 2016).

Importantly, however, expellees were unable to strategically choose their initial place of destination, which was determined by the chaos of war and the geographic distance to their homelands. In particular, there was little scope for expellees to choose their destination based on economic integration prospects (Braun and Mahmoud 2014, Nellner 1959). Conditional on our rich set of covariates (which we describe below), the initial distribution of expellees was thus arguably independent of local labor market conditions. Appendix J.1 provides supportive empirical evidence. Appendix Table J1 shows that conditional on covariates, the expellee share in 1950 is uncorrelated with various pre-treatment indicators of the economic situation. This corroborates our identifying assumption.

Second, expellees with specific skills might have selected into specific regions. For instance, low-skilled agrarian workers might have predominantly moved to agrarian regions, whereas high-

<sup>18</sup>The definition in Institut für Weltwirtschaft (1974) is, to the best of our knowledge, the earliest definition of local labor markets in West Germany.

<sup>19</sup>Reverse causality is of no concern for the agricultural employment share (as it is measured before the arrival of the expellees) and of little concern for the religious distance (as religious denominations of expellees and natives were pre-determined and changes of confession uncommon at the time).

skilled workers might have gathered in urban areas. Local economic characteristics would then correlate with the skills of expellees. Our specific historical context again limits such concerns, as expellees could not choose their initial distribution based on their skills or local integration prospects. Appendix F shows that the skill distribution of expellees was indeed similar in regions with high and low expellee inflows as well as in agrarian and non-agrarian regions. Appendix G makes a similar point for the age and sex composition of expellees.

*IV Estimation.* Expellees had restricted mobility, once they had arrived in a region. However, moving restrictions were abolished in 1949. Some expellees might therefore have moved to counties with better integration prospects by 1950. Such endogenous movement could (upward) bias our OLS estimates of  $\beta_1$  (coefficient on the expellee share) and  $\beta_3$  (coefficient on religious distance).<sup>20</sup>

To deal with potential endogenous self-selection in the late 1940s, we use an instrumental variable (IV) strategy and isolate the variation in expellee shares and religious distance which is due to the initial placement of expellees only (and not to subsequent movements).<sup>21</sup> In particular, we use the expellee share in October 1946, when severe restrictions on mobility were still in place, as an instrument for the expellee share in September 1950. The first stage regression for the expellee share in 1950 is:

$$\begin{aligned} \text{ExpelleeShare}_{i50} = & \eta + \kappa_1 \text{ExpelleeShare}_{i46} + \kappa_2 \text{AgricultureShare}_{i39} \\ & + \kappa_3 \text{ReligiousDistance}_{i46} + X_{i39} \kappa_4 + v_{i50}, \end{aligned} \quad (2)$$

where  $\text{ExpelleeShare}_{i46}$  is the population share of expellees in 1946 and where  $\text{ReligiousDistance}_{i46}$  is the religious distance between expellees and natives in 1946. The key identifying assumption of the IV regression is  $\text{Cov}(\text{ExpelleeShare}_{i46}, v_{i50}) = 0$ . The assumption states that (i) there is no unobserved factor that drives both our integration outcomes in 1950 and the expellee share in 1946, and that (ii) the expellee share in 1946 affects integration in 1950 only through its effect on the expellee share in 1950.

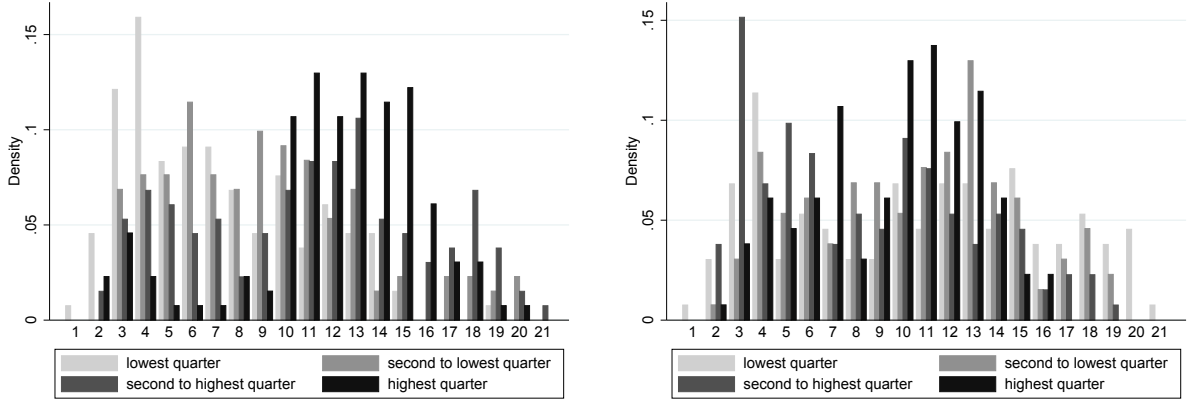
In a similar spirit, we isolate the variation in religious distance that is due to the initial placement of expellees. Our instrument  $\text{ReligiousDistance}_{i46}$  replaces the 1950 share of expellees belonging to a certain confession with the corresponding 1946 share, and the 1950 share of natives by the corresponding 1939 share (see Appendix D.3 for details).

*Common Support.* Our analysis aims at disentangling the effect of the expellee share from the effects of the agricultural employment share and religious distance. We thus check "common support" between our variables of interest, beginning with the overlap between the agrarian base and the expellee share. To do so, we split the sample into quarters based on the size of the agrarian employment share in 1939 and plot the empirical density of the expellee share for each employment share quarter. Figure 6, Panel (a) shows the results. As the raw distributions are

<sup>20</sup>Endogenous movements might lead to a positive correlation between religious distance and, potentially unobserved, regional characteristics conducive to integration. After all, Catholic expellees would probably only move to a Protestant region if this region would offer them exceptionally good integration prospects.

<sup>21</sup>The IV regressions also address potential attenuation bias in the OLS estimates. However, each of our county-level observation is based on a very large number of individual records, so that classical measurement error at the micro level should wash out at the county level.

Figure 6: Common Support Between Main Variables



(a) Density distribution of the expellee share by quarters of agricultural employment share

(b) Density distribution of the expellee share by quarters of religious distance

*Notes:* Panel (a) shows the common support between the agricultural employment share in 1939 and the expellee share in 1950. Panel (b) shows the common support between the religious distance in 1939 and the expellee share in 1950. For the figures, we divided the sample into quarters based on the size of the agricultural employment share (Panel (a)) and based on religious distance in 1950 (Panel (b)), respectively. The figures show the empirical density of the expellee share for each quarter. The bin size is 0.02, and densities are averaged within each bin. Bins for the expellee share range from 0.00 (bin 1) to 0.42 (bin 21), the maximum in our data.

lumpy, we show the distributions in bins of 0.02, and average densities within these bins. Bins range from an expellee share of 0 (bin 1) to the maximum expellee share of 0.42 (bin 21) in our data. Even though the common support is imperfect, the figure reveals significant overlap in the expellee share across employment share quarters. Figure 6, Panel (b) repeats the analysis for quarters of religious distance and the expellee share, again showing significant overlap.

*Control Variables.* Our empirical analysis controls for a rich set of regional characteristics that may have affected both expellee integration and our explanatory variables of interest. In particular, we control for characteristics that might have influenced the regional distribution of expellees.

First and foremost, we account for the fact that expellees were overrepresented in rural areas that were less devastated by the war. If less destroyed areas offered better (worse) integration opportunities, this could potentially bias the estimate of the expellee share on integration outcomes upwards (downwards). Following previous work by Brakman et al. (2004), Burchardi and Hassan (2013), and Braun and Kvasnicka (2014), we measure war destruction by the amount of rubble per capita at the end of the war. Data on the amount of rubble, published in Deutscher Städtetag (1949), is only available for the 199 largest West German cities. We aggregate the data to the county level, implicitly assuming war destruction to be zero in smaller municipalities, and normalize by population in 1939. In a robustness check, we use the share of dwellings that were built before 1945 and were damaged in the war (Statistisches Bundesamt 1956). While this variable is available at the county level, it does not directly measure war destruction, as it relates only to residential housing that survived the war and could accommodate residents in

1950. In a second robustness check, we use the assessed loss in housing space in three categories (‘no or minor losses’, ‘substantial losses’, ‘very substantial losses’), published by Institut für Raumforschung (1955).

Second, we control for pre-war differences in urbanization. City dwellers may be more open to ‘newcomers’ compared to inhabitants of rural areas, as they had more contact with people from different backgrounds (Connor 2007). This would lead us to overestimate the negative impact of the expellee share, as urban areas were more likely to be devastated in the Allied bombing campaign and thus received lower expellee inflows after the war. We measure urbanization by the share of a county’s population in 1939 that lived in cities with at least 10,000 inhabitants, drawing on data published in Statistisches Reichsamt (1940).

Third, we include a dummy for regions located within 75 kilometers of the post-war inner-German border. Redding and Sturm (2008) argue that those regions experienced a disproportionate loss in market access after World War II. At the same time, regions at the inner-German border also received high expellee inflows because of the geographic proximity to the former homelands of the expellees. In a robustness check, we use distance to the inner-German border and distance squared as continuous control variables.

Fourth, we add a dummy for whether the majority of a region was Catholic in 1939, using data from Statistisches Reichsamt (1941).<sup>22</sup> Religious affiliation might have influenced voting patterns in Bavaria and might also be more generally correlated with economic outcomes (Becker and Woessmann 2009, Weber 1904/05).

Finally, we run specifications with state-level fixed effects to control for unobserved factors that are common to all counties located in a state. State-level fixed effects also purge our regression of unobserved factors at the occupation-zone level (as each state is located in just one occupation zone). We generally report regressions with and without state fixed effects, as adding this fixed effect removes much of the spatial variation in expellee shares (an OLS regression of the expellee share on the full set of control variables and state dummies yields an  $R^2$  of 0.81).

## 5 Main Results: Explaining Regional Differences in Integration

This section presents our key results on the regional determinants of expellee integration.

*Economic Integration.* We start with the determinants of expellees’ economic integration, where economic integration is measured by success on the labor market. In a first set of regressions, we use the labor force participation rate of expellees in 1950 as the dependent variable. Column (1) of Table 1 presents estimates from an OLS model that only includes the explanatory variables of interest. Four points are of note. First, the relationship between the share of expellees in the population and the expellee labor force participation rate is negative and statistically significant. In other words, the more expellees settled in a county, the lower the share of those who became economically integrated in the labor market. The estimated coefficient of -0.172 implies that a one standard deviation increase in the 1950 share of expellees (s.d. 0.089) reduces labor force participation of expellees (s.d. 0.061) by 0.26 standard deviations, or 3.3% relative to the mean

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<sup>22</sup>Confessionally mixed counties were still the exception in 1939. In almost two-thirds of the counties, the share of the dominant confession was above 80%.

labor force participation rate across all counties.

Second, the relationship between pre-war agricultural employment and the labor market integration of expellees is negative and statistically significant (point estimate: -0.175). This is consistent with the idea that agrarian regions had little capacity to absorb expellees. In terms of magnitude, a one standard deviation increase in the agricultural employment share in 1939 (s.d. 0.230) lowers expellees' labor force participation rate by 0.66 standard deviations. The pre-war economic structure of receiving counties was thus more important for economic integration than the population share of expellees, in line with arguments in Connor (2007) and Pfeil (1958).

Third, the results show no significant relationship between religious distance and economic integration. And fourth, regional differences in the expellee share and in pre-war agricultural employment explain a large part of the variation in expellees' labor force participation: the  $R^2$  is 0.671.

Next, we add as control variables regional characteristics that might have influenced the distribution of expellees (column (2)). These variables all turn out to be insignificant and leave the coefficients of our main variables unchanged in terms of both magnitude and statistical significance. In column (3), we add fixed effects for the nine West German states to the set of control variables. These state dummies purge any unobserved factors at the state level which might simultaneously affect our explanatory variables of interest and the integration of expellees into the labor force. That is, we exclusively use the within-state variation to identify the effect of the different explanatory variables on economic integration. The coefficient for the expellee share is again very similar at -0.155. Likewise, the coefficient for the agricultural employment share is only slightly smaller than before. We still find no effect of religious distance on the economic integration of expellees in Germany.

As discussed, moving restrictions were abolished in 1949. To alleviate concerns that some expellees might have endogenously moved by 1950, we estimate IV regressions. Our IV strategy isolates the variation in expellee shares and religious distance that is due to the initial placement of expellees only. Columns (4) and (5) in Table 1 contain the IV regression results for the labor force participation rate as dependent variable (without and with state fixed effects, respectively). These are our preferred specifications. The lower part of the table presents summary results for the first stage regressions. The Cragg-Donald Wald  $F$  statistic is 1028 and 759, respectively, suggesting that we do not have a weak instrument problem (for critical values see Stock and Yogo 2005). Both instruments are relevant as shown by Shea's partial  $R^2$  of above 0.7. The detailed first stage regression results reveal a strong relationship between the expellee shares in 1946 and 1950 as well as between predicted and actual religious distance (see Appendix Table J2).

Table 1: Economic Integration: Forced Migration and Labor Market Success

| Dependent variable:  | labor force participation rate 1950 |                      |                      |                      |                      |                      |                      | employment rate 1950 |                      | labor force participation of<br>expellees relative to natives 1950 |                      |
|--|-------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--|----------------------|
|  | OLS<br>(1)                          | OLS<br>(2)           | OLS<br>(3)           | IV<br>(4)            | IV<br>(5)            | IV<br>(6)            | IV<br>(7)            | IV<br>(8)            | IV<br>(9)            | IV<br>(10)   | IV<br>(11)           |
| Expellee share 1950  | -0.172***<br>(0.033)                | -0.158***<br>(0.040) | -0.155***<br>(0.056) | -0.186***<br>(0.037) | -0.257***<br>(0.059) | -0.228***<br>(0.060) | -0.247***<br>(0.055) | -0.281***<br>(0.054) | -0.330***<br>(0.072) | -0.150***<br>(0.053)   | -0.275***<br>(0.088) |
| Agricultural employment share 1939   | -0.175***<br>(0.014)                | -0.191***<br>(0.025) | -0.149***<br>(0.018) | -0.184***<br>(0.024) | -0.141***<br>(0.017) | -0.136***<br>(0.016) | -0.113***<br>(0.015) | -0.259***<br>(0.021) | -0.217***<br>(0.022) | -0.671***<br>(0.034)   | -0.522***<br>(0.033) |
| Religious distance 1950  | -0.001<br>(0.014)                   | 0.000<br>(0.015)     | -0.007<br>(0.010)    | 0.004<br>(0.017)     | 0.000<br>(0.011)     | 0.000<br>(0.011)     | 0.008<br>(0.009)     | 0.057***<br>(0.018)  | 0.015<br>(0.016)     | -0.004<br>(0.019)  | -0.021<br>(0.017)    |
| Population share living in cities with at least 10,000<br>inhabitants 1939 |                                     | -0.021<br>(0.014)    | 0.011<br>(0.009)     | -0.018<br>(0.014)    | 0.008<br>(0.008)     | 0.009<br>(0.008)     | 0.015*<br>(0.008)    | -0.026***<br>(0.009) | -0.017<br>(0.011)    | -0.010<br>(0.021)  | 0.040**<br>(0.018)   |
| Rubble per capita 1939   |                                     | 0.704<br>(0.477)     | 0.464<br>(0.372)     | 0.638<br>(0.459)     | 0.335<br>(0.312)     | 0.379<br>(0.329)     | 0.327<br>(0.284)     | 0.655<br>(0.441)     | 0.580*<br>(0.329)    | 1.022<br>(0.659)   | 0.130<br>(0.303)     |
| Distance to inner German border is smaller than 75 km (0/1)                |                                     | 0.003<br>(0.008)     | -0.001<br>(0.007)    | 0.005<br>(0.008)     | 0.001<br>(0.007)     | 0.001<br>(0.006)     | 0.006<br>(0.006)     | -0.011<br>(0.010)    | -0.005<br>(0.010)    | 0.021**<br>(0.010)   | 0.011<br>(0.009)     |
| Majority is Catholic in 1939 (0/1)   |                                     | 0.001<br>(0.008)     | -0.004<br>(0.005)    | 0.000<br>(0.008)     | -0.006<br>(0.005)    | -0.009*<br>(0.005)   | -0.008**<br>(0.004)  | 0.000<br>(0.009)     | -0.004<br>(0.007)    | 0.006<br>(0.008)   | 0.003<br>(0.008)     |
| Share of female expellees within the district                              |                                     |                      |                      |                      |                      | -0.757**<br>(0.364)  | 0.326<br>(0.283)     |                      |                      |  |                      |
| Share of 18- to 65-year old expellees within the district                  |                                     |                      |                      |                      |                      |                      | 1.085***<br>(0.164)  |                      |                      |  |                      |
| $R^2$  | 0.671                               | 0.687                | 0.777                | .                    | .                    | .                    | .                    | .                    | .                    | .  | .                    |
| Weak identification test (Cragg-Donald Wald F statistic)                   | .                                   | .                    | .                    | 1027.51              | 759.96               | 759.53               | 763.04               | 1038.50              | 766.90               | 1027.51  | 759.96               |
| Shea's Partial $R^2$ : expellee share 1946                                 | .                                   | .                    | .                    | 0.920                | 0.842                | 0.841                | 0.843                | 0.925                | 0.850                | 0.920  | 0.842                |
| Shea's Partial $R^2$ : predicted religious distance                        | .                                   | .                    | .                    | 0.799                | 0.751                | 0.751                | 0.752                | 0.813                | 0.766                | 0.799  | 0.751                |
| State dummies  | no                                  | no                   | yes                  | no                   | yes                  | yes                  | yes                  | no                   | yes                  | no   | yes                  |
| Number of observations   | 526                                 | 526                  | 526                  | 526                  | 526                  | 526                  | 526                  | 487                  | 487                  | 526  | 526                  |

*Notes:* In columns (1) to (7), the dependent variable is the labor force participation rate of expellees in 1950. In columns (8) and (9), the dependent variable is employment rate of expellees in 1950. In columns (10) and (11), the dependent variable is the labor force participation rate of expellees relative to that of natives in 1950. The IV regressions in columns (4) to (11) use the expellee share in 1946 and the predicted population-weighted religious distance as instruments for the expellee share 1950 and the religious distance 1950, respectively. First stage results are presented in Table J2. Columns (3), (5), (6), (7), (9) and (11) include dummies for each of the nine West German states. Regressions are weighted with population in 1939. \*\*\*, \*\* and \* denote statistical significance at the 1%-, 5%- and 10%-level, respectively. Standard errors clustered at the labor market region level are in parentheses. The weak identification test refers to the Cragg-Donald  $F$  statistic; critical values from Stock and Yogo (2005) suggest the instruments to be strong.

The second stage results confirm that expellee inflows and the 1939 agricultural employment share had a strong negative impact on expellees' labor force participation rates. The coefficient estimates on the share of expellees are -0.186 (s.e. 0.037) and -0.257 (s.e. 0.059) without and with state fixed effects, respectively. We cannot reject the null hypothesis that the two coefficients are equal ( $p$ -value of 0.29). The point estimate of -0.257 suggests that a one standard deviation increase in the share of expellees reduces their labor force participation rate by 0.37 standard deviations or 5.0%. An increase in the agricultural employment share by one standard deviation worsens expellees' labor force participation rate by 0.53 standard deviations or 7.1% (point estimate with state fixed effects, column (4)). Interestingly, the IV estimates for the expellee share are more negative than the OLS estimates (two-sided test,  $p$ -value  $< 0.01$ ). We interpret this difference as evidence for (moderate) endogenous relocations: expellees may have counterbalanced their unfavorable initial distribution by moving to regions that offered better economic integration prospects.

To alleviate remaining concerns that our results are driven by regional differences in expellee demographics, we add the district-level shares of female expellees (column (6)) and of expellees aged 18-65 (column (7)) to the set of control variables (recall from Section 3 that these variables are not available at county level). Reassuringly, the point estimates of our main variables of interest hardly change. In particular, we still find that high expellee shares and a large agrarian base reduced participation rates. We thus conclude that our results are unlikely to be mechanically driven by expellee demographics.

To further probe the robustness of our results, we use the employment rate as an alternative dependent variable (columns (8) and (9)). To wit, we focus on active persons with employment only. This information is available for a subset of 487 counties only. Based on the regression without (with) state fixed effects, we find that a one standard deviation increase in the expellee share reduces employment by 0.30 (0.35) standard deviations. The corresponding results for the agricultural employment share are a reduction in employment by 0.71 (without state fixed effects) and 0.59 (with state fixed effects) standard deviations, respectively. These effects are very close to those that we calculated for our baseline regressions in columns (4) and (5).

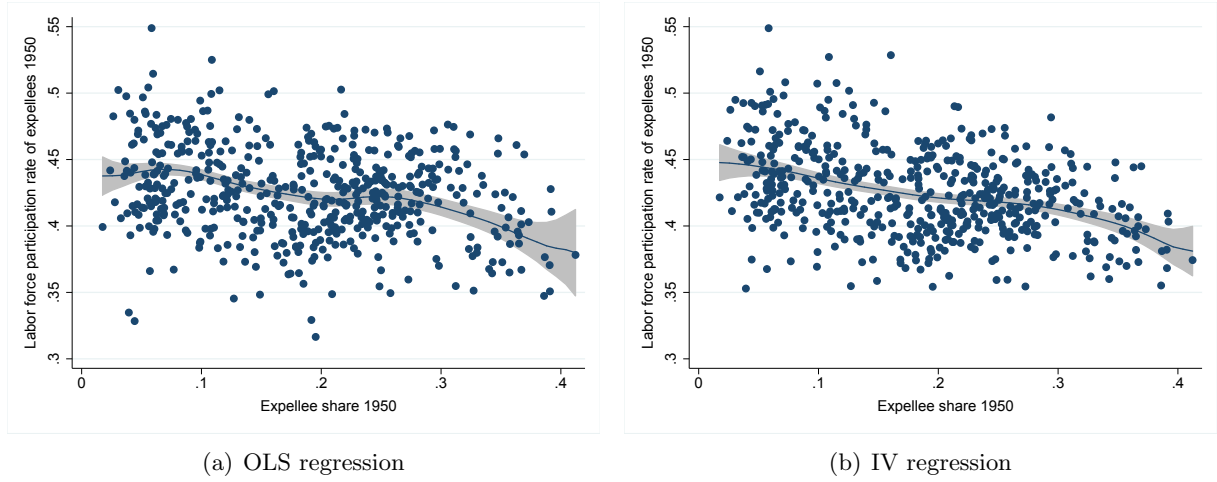
The considerably poorer labor market outcomes of expellees in agrarian areas might reflect poorer labor market opportunities in agrarian areas in general. In additional regression (columns (10) and (11)), we use the labor force participation rate of expellees divided by that of natives as the dependent variable, and thus compare expellee outcomes to those of natives. We find that a one standard deviation increase in the pre-war agricultural employment share reduces the *relative* labor force participation rate of expellees by 0.686 standard deviations (estimate with state fixed effects). This effect is comparable to the estimate we obtained when studying the absolute labor force participation of expellees. General differences in labor market opportunities between industrialized and agrarian areas are thus not a prime reason for the observed poor economic integration of expellees in rural areas.<sup>23</sup>

Appendix Table J3 presents additional robustness checks to our preferred specifications

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<sup>23</sup>We also find that a one standard deviation increase in the expellee share reduces the relative labor force participation rate of expellees by 0.140 standard deviations. That is, the expellee share has a weaker effect on the relative labor force participation of expellees than on the absolute labor force participation. This finding is consistent with a negative impact of higher expellee shares on both expellee and native labor market outcomes.

Figure 7: Effect of Expellee Share on Labor Force Participation: Semi-Parametric Estimates



*Notes:* Both panels show results from Robinson’s double residual semi-parametric regression estimator (Robinson 1988) with our usual set of control variables. The dependent variable is the labor force participation rate of expellees in 1950. The expellee share is allowed to affect the labor force participation rate nonlinearly using an Epanechnikov kernel. Panel (a) displays estimates from an OLS regression, and Panel (b) displays estimates from an IV regression. The IV regression uses the expellee share in 1946 as an instrument for the expellee share in 1950. The confidence intervals shown are based on standard errors clustered at the labor market region level.

(columns (4) and (5) from Table 1). First, we run unweighted regressions in columns (1) and (2). Second, we take a county’s share of expellees over all West German expellees as an alternative weighting scheme (columns (3) and (4)). Third, we use the loss in housing space in three categories (columns (5) and (6)) as well as the share of damaged dwellings (columns (7) and (8)) as alternative measures of war destruction. Reassuringly, in all of these robustness checks our point estimates hardly change. Finally, in columns (9) and (10), we use the labor force participation rate of expellees calculated over the population of working age, instead of over the population as a whole, as an alternative dependent variable. Since data on the expellee population by age is, as discussed in Footnote 11, not available at the county level, we rely on data at the more aggregated district level. We again find that the expellee share and agricultural employment have strong negative effects on labor force participation.

Earlier work by Schelling (1971), Card et al. (2008) and Pan (2015) suggest tipping points in social interactions. Consequently, we estimate the effect of the expellee share on the labor force participation rate semi-parametrically (Robinson 1988). Figure 7 presents the results. Panel (a) is based on an OLS regression and Panel (b) on an IV regression. Both panels illustrate that the relationship between the labor force participation rate of expellees and their population share is roughly linear and does not provide evidence in favor of tipping points. Economic integration prospects worsen with the share of expellees but there is no evidence of a discontinuous decline.<sup>24</sup>

Taken together, the results on the regional determinants of economic integration imply an

<sup>24</sup>In Appendix Figure I1, Panel (a), we additionally draw the unconditional linear regression line on the scatter plot between the population share of expellees in 1950 and the labor force participation rate. The relationship between the labor force participation rate of expellees and their population share is approximately linear and not driven by outliers. Panels (b) to (i) present the corresponding figures for our other independent and dependent variables of interest.



important trade-off: On the one hand, our estimates for the agricultural employment share suggest that it is beneficial to assign migrants to non-agrarian counties with high absorptive capacity. On the other hand, the negative impact of the expellee share underlines the benefits of spacing migrants out evenly, even though there is no evidence for tipping points in the share of expellees received.

*Social Integration.* Next, we investigate the regional determinants of social integration, which we measure by the intermarriage rate between expellees and natives. Table 2 presents our core results. Column (1) shows an economically and statistically significant negative relationship between the expellee share in 1950 and the intermarriage rate. This is consistent with the view that higher expellee shares made it easier for expellees to keep to themselves and intensified animosity between natives and expellees (Connor 2007).<sup>25</sup> We also document a significant negative relationship between the agricultural employment share in 1939 and intermarriage behavior. As hypothesized, more agrarian communities were thus less inclined to socially intermix (Bayerisches Statistisches Landesamt 1950, Connor 2007, Schulze 2002). Furthermore, we find religious distance between expellees and natives to negatively influence social integration.

In column (2), we condition on covariates and find very similar effects, even though the impact of religious distance becomes statistically insignificant. The specification in column (3) adds state fixed effects and exploits the within-state variation only. The coefficient on religious distance now again turns statistically significant (at the 5%-level). The effect of religious distance is moderate: The point estimate suggests that a one standard deviation increase in religious distance reduces intermarriage rates by 0.11 standard deviations. The coefficients for both expellee and agricultural employment shares remain economically and statistically significant. An increase in the 1950 expellee share by one standard deviation (s.d. 0.085) lowers the intermarriage rate (s.d. 0.104) by 0.30 standard deviations or 4.3% (estimate of -0.366, column (3)). A one standard deviation increase in the agricultural employment share (s.d. 0.231) has about two thirds of this effect and decreases the intermarriage rate by 0.18 standard deviations (estimate of -0.079, column (3)).

IV regressions are broadly consistent with the OLS results (see columns (4) and (5)). IV regressions without (with) state fixed effects suggests that a one standard deviation increase in the expellee share and the agricultural employment share lower the intermarriage rate by 0.19 (0.17) and 0.23 (0.20) standard deviations, respectively. As a robustness check, we again estimate unweighted regressions and regressions with the county's share of expellees over all West German expellees as an alternative weighting scheme, taking specification (4) and (5) as our baseline. In addition, we use alternative measures of war destruction. Table J4 in the Appendix shows that our results are robust to these changes in the specification.

Overall intermarriage rates may mask important differences in social integration between male and female expellees. Columns (6) and (7) of Table 2 thus report OLS and IV estimation results for the intermarriage rate between male expellees and female natives only. The results suggest that the social integration of male expellees is much more susceptible to the environment. In particular, an increase in the share of expellees arriving in a county markedly reduces the

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<sup>25</sup>Additional semi-parametric regressions reveal that the negative effect of the expellee share on marriage diminishes at higher expellee shares (see Appendix Section J.4 for details).

Table 2: Social Integration: Forced Migration and Marriage Behavior

|   | all marriages        |                      |                      |                     |                      | marriages b/w male expellees and female natives |                      |
|---|----------------------|----------------------|----------------------|---------------------|----------------------|---|----------------------|
|   | OLS<br>(1)           | OLS<br>(2)           | OLS<br>(3)           | IV<br>(4)           | IV<br>(5)            | IV<br>(6)                                       | IV<br>(7)            |
| Expellee share 1950   | -0.222***<br>(0.083) | -0.298***<br>(0.093) | -0.366***<br>(0.115) | -0.238**<br>(0.100) | -0.210*<br>(0.122)   | -0.462***<br>(0.100)                            | -0.456***<br>(0.125) |
| Agricultural employment share 1939                                      | -0.188***<br>(0.032) | -0.086*<br>(0.048)   | -0.079**<br>(0.031)  | -0.102**<br>(0.048) | -0.092***<br>(0.030) | -0.017<br>(0.053)                               | -0.070**<br>(0.031)  |
| Religious distance 1950   | -0.088*<br>(0.049)   | -0.072<br>(0.052)    | -0.057**<br>(0.024)  | -0.069<br>(0.057)   | -0.058**<br>(0.026)  | -0.068<br>(0.046)                               | -0.062**<br>(0.024)  |
| Population share living in cities with at least 10,000 inhabitants 1939 |                      | 0.048*<br>(0.026)    | 0.000<br>(0.017)     | 0.044*<br>(0.026)   | 0.006<br>(0.017)     | 0.061*<br>(0.032)                               | -0.007<br>(0.017)    |
| Rubble per capita 1939  |                      | 0.617<br>(0.615)     | 0.675*<br>(0.356)    | 0.751<br>(0.630)    | 0.864**<br>(0.399)   | 0.347<br>(0.590)                                | 0.787**<br>(0.331)   |
| Distance to inner German border is smaller than 75 km (0/1)             |                      | 0.038*<br>(0.020)    | 0.045**<br>(0.018)   | 0.033<br>(0.020)    | 0.042**<br>(0.017)   | 0.034*<br>(0.019)                               | 0.052***<br>(0.016)  |
| Majority is Catholic in 1939 (0/1)                                      |                      | -0.008<br>(0.019)    | -0.032***<br>(0.009) | -0.006<br>(0.019)   | -0.029***<br>(0.009) | -0.011<br>(0.016)                               | -0.029***<br>(0.009) |
| $R^2$   | 0.350                | 0.373                | 0.609                | .                   | .                    | .   | .                    |
| Weak identification test (Cragg-Donald Wald F statistic)                |                      |                      |                      | 714.17              | 568.56               | 714.17  | 568.56               |
| Shea's Partial $R^2$ : expellee share 1946                              |                      |                      |                      | 0.916               | 0.847                | 0.916   | 0.847                |
| Shea's Partial $R^2$ : predicted religious distance                     |                      |                      |                      | 0.760               | 0.722                | 0.760   | 0.722                |
| State dummies   | no                   | no                   | yes                  | no                  | yes                  | no  | yes                  |
| Number of observations  | 458                  | 458                  | 458                  | 458                 | 458                  | 458   | 458                  |

*Notes:* In all columns, the dependent variable is an index measuring expellee-native-marriages in 1950. The dependent variable in columns (1) to (5) is the average index for marriages between male expellees and female natives and between female expellees and male natives. The dependent variable in columns (6) and (7) is the marriage index for male expellee-female native-couples. The IV regressions in columns (4) to (7) use the expellee share in 1946 and the predicted population-weighted religious distance as instrument for the expellee share 1950 and the religious distance 1950, respectively. Columns (3), (5) and (7) include dummies for each of the nine West German states. Regressions are weighted with population in 1939. \*\*\*, \*\* and \* denote statistical significance at the 1%-, 5%- and 10%-level, respectively. Standard errors clustered at the labor market region level are in parentheses. The weak identification test refers to the Cragg-Donald  $F$  statistic; critical values from Stock and Yogo (2005) suggest the instruments to be strong.

probability that male expellees marry a female native; an increase in the 1950 expellee share by one standard deviation lowers the intermarriage rate of male expellees (s.d. 0.103) by 0.38 standard deviations or 5.2% (IV estimate of -0.462, column (6)) compared to 0.19 standard deviations or 2.8% for all expellees (IV estimate of -0.238, column (4)).

*Political Integration.* In a third set of regressions, we consider expellees' political integration. Our main indicator for (slow) political integration is the vote share of the anti-expellee party BP in the Bavarian federal state elections in 1950. Results are reported in Table 3, columns (1) to (3).

The vote share of the anti-expellee party increases with the population share of expellees, with the pre-war agricultural employment share of the county and with the religious distance between expellees and natives. The conditional OLS (IV) regression<sup>26</sup> suggests that a one standard deviation increase in the share of expellees (s.d. 0.055) adds as much as 2 percentage points (2.8 percentage points) to the vote share of the BP. Given that the average vote share of

<sup>26</sup>The control variables turn out to be important for identifying the effect of religious distance on voting behavior. Counties with high religious distance between expellees and natives were more likely to be Protestant before the war (as expellees from neighboring Sudetenland were predominantly Catholics). Thus, religious distance picks up the effect that Protestants were less likely to vote for the Bayernpartei if we do not control the majority of a region being Catholic in 1939.

Table 3: Political Integration: Forced Migration and Voting Behavior 1950

| Dependent variable: vote share of                                       | Bayernpartei (anti-expellee party) |                     |                     | Bayernpartei (anti-expellee party) among non-expellees |                     | Bayernpartei + BHE (single issue parties) |                     |
|---|------------------------------------|---------------------|---------------------|--|---------------------|---|---------------------|
|   | OLS<br>(1)                         | OLS<br>(2)          | IV<br>(3)           | OLS<br>(4)   | IV<br>(5)           | OLS<br>(6)                                | IV<br>(7)           |
| Expellee share 1950   | 0.303**<br>(0.149)                 | 0.367***<br>(0.116) | 0.509***<br>(0.129) | 0.730***<br>(0.147)                                    | 0.915***<br>(0.163) | 0.920***<br>(0.130)                       | 1.159***<br>(0.141) |
| Agricultural employment share 1939                                      | 0.127***<br>(0.032)                | 0.156***<br>(0.036) | 0.139***<br>(0.036) | 0.204***<br>(0.047)                                    | 0.182***<br>(0.047) | 0.191***<br>(0.044)                       | 0.162***<br>(0.044) |
| Religious distance 1950   | -0.087***<br>(0.031)               | 0.105***<br>(0.035) | 0.121***<br>(0.041) | 0.125***<br>(0.046)                                    | 0.149***<br>(0.052) | 0.082**<br>(0.039)                        | 0.117**<br>(0.047)  |
| Population share living in cities with at least 10,000 inhabitants 1939 |                                    | 0.055**<br>(0.022)  | 0.056***<br>(0.021) | 0.068**<br>(0.028)                                     | 0.070**<br>(0.027)  | 0.030<br>(0.027)                          | 0.033<br>(0.026)    |
| Rubble per capita 1939  |                                    | 0.342<br>(1.111)    | 1.073<br>(1.314)    | 1.429<br>(1.601)                                       | 2.410<br>(1.878)    | 1.369<br>(1.031)                          | 2.666*<br>(1.381)   |
| Distance to inner German border is smaller than 75 km (0/1)             |                                    | -0.020*<br>(0.011)  | -0.018<br>(0.012)   | -0.029*<br>(0.015)                                     | -0.027*<br>(0.015)  | -0.005<br>(0.012)                         | -0.002<br>(0.013)   |
| Majority is Catholic in 1939 (0/1)                                      |                                    | 0.129***<br>(0.018) | 0.138***<br>(0.021) | 0.163***<br>(0.025)                                    | 0.176***<br>(0.029) | 0.128***<br>(0.020)                       | 0.146***<br>(0.023) |
| $R^2$   | 0.346                              | 0.580               | .                   | 0.626  | .                   | 0.718                                     | .                   |
| Weak identification test<br>(Cragg-Donald Wald F statistic)             |                                    |                     | 250.45              |  | 250.45              |   | 250.45              |
| Shea's Partial $R^2$ : expellee share 1946                              |                                    |                     | 0.754               |  | 0.754               |   | 0.754               |
| Shea's Partial $R^2$ : predicted religious distance                     |                                    |                     | 0.775               |  | 0.775               |   | 0.775               |
| Number of observations  | 186                                | 186                 | 186                 | 186  | 186                 | 186                                       | 186                 |

*Notes:* The IV regressions in columns (3), (5), and (7) use the expellee share in 1946 and the predicted population-weighted religious distance as instrument for the expellee share 1950 and the religious distance 1950, respectively. Regressions are weighted with population in 1939. \*\*\*, \*\* and \* denote statistical significance at the 1%-, 5%- and 10%-level, respectively. Robust standard errors are in parentheses. The weak identification test refers to the Cragg-Donald  $F$  statistic; critical values from Stock and Yogo (2005) suggest the instruments to be strong.

the BP was 18.7%, this corresponds to an increase of 11% (15%).<sup>27</sup>

The effects of the agricultural employment share and of religious distance are also positive and statistically significant: A one standard deviation increase in the agricultural employment share (in religious distance) raises the vote share by about 4 percentage points (2 percentage points). Prior literature suggests that a larger share of immigrants may lead to more negative attitudes towards immigrants (Dustmann and Preston 2001) and to conflicts over resources (Chevalier et al. 2018, Tabellini 2020). Either interpretation is consistent with the documented positive relationship between the expellees share and the vote share of the anti-expellee party.

So far we have considered the vote share of the BP in the overall population. In addition, we can derive the vote share of the BP among the native population if we assume that (i) expellees did not vote for BP and its anti-expellee election program, and that (ii) the share of natives among voters is similar to their population share (see Appendix H for details). The results from using this share as the dependent variable are shown in Columns (4) and (5) of Table 3. The estimated effect of the expellee share on the propensity to vote for the BP is about twice as high for the native population as for the overall population. According to the OLS regression, a one standard deviation increase in the share of expellees adds 4 percentage points (IV regression: 5 percentage points) to the BP vote share in the native population.

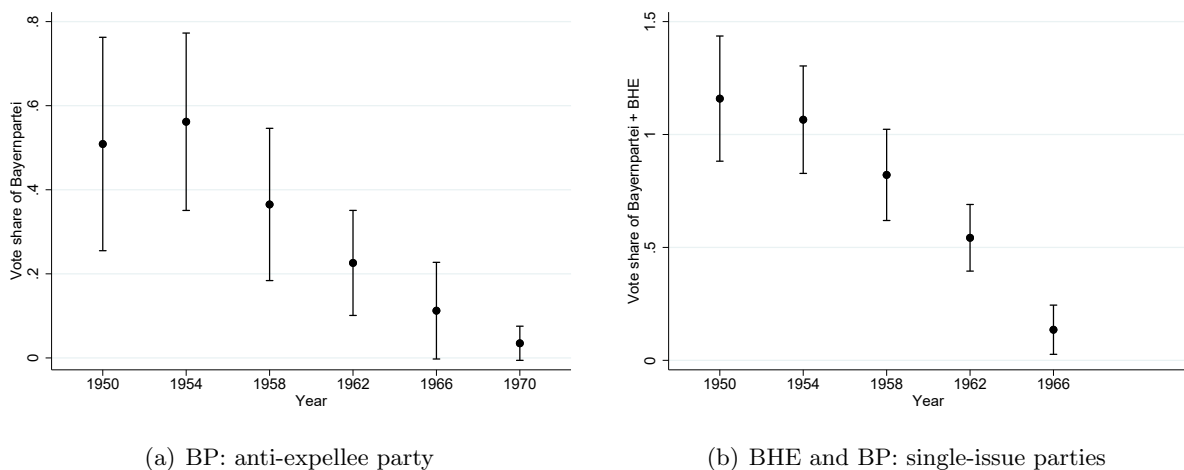
As an alternative dependent variable, we consider the combined vote share for single issue parties, namely the sum of the vote share of the BP and of the expellee party BHE. Columns

<sup>27</sup>Additional semi-parametric IV regressions suggest that the negative effect of the expellee share diminishes at very high levels (see Appendix J.4 for details).

(6) and (7) of Table 3 show that the larger the share of expellees, the larger the agricultural employment share and the larger the religious distance between expellees and natives, the more election outcomes are driven by individual interests. In terms of magnitude, we find that a one standard deviation increase in the share of expellees leads to a 6.4 percentage points higher vote share for single-issue parties (IV results from column (7)).<sup>28</sup> The corresponding effects for the agricultural employment share and religious distance are somewhat smaller.

We complete our analysis by studying the political integration of expellees in the medium and long run. State elections in Germany took place every four years, and we collected information on state election outcomes until 1970. For each of the elections, we again consider the vote share of BP and the combined vote share of BP and BHE. To provide conservative estimates, we focus on the BP vote share in the overall population (instead of among non-expellees) as the dependent variable. Figure 8 shows the effects of the expellee share from instrumental variable regressions on voting patterns in 1950–70.

Figure 8: Effect of Expellee Share on Voting Behavior: Dynamics



*Notes:* Both panels show the dynamics in the effect of the expellees share on voting behavior with 95% confidence intervals. In Panel (a) the dependent variable is the vote share of BP (anti-expellee party). In Panel (b) the dependent variable is the vote share of BP and BHE (single-issue parties). Both panels display estimates from IV regressions, which follow the specification in Table 3, columns (3) and (7), respectively. In 1966 (1970), BP did no longer run for office in 23 (26) out of 186 districts; in these districts the vote share of BP is set to 0. There are no estimates for the vote share of BP + BHE/GDP in 1970 as the BHE/GDP did no longer stand for election in 1970. Tables J5 and J6 in the Appendix report the full set of results.

Two points are of note. First, in particular for the anti-expellee party, point estimates of the expellee share *increase* between 1950 and 1954 (even though confidence bands overlap). Second, point estimates taper off after 1954 and turn (close to) zero at the end of our observation period. These findings document that the integration process of expellees is nonlinear: While the coexistence between natives and expellees appear more and more difficult in the first years after expellees' arrival (when it became evident that expellees were to stay and when expellees were redressed based on the Equalization of War Burdens Act (*Lastenausgleichsgesetz*)), the expellee share again loses explanatory power with time as expellees become more integrated.

<sup>28</sup>The results are consistent with recent findings in Chevalier et al. (2018) who document a positive effect of the expellee share on the vote share of the BHE in municipal elections.

Our results suggest that it takes almost a full generation until the expellee share has no effect on voting behavior. Figure J3 in the Appendix shows a qualitatively similar pattern for religious distance.

## 6 Optimal Distribution and Expellee Migration in 1950–61

Our empirical results suggest that local conditions played an important role for the integration of expellees. But how much better would integration outcomes have been if the authorities had distributed expellees based on local characteristics conducive to integration? We use our empirical estimates from Table 1 (column (4)) to gauge the distribution of expellees that would have maximized the Germany-wide labor force participation rate of expellees. The maximization problem, which we describe in Appendix K, solves a trade-off between the benefits of allocating expellees evenly across space<sup>29</sup> and sending them to non-agrarian counties with high absorptive capacity. Our back-of-the-envelope calculation suggests that moving from the actual to the optimal distribution of expellees would have increased the labor force participation rate of expellees from 42.2% to 47.0%, or by almost one standard deviation.<sup>30</sup> In fact, the ‘optimal’ participation rate of expellees is roughly comparable to the actual participation rate of natives, which in September 1950 stood at 46.4%.

Expellees responded in the 1950s, when moving restrictions were lifted, by emigrating from agrarian regions to other parts of West Germany (see Appendix J.6 for a detailed econometric analysis of migratory responses in the 1950s). The West German government actively supported the re-location of expellees from the expellee states of Bavaria, Lower-Saxony, and Schleswig-Holstein to other West German states. In particular, the Expellee Resettlement Law (*Gesetz zur Umsiedlung von Heimatvertriebenen*) covered the transport costs and subsidized the construction of housing in the destination. However, moving remained voluntary and the law did not incentivize movements within states. Even between states, many expellees moved without government intervention.<sup>31</sup> Nevertheless, expellee migration in the 1950s closed part of the gap between the actual and the optimal distribution of expellees. In fact, the correlation coefficient between the largely migration-induced, actual change in expellee shares in 1950–61 and the hypothetical change in expellee shares required to fully close the gap between the actual and optimal allocation of expellees is as high as 0.83 (see Appendix J.6 for the corresponding scatter plot and further details).

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<sup>29</sup>It may seem counter-intuitive at first that there are benefits from an even distribution of expellees, despite the *linear* effect that the expellee share has on local labor force participation. The distribution of expellees would indeed play no role if we were to maximize the average labor force participation rate across counties. However, an uneven distribution of expellees is detrimental for the *aggregate* labor force participation rate. Intuitively, all expellees would end up in a labor market with an extremely low participation rate if they were all concentrated in one region.

<sup>30</sup>Clearly, our optimization abstracts from important constraints that the German post-war administration faced in practice, such as local housing shortages.

<sup>31</sup>Around 45% of the expellees who moved from one of the expellee states to the rest of Germany in the 1950s did not fall under the Expellee Resettlement Law. In addition, many of those that did fall under the law only benefited from subsidized housing but moved on their own initiative (Reichling 1958, Reichling 1989).

## 7 Conclusion

The regional allocation of forced migrants ranks high on today’s policy agenda, with redistribution mechanisms being the subject of heated discussions within the European Union (Fernández-Huertas Moraga and Rapoport 2015). Surprisingly, however, we know relatively little about the effect of resettlement location on the integration of forced migrants. This paper makes progress on this question by providing evidence for one of the largest forced population movements in history, the displacement of Germans from East and Central Europe after World War II.

Using newly digitized data at the county level, we show that local socioeconomic conditions strongly affected the economic, social and political integration of expellees in West Germany. We find that high inflows of expellees deteriorated integration outcomes, underlining the potential importance of policies to disperse forced migrants across regions. Our findings contrast with earlier evidence that largely point to positive effects of ethnic concentration on labor market outcomes of refugees (Brell et al. 2020). One potential explanation for these contrasting findings is that we study the impact of the number of jointly resettled migrants on integration outcomes rather than the effect of established ethnic networks on newly arriving migrants. Higher migrant concentration might then only heighten competition without transmitting additional information on job opportunities (Beaman 2012). The information value of migrant networks might also be limited if migrants speak the local language, as they do in our context.

We also document that integration outcomes were considerably worse in agrarian regions. This cautions against the belief that today’s refugees should be mainly sent to rural areas, thereby fostering rural revival (Bloem 2014, Martínez Juan 2017). Confessional differences between expellees and natives had no effect on economic integration, but decreased intermarriage rates and strengthened anti-migrant parties.

Simulation results confirm the potential importance of the initial resettlement location. Moving from the actual to the optimal spatial distribution of expellees would have brought the expellee labor force participation rate at par with that of natives. Importantly, expellees indeed moved away from agrarian regions with high expellee shares once they were allowed to do so in the 1950s. They thus closed the gap between the actual and the optimal distribution of expellees. This finding highlights the potentially high costs of restricting the movement of forced migrants, in line with recent evidence for modern-day Germany (Brücker et al. 2020).

We conclude by highlighting the need for future work on the effect of resettlement location on the integration of forced migrants. In particular, our results are specific to an episode of mass immigration, in which natives and migrants were very similar in many respects, including their mother tongue and cultural background. An important task for future work is thus to assess the effect of local conditions on the integration of migrants who are resettled into culturally more distant locations. Such work could be important for designing resettlement policies that are conducive to refugee integration. Our results for economic and social integration also apply to a time relatively shortly after arrival. It thus remains an open question how long-lived these effects were, especially after migration restrictions were lifted.

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## References

- Ambrosius, Gerald: 1996, Der Beitrag der Vertriebenen und Flüchtlinge zum Wachstum der west-deutschen Wirtschaft nach dem Zweiten Weltkrieg, *Jahrbuch für Wirtschaftsgeschichte / Economic History Yearbook* **37(2)**: 39-72.
- Åslund, Olof, Per-Anders Edin, Peter Fredriksson and Hans Grönqvist: 2011, Peers, Neighborhoods, and Immigrant Student Achievement: Evidence from a Placement Policy, *American Economic Journal: Applied Economics* **3(2)**: 67-95.
- Auer, Daniel: 2018, Language Roulette – The Effect of Random Placement on Refugees’ Labour Market Integration, *Journal of Ethnic and Migration Studies* **44(3)**: 341-362.
- Bansak, Kirk, Jeremy Ferwerda, Jens Hainmueller, Andrea Dillon, Dominik Hangartner, Duncan Lawrence and Jeremy Weinstein: 2018, Improving Refugee Integration through Data-driven Algorithmic Assignment, *Science* **359(6373)**: 325-329.
- Bauer, Thomas, Sebastian Braun and Michael Kvasnicka: 2013, The Economic Integration of Forced Migrants: Evidence for Post-War Germany, *The Economic Journal* **123(571)**: 998-1024.
- Bauer, Thomas, Matthias Giesecke and Laura M. Janisch: 2019, The Impact of Forced Migration on Mortality: Evidence From German Pension Insurance Records, *Demography* **56(1)**: 25-47.
- Bayerisches Statistisches Landesamt: 1950, Die Vertriebenen in Bayern: Ihre berufliche und soziale Eingliederung bis Anfang 1950, *Beiträge zur Statistik Bayerns*, Heft 151.
- Bayerisches Statistisches Landesamt: 1951, Wahl zum Bayerischen Landtag am 26. November 1950, *Beiträge zur Statistik Bayerns*, Heft 163.
- Beaman, Lori A.: 2012, Social Networks and the Dynamics of Labour Market Outcomes: Evidence from Refugees Resettled in the U.S., *Review of Economic Studies* **79(1)**: 128-161.
- Becker, Sascha O. and Andreas Ferrara: 2019, Consequences of Forced Migration: A Survey of Recent Findings, *Labour Economics* **59**: 1-16.
- Becker, Sascha O., Irena Grosfeld, Pauline Grosjean, Nico Voigtländer and Ekaterina Zhuravskaya: 2020, Forced Migration and Human Capital: Evidence from Post-WWII Population Transfers, *American Economic Review*, forthcoming.
- Becker, Sascha O. and Ludger Woessmann: 2009, Was Weber Wrong? A Human Capital Theory of Protestant Economic History, *The Quarterly Journal of Economics* **124(2)**: 531-596.
- Bloem, Jeffrey: 2014, Refugees in Rural Communities: A Win-Win?, *National Agricultural & Rural Development Policy Center Policy Brief* 34.
- Brakman, Steven, Harry Garretsen and Marc Schramm: 2004, The Strategic Bombing of German Cities during World War II and its Impact on City Growth, *Journal of Economic Geography* **4(2)**: 201-218.
- Braun, Sebastian and Nadja Dwenger: 2020, *Settlement Location Shapes the Integration of Forced Migrants: Evidence from Post-war Germany* [dataset and code], Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], <https://doi.org/10.3886/E118223V1>.

- Braun, Sebastian T., Anica Kramer and Michael Kvasnicka: 2017, Local Labor Markets and the Persistence of Population Shocks, *University of St Andrews Discussion Paper Series* 15.
- Braun, Sebastian T. and Michael Kvasnicka: 2014, Immigration and Structural Change: Evidence from Post-war Germany, *The Journal of International Economics* **93**(2): 253-269.
- Braun, Sebastian T. and Toman Omar Mahmoud: 2014, The Employment Effects of Immigration: Evidence from the Mass Arrival of German Expellees in Post-war Germany, *The Journal of Economic History* **74**(1): 69-108.
- Braun, Sebastian T. and Henning Weber: 2016, How Do Regional Labor Markets Adjust to Immigration? A Dynamic Analysis for Post-war Germany, *Kiel Working Papers* 2025.
- Brell, Courtney, Christian Dustmann and Ian Preston: 2020, The Labor Market Integration of Refugee Migrants in High-Income Countries, *Journal of Economic Perspectives* **34**(1): 94-121.
- Brelie-Lewien, Doris von der and Helga Grebing: 1997, 'Flüchtlinge in Niedersachsen', in *Niedersächsische Geschichte*, eds. Bernd U. Hucker, Ernst Schubert and Bernd Weisbrod, Wallstein, Göttingen, 619-634.
- Brücker, Herbert, Andreas Hauptmann and Philipp Jaschke: 2020, Beschränkungen der Wohnortwahl für anerkannte Geflüchtete: Wohnsitzauflagen reduzieren die Chancen auf Arbeitsmarktintegration, *IAB-Kurzbericht*, 03/2020.
- Bundesministerium für Gesamtdeutsche Fragen: 1961, *Die Flucht aus der Sowjetzone und die Sperrmassnahmen des kommunistischen Regimes vom 13. August 1961*, Bundesministerium für Gesamtdeutsche Fragen, Bonn/Berlin.
- Burchardi, Konrad B. and Tarek A. Hassan: 2013, The Economic Impact of Social Ties: Evidence from German Reunification, *The Quarterly Journal of Economics* **128**(3): 1219-1271.
- Card, David, Alexandre Mas and Jesse Rothstein: 2008, Tipping and the Dynamics of Segregation, *The Quarterly Journal of Economics* **123**(1): 177-218.
- Chevalier, Arnaud, Benjamin Elsner, Andreas Lichter and Nico Pestel: 2018, Immigrant Voters, Taxation and the Size of the Welfare State, *IZA Discussion Paper No.* 11725.
- Connor, Ian: 2007, *Refugees and Expellees in Post-War Germany*, Manchester University Press, Manchester.
- Cortes, Kalena E.: 2004, Are Refugees Different from Economic Immigrants? Some Empirical Evidence on the Heterogeneity of Immigrant Groups in the United States, *The Review of Economics and Statistics* **86**(2): 465-480.
- Damm, Anna Piil: 2009, Ethnic Enclaves and Immigrant Labor Market Outcomes: Quasi-Experimental Evidence, *Journal of Labor Economics* **27**(2): 281-314.
- Damm, Anna Piil: 2014, Neighborhood Quality and Labor Market Outcomes: Evidence from Quasi-random Neighborhood Assignment of Immigrants, *Journal of Urban Economics* **79**: 139-166.
- DER SPIEGEL: 1947, Preußen-Attacke, *DER SPIEGEL*, 19.04.1947.
- Deryugina, Tatyana, Laura Kawano and Steven Levitt: 2018, The Economic Impact of Hurricane Katrina on Its Victims: Evidence from Individual Tax Returns, *American Economic Journal: Applied Economics* **20**(2): 202-233.
- Deutscher Städtetag: 1949, *Statistisches Jahrbuch Deutscher Gemeinden 1949*, Alfons Bürger Verlag, Schwäbisch Gmünd.
- Douglas, Ray M.: 2012, *Orderly and Humane: The Expulsion of the Germans after the Second World War*, Yale University Press, New Haven.
- Dustmann, Christian, Francesca Fabbri and Ian Preston: 2011, Racial Harassment, Ethnic Concentration, and Economic Conditions, *The Scandinavian Journal of Economics* **113**(3): 689-711.
- Dustmann, Christian and Ian P. Preston: 2001, Attitudes to Ethnic Minorities, Ethnic Context and Location Decisions, *Economic Journal* **111**: 353-373.
- Dustmann, Christian, Kristine Vasiljeva and Anna Piil Damm: 2019, Refugee Migration and Electoral Outcomes, *Review of Economic Studies* **86**(5): 2035-2091.
- Edin, Per-Anders, Peter Fredriksson and Olof Aslund: 2003, Ethnic Enclaves and the Economic Success of Immigrant—Evidence from a Natural Experiment, *Quarterly Journal of Economics* **118**(1): 329-357.



- Evans, William N. and Daniel Fitzgerald: 2017, The Economic and Social Outcomes of Refugees in the United States: Evidence from the ACS, *NBER Working Papers* **23498**.
- Exner, Peter: 1999, 'Integration oder Assimilation? Vertriebeneneingliederung und ländliche Gesellschaft—eine sozialgeschichtliche Mikrostudie am Beispiel westfälischer Landgemeinden', in *Geglückte Integration? Spezifika und Vergleichbarkeiten der Vertriebenen-Eingliederung in der SBZ/DDR*, eds. Dierk Hoffmann and Michael Schwartz, De Gruyter, Oldenbourg, 57-88.
- Falck, Oliver, Stephan Heblich and Susanne Link: 2012, Forced Migration and the Effects of an Integration Policy in Post-WWII Germany, *BE Journal of Economic Analysis & Policy* **12(1)**: Article 18, 1-27.
- Fasani, Francesco, Tommaso Frattini and Luigi Minale: 2018, (The Struggle for) Refugee Integration into the Labour Market: Evidence from Europe, *IZA Discussion Papers* 11333.
- Fernández-Huertas Moraga, Jesús and Hillel Rapoport: 2015, Tradable Refugee-Admission Quotas (TRAQs), the Syrian Crisis and the New European Agenda on Migration, *IZA Journal of European Labor Studies* **4**: 23.
- Fiala, Nathan: 2015, The Economic Consequences of Forced Displacement, *Journal of Development Studies* **51(10)**: 1275-1293.
- Groen, Jeffrey, Mark Kutzbach and Anne Polivka: 2020, Storms and Jobs: The Effect of Hurricanes on Individuals' Employment and Earnings over the Long Term, *Journal of Labor Economics*, forthcoming.
- Grosser, Thomas: 2006, *Die Integration der Heimatvertriebenen in Württemberg-Baden (1945-1961)*, Kohlhammer, Stuttgart.
- Hainmueller, Jens, Dominik Hangartner and Duncan Lawrence: 2016, When Lives Are Put on Hold: Lengthy Asylum Processes Decrease Employment among Refugees, *Science Advances* **2(8)**: e1600432.
- Halla, Martin, Alexander F. Wagner and Josef Zweimüller: 2017, Immigration and Voting for the Far Right, *Journal of the European Economic Association* **15**: 1341-1385.
- Hatton, Timothy J.: 2015, Asylum Policy in the EU: The Case for Deeper Integration, *CESifo Economic Studies* **61**: 605-637.
- Hvidtfeldt, Camilla, Marie Louise Schultz-Nielsen, Erdal Tekin and Mogens Fosgerau: 2018, An Estimate of the Effect of Waiting Time in the Danish Asylum System on Post-resettlement Employment among Refugees: Separating the Pure Delay Effect from the Effects of the Conditions under which Refugees Are Waiting, *PLoS ONE* **13(11)**: e0206737.
- Ibáñez, Ana M. and Carlos E. Vélez: 2008, Civil Conflict and Forced Migration: The Micro Determinants and Welfare Losses of Displacement in Colombia, *World Development* **36(4)**: 659-676.
- Institut für Raumforschung: 1955, *Die Kreismappe des Instituts für Raumforschung: Statistische Übersichten*, various volumes, Institut für Raumforschung, Bonn.
- Institut für Weltwirtschaft: 1974, *Infrastruktur, räumliche Verdichtung und sektorale Wirtschaftsstruktur als Bestimmungsgründe des regionalen Entwicklungspotentials in den Arbeitsmarktreionen der Bundesrepublik Deutschland*. Institut für Weltwirtschaft, Kiel.
- Kondylis, Florence: 2010, Conflict Displacement and Labor Market Outcomes in Post-war Bosnia and Herzegovina, *Journal of Development Economics* **93(2)**: 235-248.
- Kossert, Andreas: 2008, *Kalte Heimat: Die Geschichte der deutschen Vertriebenen nach 1945*, Siedler Verlag, Berlin.
- Marbach, Moritz, Jens Hainmueller and Dominik Hangartner: 2018, The Long-term Impact of Employment Bans on the Economic Integration of Refugees, *Science Advances* **4(9)**: eaap9519.
- Martínez Juan, Ana: 2017, *EU Rural Development Policy and the Integration of Migrants*, European Parliament Research Service, Brussels.
- Menges, Walter: 1959, 'Wandel und Auflösung der Konfessionszonen', in *Die Vertriebenen in Westdeutschland. Ihre Eingliederung und ihr Einfluss auf Gesellschaft, Wirtschaft, Politik und Geistesleben*, eds. Eugen Lemberg and Friedrich Edding, Band 3, Hirt, Kiel, 1-22.
- Merritt, Anna J. und Richard L. Merritt: 1970, Public Opinion in Occupied Germany. The OMGUS Surveys, 1945-1949, University of Illinois Press, Urbana/Chicago/London.

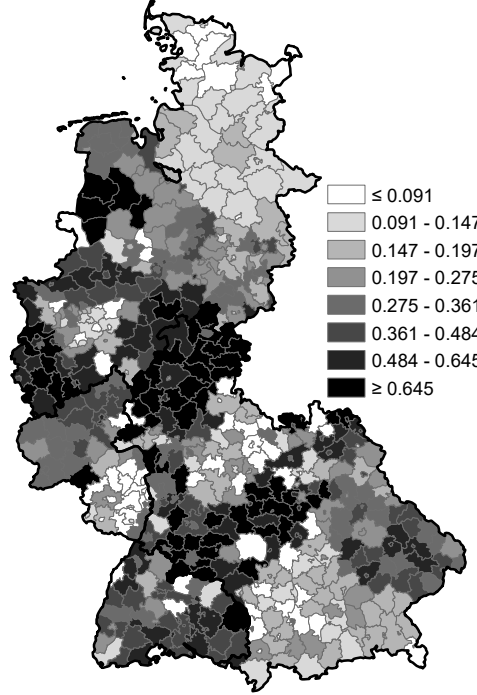
- MPIDR [Max Planck Institute for Demographic Research] and CGG [Chair for Geodesy and Geoinformatics, University of Rostock]: 2011, MPIDR Population History GIS Collection (partly based on Hubatsch and Klein 1975 ff. and Bundesamt für Kartographie und Geodäsie 2011), Rostock.
- Müller, Karl Valentin: 1950, Die Verschwägerung (Konnubium) als soziologischer Maßstab für die Einwurzelung der heimatvertriebenen Bevölkerungsgruppen, *Raum und Gesellschaft* **1**: 117-133.
- Müller, Werner and Heinz Simon: 1959, 'Aufnahme und Unterbringung', in *Die Vertriebenen in Westdeutschland. Ihre Eingliederung und ihr Einfluss auf Gesellschaft, Wirtschaft, Politik und Geistesleben*, eds. Eugen Lemberg and Friedrich Edding, Band 1, Kraemer & Hansen GmbH, Osnabrück, 300-446.
- Nakamura, Emi, Jósef Sigurdsson and Jón Steinsson: 2016, The Gift of Moving: Intergenerational Consequences of a Mobility Shock, *NBER Working Papers* 22392.
- Nellner, Werner: 1959, 'Grundlagen und Hauptergebnisse der Statistik', in *Die Vertriebenen in Westdeutschland. Ihre Eingliederung und ihr Einfluss auf Gesellschaft, Wirtschaft, Politik und Geistesleben*, eds. Eugen Lemberg and Friedrich Edding, Band 1, Kraemer & Hansen GmbH, Osnabrück, 61-144.
- Oltmer, Jochen: 2010, *Migration im 19. und 20. Jahrhundert*, Oldenbourg, München.
- Otto, Alkis H. and Max F. Steinhardt: 2014, Immigration and Election Outcomes: Evidence from City Districts in Hamburg, *Regional Science and Urban Economics*, **45**: 67-79.
- Pan, Jessica: 2015, Gender Segregation in Occupations: The Role of Tipping and Social Interactions, *Journal of Labor Economics* **33**(2): 365-408.
- Paqué, Karl-Heinz: 1987, Labour Surplus and Capital Shortage. German Unemployment in the First Decade After the Currency Reform. *Kiel Working Paper* No. 290.
- Pfeil, Elisabeth: 1958, Eingliederungschancen und Eingliederungserfolge: regionalstatistische Analysen der Erwerbstätigkeit, Berufsstellung und Behausung der Vertriebenen, *Mitteilungen aus dem Institut für Raumforschung*, Heft 35.
- Poepelt, Konrad: 1959, Die Verschwägerung der Heimatvertriebenen mit den Westdeutschen, *Mitteilungen aus dem Institut für Raumforschung*, Verlag Degener & Co, Neustadt an der Aisch.
- Redding, Stephen J. and Daniel M. Sturm: 2008, The Costs of Remoteness: Evidence from German Division and Reunification, *American Economic Review* **98**(5): 1766-1797.
- Reichling, Gerhard: 1958, Die Heimatvertriebenen im Spiegel der Statistik, *Schriften des Vereins für Sozialpolitik*, Verlag von Duncker & Humblot, Berlin.
- Reichling, Gerhard: 1989, Die Deutschen Vertriebenen in Zahlen. Teil II, *Kulturstiftung der deutschen Vertriebenen*, Warlich Druck und Verlagsgesellschaft, Berlin.
- Robinson, Peter M.: 1988, Root-N-Consistent Semiparametric Regression, *Econometrica* **56**(4): 931-954.
- Ruhose, Jens and Marc Piopiunik: 2017, Immigration, Regional Conditions, and Crime: Evidence from an Allocation Policy in Germany, *European Economic Review* **92**: 258-282.
- Ruiz, Isabel and Carlos Vargas-Silva: 2013, The Economics of Forced Migration, *Journal of Development Studies* **49**(6): 772-784.
- Sarvimäki, Matti, Roope Uusitalo and Markus Jäntti: 2019, Habit Formation and the Misallocation of Labor: Evidence from Forced Migrations, *SSRN Working Paper* No. 3361356.
- Schelling, Thomas C.: 1971, Dynamic Models of Segregation, *Journal of Mathematical Sociology* **1**: 143-186.
- Schulze, Rainer: 2002, 'Wir leben ja nun hier'. Flüchtlinge und Vertriebene in Niedersachsen-Erinnerung und Identität, in *Zuwanderung und Integration in Niedersachsen seit dem Zweiten Weltkrieg*, eds. Klaus J. Bade and Jochen Oltmer, Universitätsverlag Rasch, Osnabrück, 69-100.
- Schulze, Rainer: 2011, 'Forced Migration of German Populations during and after the Second World War: History and Memory', in *The disentanglement of populations. Migration, expulsion and displacement in postwar Europe, 1944-49*, eds. Jessica Reinisch and Elizabeth White, 27-47. Palgrave Macmillan, Basingstoke.
- Schumann, Abel: 2014, Persistence of Population Shocks: Evidence from the Occupation of West Germany after World War II, *American Economic Journal: Applied Economics* **6**(3): 189-205.

- Semrad, Alexandra: 2015, Immigration and Educational Spillovers: Evidence from Sudeten German Expellees in Post-war Bavaria, *Discussion Papers in Economics 24851*, University of Munich.
- Seton-Watson, Robert William: 1938, The German Minority in Czechoslovakia, *Foreign Affairs* **16**(4): 651-666.
- Solon, Gary, Steven J. Haider and Jeffrey M. Wooldridge: 2015, What Are We Weighting For?, *Journal of Human Resources* **50**(2): 301-316.
- Spiegel-Schmidt, Friedrich: 1959, 'Religiöse Wandlungen und Probleme im evangelischen Bereich', in *Die Vertriebenen in Westdeutschland. Ihre Eingliederung und ihr Einfluss auf Gesellschaft, Wirtschaft, Politik und Geistesleben*, eds. Eugen Lemberg and Friedrich Edding, Kraemer & Hansen GmbH, Osnabrück, 24-91.
- Statistisches Bundesamt: 1955, Die Vertriebenen und Flüchtlinge in der Bundesrepublik Deutschland in den Jahren 1946 bis 1953, *Statistik der Bundesrepublik Deutschland*, Band 114.
- Statistisches Bundesamt: 1956, Gebäude- und Wohnungszählung in der Bundesrepublik Deutschland vom 13. September 1950, *Statistik der Bundesrepublik Deutschland*, Band 38.
- Statistisches Reichsamt: 1940, *Statistisches Jahrbuch für das Deutsche Reich 1939/40*, Statistisches Reichsamt, Berlin.
- Statistisches Reichsamt: 1941, Die Bevölkerung des Reichs, der Reichsteile, der größeren und kleineren Verwaltungsbezirke, der Gaue der NSDAP, sowie der Großstädte nach der Religionszugehörigkeit auf Grund der Volkszählung vom 17. Mai 1939, *Wirtschaft und Statistik*, 21(9).
- Stock, James H. and Motohiro Yogo: 2005, Testing for Weak Instruments in Linear IV Regression, in *Identification and Inference for Econometric Models: Essays in Honor of Thomas Rothenberg*, eds. D. W. K. Andrews and J. H. Stock, 80-108. Cambridge: Cambridge University Press.
- Tabellini, Marco: 2020, Gifts of the Immigrants, Woes of the Natives: Lessons from the Age of Mass Migration, *The Review of Economic Studies* **87**(1): 454-486.
- United Nations High Commissioner for Refugees: 2019, *Global Trends. Forced Displacement in 2018.*, UNHCR, Geneva.
- Vasilakis, Chrysovalantis: 2018, Massive Migration and Elections: Evidence from the Refugee Crisis in Greece, *International Migration* **56**: 28-43.
- Vonyó, Tamás: 2012, The Bombing of Germany: the Economic Geography of War-induced Dislocation in West German Industry, *European Review of Economic History* **16**(1): 97-118.
- Weber, Max: 1904/05, Die Protestantische Ethik und der 'Geist' des Kapitalismus, *Archiv für Sozialwissenschaft und Sozialpolitik* **20**: 1-54 and **21**: 1-110.
- Wyrwich, Michael: 2018, Migration Restrictions and Long-term Regional Development: Evidence from Large-scale Expulsions of Germans after World War II, *Jena Economic Research Papers* **2018-02**.
- Ziemer, Gerhard: 1973, *Deutscher Exodus. Vertreibung und Eingliederung von 15 Millionen Ostdeutschen*, Seewald Verlag, Stuttgart.

# APPENDIX

## A Measuring Religious Distance

Figure A1: Expellee Inflows and the Religious Profile of West German Counties, 9/1950



*Notes:* The figure depicts the Euclidean distance between the denominational structure of expellees and non-expellees (equation (A.1)). The bold line depicts the border of the three occupation zones. The graphs divide the population into eight equally numerous subsets (octiles).

*Sources:* Own calculations based on Statistisches Bundesamt (1952). *Basemap:* MPIDR (2011).

Figure A1 illustrates differences in the religious affiliation of expellees and non-expellees at county level in September 1950. It depicts the Euclidean distance between the religious affiliations of expellees and non-expellees in county  $i$ :

$$ReligiousDistance_{i50} = \sqrt{\sum_j \left( share_{ij50}^{nat} - share_{ij50}^{exp} \right)^2}, \quad (A.1)$$

where  $share_{ij50}^{nat}$  ( $share_{ij50}^{exp}$ ) is the share of natives (expellees) in county  $i$  belonging to confession  $j$ . We distinguish between Catholic, Protestant, and other religious affiliations.

Figure A1 shows that the denominational structure of expellees and natives was relatively similar in the Protestant north of Germany, where mainly Protestant East Prussians arrived, and in the Catholic south-east, where many Catholic Sudeten Germans arrived. Differences were larger in the western, middle and eastern parts of the country. Many Catholic Sudeten Germans, for instance, were brought to the mainly Protestant areas of North-Hesse and Franconia.

As a consequence, the expellee inflow changed the denominational structure of West Germany, particularly in Lower Saxony, Northern Hesse, and Franconia. In the North-Hessian county of Gießen, for instance, 94% of the native population but only 22% of the expellee population were Protestants. Since expellees made up a quarter of the total population, the overall share of Protestants in the county was ‘only’ 76%, down from 96.5% before the war.

## B Socio-Demographic Characteristics of Expellees and Non-Expellees

Table B1: Socio-Demographic Characteristics of Expellees vs. Non-Expellees in West Germany, September 1950

|   | Expellees <sup>a</sup> | Remainder of population <sup>b</sup> |
|---|------------------------|--------------------------------------|
| % females                               | 52.9                   | 53.2                                 |
| Age structure                           |                        |                                      |
| % aged 0-17                             | 29.7                   | 27.7                                 |
| % aged 18-24                            | 11.3                   | 10.1                                 |
| % aged 25-44                            | 30.0                   | 27.9                                 |
| % aged 45-64                            | 21.8                   | 24.6                                 |
| % aged 65 and above                     | 7.2                    | 8.6                                  |
| Marital status (aged 18 and above)      |                        |                                      |
| % single                                | 25.7                   | 23.4                                 |
| % married                               | 60.4                   | 64.0                                 |
| % widowed or divorced                   | 14.0                   | 12.5                                 |
| Education (born 1885-1927) <sup>c</sup> |                        |                                      |
| Years of schooling <sup>d</sup>         | 8.5                    | 8.4                                  |
| % vocational training                   | 37.3                   | 37.6                                 |
| % university degree                     | 3.5                    | 2.9                                  |
| Religious confession                    |                        |                                      |
| % Catholic                              | 45.4                   | 45.4                                 |
| % Protestant                            | 52.8                   | 50.7                                 |
| % Other                                 | 1.8                    | 3.9                                  |

*Notes:* <sup>a</sup> Expellees are defined as German nationals or ethnic Germans who on 1 September 1939 lived (i) in the former German territories east of the Oder-Neisse line, (ii) in Saarland or (iii) abroad, but only if their mother tongue was German. <sup>b</sup> The education statistics distinguish between expellees and native West Germans (excluding non-German foreigners). All other statistics distinguish between expellees and the remainder of the population. <sup>c</sup> The education statistics are for those who were born between 1885 and 1927 (aged 23 to 65 in 1950). The overwhelming majority of these persons should have completed their education by 1950. <sup>d</sup> We only have data on the highest school degree. Years of schooling are inferred from the minimum years of schooling required to obtain a particular degree.

*Sources:* All data except for educational attainment are from the census of 13 September 1950, as published by Statistisches Bundesamt (1952). Figures on education are from our own calculations based on a 10% sample of the census of 27 May 1970 (FDZ 2008). Parts of the table are reproduced from Braun and Kvasnicka (2014).

## C Data Sources

Table C2: Overview of Data Sources

|  | Explanatory remarks and data source  |
|--|--|
| <b>Dependent variables</b>   |  |
| Expellee labor force participation rate 1950                             | The share of economically active persons in the total expellee population in 1950, data from Statistisches Bundesamt (1955b).  |
| Expellee employment rate 1950  | Calculated as $(100 - \text{Expellee unemployment rate}) \times \text{Expellee labor force participation rate}$ . Data on expellee unemployment rate comes from Pfeil (1958).  |
| Intermarriage rates 1950   | Index for intermarriage rates between expellees and non-expellees in 1950, taken from Poepelt (1959).  |
| Vote shares of Bayernpartei (and BHE) 1950, 1954, 1958, 1962, 1966, 1970 | Bavarian state elections, various volumes of <i>Beiträge zur Statistik Bayerns</i> .   |
| <b>Main explanatory variables</b>  |  |
| Expellee share in 1950   | The share of expellees in the 1950 population, based on data from Statistisches Bundesamt (1952) and Statistisches Bundesamt (1955b).  |
| Expellee share in 1946   | The share of expellees in the 1946 population, based on Statistisches Bundesamt (1950).  |
| Agricultural employment share in 1939                                    | The share of the workforce in agriculture in 1939, as published in Statistisches Reichsamt (1943)  |
| Religious distance 1950  | The Euclidean distance between the religious affiliations of expellees and non-expellees in 1950, based on data from Statistisches Bundesamt (1952). Data on religious affiliations in 1939 required for the instrument taken from Statistisches Reichsamt (1941). |
| <b>Control variables</b>   |  |
| Population share living in cities with at least 10,000 inhabitants 1939  | Based on data from Statistisches Reichsamt (1940).   |
| Rubble per capita 1946   | Untreated rubble at the end of the war over the population in 1939, as taken from Deutscher Städtetag (1949).  |
| Damaged dwellings 1945   | Share of dwellings built before 1945 damaged in the war, based on data from Statistisches Bundesamt (1956).  |
| Distance to inner-German border < 75 km (0/1)                            | Dummy for whether a county is located within 75 kilometers from the inner-German border.   |
| Majority is Catholic in 1939 (0/1)                                       | Dummy for whether the majority of a county was Catholic in 1939, based on data from Statistisches Reichsamt (1941).  |
| 1935 turnover per worker in the labor force                              | Turnover in 1935, taken from Statistisches Reichsamt (1939), over the workforce in 1939, taken from Statistisches Reichsamt (1943).  |

## D Variable Definitions

### D.1 Labor Force Participation and Employment Rates

The employment data, on which the labor force participation and employment rates are based, come from the census of 17 September 1950. The census distinguished between economically active persons (*Erwerbspersonen*), independent economically inactive persons (*Selbständige Beruflose*), and dependent economically inactive persons (*Angehörige ohne Beruf*) (Statistisches Bundesamt 1955a).<sup>32</sup> We calculate the labor force participation rate as the share of economically active persons in the total expellee population of a county. Importantly, there are many contemporary accounts that expellees, discouraged by dismal employment prospects, withdraw from the labor market and either retired early or returned to the fold (Pfeil 1958). The labor force participation rate captures this discouragement effect and can be precisely calculated for all West German counties.

The main drawback of the labor force participation rate is that it does not distinguish between economically active persons with and without employment. Although the census distinguished between the two groups,<sup>33</sup> the German Statistical Office never published the corresponding data at the county level and the original census records are, to the best of our knowledge, no longer available today. Fortunately, Pfeil (1958) drew on the original census records to calculate the share of economically active persons without employment (henceforth, unemployment rate), distinguishing also between expellees and non-expellees. We use the data in Pfeil (1958) to calculate the employment rate, i.e., the share of employed persons in the population, as  $(100 - \text{unemployment rate}) \times \text{Labor force participation rate}$ . Pfeil only reports the unemployment rate in nine ranked categories, ranging from 0-4% to above 32%. We use midpoints of these categories to calculate the employment rate. Moreover, the unemployment rate is not available for the federal states of Südbaden and Württemberg-Hohenzollern, so that we can not calculate the employment rate for the 39 counties located in these two states. This is why we use the labor force participation rate rather than the employment rate as our main indicator of economic integration.

### D.2 Inter-Marriage Rates

Let  $a$  be the number of marriages between non-expellee men and non-expellee women in a region,  $b$  the number of marriages between non-expellee men and expellee women,  $c$  the number of marriages between expellee men and non-expellee women, and  $d$  the number of marriages between expellee men and expellee women (see Table D1). Inter-marriage rates then compare the actual number of marriages between non-expellees and expellees, as given in Table D1, to the hypothetical number expected if the expellee status would not play any role for the choice of a spouse.

Consider marriages between non-expellee men and expellee women. The actual number of marriages between non-expellee men and expellee women is  $b$ . The expected number is given by the probability of a randomly drawn men-women pair being a non-expellee man and an expellee woman,  $(a + b)/(a + b + c + d) \times (b + d)/(a + b + c + d)$ , times the total number of marriages in the region,  $a + b + c + d$ . The intermarriage rate between non-expellee men and expellee women

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<sup>32</sup>Economically active persons are those who were in full-time employment at the time of the census or were looking for full-time employment. Part-time workers were not counted as economically active. Independent economically inactive persons were economically inactive but supported themselves through, in particular, retirement pensions or disability benefits. Dependent economically inactive persons were economically inactive and depended economically on another household member.

<sup>33</sup>The census counted all persons as unemployed who usually carried out a full-time job but did not have employment at the time of the census. This includes persons not registered as unemployed at an employment office.

Table D1: Marriage Behavior in a Region

|                  | Non-expellee women | Expellee women | Sum             |
|------------------|--------------------|----------------|-----------------|
| Non-expellee men | $a$                | $b$            | $a + b$         |
| Expellee men     | $c$                | $d$            | $c + d$         |
| Sum              | $a + c$            | $b + d$        | $a + b + c + d$ |

Notes: Each entry gives the number of marriages in a cell.

is then calculated by relating the actual to the expected number of marriages:

$$\frac{100 \times b}{\frac{a+b}{a+b+c+d} \times \frac{b+d}{a+b+c+d} \times (a+b+c+d)} = \frac{100 \times b}{\frac{(a+b) \times (b+d)}{a+b+c+d}}. \quad (\text{D.2})$$

Likewise, the intermarriage rate between expellee men and non-expellee women is:

$$\frac{100 \times c}{\frac{c+d}{a+b+c+d} \times \frac{a+c}{a+b+c+d} \times (a+b+c+d)} = \frac{100 \times c}{\frac{(c+d) \times (a+c)}{a+b+c+d}}. \quad (\text{D.3})$$

### D.3 Instrument for Religious Distance

Religious distance is measured as:

$$\begin{aligned} \text{ReligiousDistance}_{i50} = & \left[ \left( \text{share}_{i50}^{\text{cath}, \text{nat}} - \text{share}_{i50}^{\text{cath}, \text{exp}} \right)^2 + \left( \text{share}_{i50}^{\text{prot}, \text{nat}} - \text{share}_{i50}^{\text{prot}, \text{exp}} \right)^2 \right. \\ & \left. + \left( \text{share}_{i50}^{\text{other}, \text{nat}} - \text{share}_{i50}^{\text{other}, \text{exp}} \right)^2 \right]^{0.5}. \end{aligned} \quad (\text{D.4})$$

Our instrument replaces the 1950 share of expellees belonging to a certain confession with the correspondent 1946 share. Unfortunately, we do not have regional data on the religious mark-up of expellees who lived in West Germany in 1946. Instead, we use data on the origin regions of expellees and the pre-war shares of the different confessions in these origin regions. The data allow us to distinguish seven origin regions (Silesia, East Brandenburg, Pomerania, East Prussia, CSSR (Sudetenland), Poland, Danzig). Let  $\text{ExpelleeShare}_{i46}^s$  be the 1946 share of expellees from origin region  $s$  among all expellees in region  $i$  and let  $\text{share}_{39}^{s,j}$  be the 1939 share of the population in origin region  $s$  belonging to confession  $j = \{\text{cath}, \text{prot}, \text{other}\}$ . We then approximate the predicted share of expellees in region  $i$  belonging to confession  $j$  in 1946 as:

$$\text{share}_{i46}^j = \sum_s \text{ExpelleeShare}_{i46}^s \times \text{share}_{39}^{s,j}. \quad (\text{D.5})$$

In principle, non-expellees might also have moved endogenously after moving restrictions were abolished. To address this potential problem, we replace the 1950 share of natives in region  $i$  belonging to confession  $j$ ,  $\text{share}_{i50}^{j, \text{nat}}$ , by the corresponding 1939 share,  $\text{share}_{i39}^{j, \text{nat}}$ .

Our instrument is then given by

$$\begin{aligned} \text{ReligiousDistance}_{i46} = & \left[ \left( \text{share}_{i39}^{\text{cath}, \text{nat}} - \text{share}_{i46}^{\text{cath}, \text{exp}} \right)^2 + \left( \text{share}_{i39}^{\text{prot}, \text{nat}} - \text{share}_{i46}^{\text{prot}, \text{exp}} \right)^2 \right. \\ & \left. + \left( \text{share}_{i39}^{\text{other}, \text{nat}} - \text{share}_{i46}^{\text{other}, \text{exp}} \right)^2 \right]^{0.5}. \end{aligned} \quad (\text{D.6})$$



## E Time-Consistent Administrative County Borders

The administrative borders of some West German counties changed between 1939 and 1950. In order to make county borders comparable over time, we first merge counties which, at any time between 1939 and 1950, formed one county. The counties of Hildesheim and Marienburg, for instance, were separate entities in 1939, but were merged to join the new county of Hildesheim-Marienburg in 1946. Consequently, the 1946 and 1950 censuses only contain data on Hildesheim-Marienburg. We thus merge Hildesheim and Marienburg already in the 1939 census. We proceed analogously for the counties of Bremerhaven and Wesermünde; city and rural districts of Bremen; Rhein-Wupper Kreis and Leverkusen; Kreis der Eder, Kreis des Eisenberges and Kreis der Twiste; city and rural districts of Konstanz; Coburg and Rodach bei Coburg; city and rural districts of Dinkelsbühl; city and rural districts of Donauwörth, city and rural districts of Lüneburg.

In addition, there were some smaller border changes, in which municipalities were moved from one county to another. To deal with these border changes, we first compare the 1939 population of each county in its 1950 borders to the 1939 population of the same county in its 1939 borders. Since the majority of administrative borders remained unchanged between 1939 and 1950, the 1939 population figure is usually the same regardless of whether we use 1939 or 1950 borders. We do not take any action if the difference between the two population figures is less than 5%. If the difference is 5% or more, we merge the counties that exchanged municipalities. This applies to the counties of Osterholz, Verden and Bremen; Bergstraße, city and rural districts of Worms; Goslar, Wolfenbüttel and Salzgitter; Mainz, Groß-Gerau and Wiesbaden; Böblingen, Eßlingen and Stuttgart; city and rural districts of Osnabrück; city and rural districts of München; city and rural districts of Kulmbach; Lörrach and Neustadt; Norden and Emden; Braunschweig and Peine.

Finally, we drop counties that have lost or gained at least 5% of its 1939 population to regions outside West Germany, in particular to counties in the Soviet Occupation Zone. These counties include Blankenburg (Rest); Helmstedt; Birkenfeld; Zweibrücken; Saarburg; Trier; Mellrichstadt; Osterode; Lüneburg.

## F Expellee Skills Were Similar Across Regions

This section shows that skill levels of expellees were similar across regions. In particular, the skill distribution of expellees was similar in regions with high and low expellee inflows as well as in agrarian and non-agrarian regions. Since the census of 1950 did not record schooling levels, individuals' pre-war occupation or other skill measures, we instead draw on individual-level data from the German Life History Study (Deutsche Lebensverlaufsstudie, LVS).

The LVS is a retrospective survey of eight birth cohorts born between 1919 and 1971 (see ? for an overview). It collects life history data from German citizens living in West Germany or West Berlin at the time of the interview. As expellees were nationalized, they were part of the survey. We use data from the first two waves of the LVS. The first wave (LVS-1) surveys 1412 Germans born in 1919-21, and the second wave (LVS-2) surveys 1438 Germans born in 1929-31 and 1939-41. The first wave was conducted in 1985-88, the second in 1981-83. Importantly for our purposes, the LVS records the complete residential history of respondents, along with the education and occupation of respondents and their parents. We restrict the sample to expellees<sup>34</sup> who lived in West Germany in September 1950.

Table F1 reports, separately for LVS-1 and LVS-2 as well as for both waves pooled, mean values for various skill measures. To test whether skill levels are similar across regions, we split the sample at the median of our key explanatory variables: the 1950 population share of expellees and the 1939 agricultural employment share. Panel (a) compares skill levels in counties with expellee shares above the median (columns (1), (5), (9)) and below the median (columns (2), (6), (10)), and presents the differences in the means between the two groups (columns (3), (7), (11)). Panel (b) repeats the exercise but distinguishes between expellees who lived in counties with pre-war agricultural employment shares above and below the median.

We measure skills by the years of schooling of respondents (only for LVS-1) and their parents, parents' years of education including time spent in tertiary education and vocational training, and the occupational prestige score<sup>35</sup> of the respondent's father. We do not report respondents' schooling in the LVS-2, and their education and occupational trajectory in both the LVS-1 and LVS-2, as all these skill measures are potentially endogenous to the local environment in West Germany. In particular, respondents in the LVS-2 were between four and 16 years old at the end of World War II, and had thus not completed their schooling when the expulsions began.

Differences between the skills of expellees are generally small and mostly statistically insignificant.<sup>36</sup> In the LVS-1, for instance, respondents who live in high-inflow regions have only slightly lower years of schooling than expellees in low-inflow regions (8.87 versus 8.97), and the differences are reversed for their parents. In the LVS-2, the parents of respondents living in less agrarian regions appear to be somewhat higher educated than their counterparts in agrarian regions. However, these differences disappear once we pool data from the two waves (see columns (9) to (12)). Overall, these results are in line with historical accounts suggesting that expellees were not systematically allocated to specific regions according to their skills (Connor 2007).

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<sup>34</sup>We define expellees as individuals who on 1 September 1939 lived in the Eastern territories of the German Reich or in Eastern Europe.

<sup>35</sup>The prestige score is measured on the Magnitude-Prestige-Scale (MPS) (Wegener, 1985), which ranges from 20 points (unskilled laborers) to 186.8 points (medical doctors). The MPS is among the most commonly used prestige measures for Germany.

<sup>36</sup>A downside of the LVS is its relatively small sample size which may prevent us from detecting smaller cross-regional differences in expellee skills. We are not aware of any data set with a larger sample size that would allow us to identify individuals' place of residence in 1950 and their skill level.

Table F1: Skills of Expellees by Place of Residence in September 1950

|   | LVS-1<br>(Cohort 1919-21) |                    |                   |      | LVS-2<br>(Cohorts 1929-31, 1939-41) |                    |                    |      | Pooled: LVS-1/LVS-2<br>(Cohorts 1919-21, 1929-31, 1939-41) |                    |                    |      |
|---|---------------------------|--------------------|-------------------|------|-------------------------------------|--------------------|--------------------|------|--|--------------------|--------------------|------|
|   | (1)                       | (2)                | (3)               | (4)  | (5)                                 | (6)                | (7)                | (8)  | (9)  | (10)               | (11)               | (12) |
| <b>Panel (a) Expellees in high-inflow vs low-inflow regions</b> |                           |                    |                   |      |                                     |                    |                    |      |  |                    |                    |      |
|   | high inflow               | low inflow         | difference        | obs. | high inflow                         | low inflow         | difference         | obs. | high inflow  | low inflow         | difference         | obs. |
| <i>Respondent</i>   |                           |                    |                   |      |                                     |                    |                    |      |  |                    |                    |      |
| Years of schooling  | 8,866<br>(1,416)          | 8,970<br>(1,543)   | -0,104<br>[0.184] | 259  | -                                   | -                  | -                  | -    | -  | -                  | -                  | -    |
| <i>Father</i>   |                           |                    |                   |      |                                     |                    |                    |      |  |                    |                    |      |
| Years of schooling  | 8,479<br>(1,229)          | 8,298<br>(1,021)   | 0,180<br>[0.149]  | 231  | 8,618<br>(1,466)                    | 8,718<br>(1,571)   | -0,100<br>[0.230]  | 174  | 8,546<br>(1,331)   | 8,474<br>(1,303)   | 0,072<br>[0.131]   | 405  |
| Years of education  | 10,817<br>(2,202)         | 10,340<br>(1,860)  | 0,477<br>[0.293]  | 193  | 10,535<br>(2,486)                   | 10,807<br>(2,643)  | -0,272<br>[0.395]  | 169  | 10,667<br>(2,314)  | 10,571<br>(2,284)  | 0,096<br>[0.242]   | 362  |
| Prestige of occupation learned                                  | 32,128<br>(17,335)        | 34,603<br>(13,683) | -2,475<br>[1.996] | 243  | 30,012<br>(16,400)                  | 32,756<br>(17,940) | -2,744<br>[2.647]  | 169  | 31,242<br>(16,858)   | 33,699<br>(15,715) | -2,457<br>[1.608]  | 412  |
| <i>Mother</i>   |                           |                    |                   |      |                                     |                    |                    |      |  |                    |                    |      |
| Years of schooling  | 8,257<br>(0,854)          | 8,157<br>(0,540)   | 0,100<br>[0.095]  | 224  | 8,330<br>(1,061)                    | 8,402<br>(0,902)   | -0,072<br>[0.145]  | 186  | 8,297<br>(0,971)   | 8,261<br>(0,725)   | 0,035<br>[0.084]   | 410  |
| Years of education  | 8,626<br>(1,248)          | 8,559<br>(1,086)   | 0,067<br>[0.162]  | 209  | 8,816<br>(1,667)                    | 9,023<br>(1,524)   | -0,207<br>[0.241]  | 175  | 8,743<br>(1,481)   | 8,741<br>(1,301)   | 0,002<br>[0.142]   | 384  |
| <b>Panel (b) Expellees in agrarian vs non-agrarian regions</b>  |                           |                    |                   |      |                                     |                    |                    |      |  |                    |                    |      |
|   | agrarian                  | non-agrarian       | difference        | obs. | agrarian                            | non-agrarian       | difference         | obs. | agrarian   | non-agrarian       | difference         | obs. |
| <i>Respondent</i>   |                           |                    |                   |      |                                     |                    |                    |      |  |                    |                    |      |
| Years of schooling  | 8,876<br>(1,452)          | 8,969<br>(1,515)   | -0,093<br>[0.185] | 258  | -                                   | -                  | -                  | -    | -  | -                  | -                  | -    |
| <i>Father</i>   |                           |                    |                   |      |                                     |                    |                    |      |  |                    |                    |      |
| Years of schooling  | 8,391<br>(1,137)          | 8,391<br>(1,137)   | 0,000<br>[0.150]  | 230  | 8,495<br>(1,312)                    | 8,873<br>(1,712)   | -0,379<br>[0.229]  | 174  | 8,460<br>(1,254)   | 8,565<br>(1,383)   | -0,105<br>[0.131]  | 404  |
| Years of education  | 10,656<br>(2,008)         | 10,495<br>(2,087)  | 0,161<br>[0.296]  | 192  | 10,319<br>(2,361)                   | 11,077<br>(2,734)  | -0,758*<br>[0.392] | 169  | 10,527<br>(2,209)  | 10,714<br>(2,392)  | -0,187<br>[0.242]  | 361  |
| Prestige of occupation learned                                  | 32,008<br>(15,628)        | 34,779<br>(15,508) | -2,770<br>[2.002] | 242  | 30,770<br>(16,117)                  | 32,085<br>(18,365) | -1,315<br>[2.654]  | 169  | 31,168<br>(15,821)   | 34,034<br>(16,665) | -2,866*<br>[1.603] | 411  |
| <i>Mother</i>   |                           |                    |                   |      |                                     |                    |                    |      |  |                    |                    |      |
| Years of schooling  | 8,171<br>(0,672)          | 8,241<br>(0,750)   | -0,070<br>[0.095] | 223  | 8,247<br>(0,913)                    | 8,494<br>(1,046)   | -0,247*<br>[0.144] | 186  | 8,230<br>(0,858)   | 8,330<br>(0,839)   | -0,100<br>[0.084]  | 409  |
| Years of education  | 8,528<br>(1,053)          | 8,667<br>(1,285)   | -0,138<br>[0.163] | 208  | 8,793<br>(1,661)                    | 9,060<br>(1,517)   | -0,267<br>[0.241]  | 175  | 8,665<br>(1,405)   | 8,831<br>(1,370)   | -0,166<br>[0.142]  | 383  |

*Notes:* The table compares the skills of expellees who in September 1950 lived in regions with expellees shares above and below the sample mean (Panel (a)) and the skills of expellees who lived in regions with pre-war agricultural employment shares above and below the median. Standard deviations are in parentheses, standard errors in squared brackets. \* denotes statistical significance at the 10%-level.

## G Expellee Demographics Were Similar Across Regions

This section shows that the sex and age composition of expellees were similar in regions with high and low expellee inflows as well as in agrarian and non-agrarian regions. Unfortunately, the census of 1950 did not report the age and sex composition of expellees at the county-level, but only at the more aggregated district level. Assigning district level values to counties, Table G1 compares average demographic characteristics of expellees in counties with expellee shares above and below the median (columns (1) and (2)) and in counties with 1939 agricultural employment shares above and below the median (columns (3) and (4)). While differences do exist, they are generally small. The share of expellees aged 18 to 65 (25 to 65), for instance, is 62.4% (51.6%) in more agrarian regions and 63.7% (52.0%) in less agrarian regions. Likewise, the share of females is slightly higher in more agrarian than in less agrarian regions (53.0% vs. 52.3%). Differences between high and low-inflow regions are of similar magnitude.

Table G1: Gender and Age Composition of Expellees by Place of Residence in September 1950

|                                     | Expellee share 1950 |                  | Agricultural employment |                  |
|-------------------------------------|---------------------|------------------|-------------------------|------------------|
|                                     | above median        | below median     | above median            | below median     |
|                                     | (1)                 | (2)              | (3)                     | (4)              |
| Share females among expellees       | 0.535<br>(0.009)    | 0.518<br>(0.015) | 0.530<br>(0.013)        | 0.523<br>(0.016) |
| Age structure of expellees (shares) |                     |                  |                         |                  |
| aged 0-17                           | 0.298<br>(0.018)    | 0.299<br>(0.023) | 0.303<br>(0.020)        | 0.294<br>(0.020) |
| aged 18-65                          | 0.625<br>(0.019)    | 0.637<br>(0.021) | 0.624<br>(0.018)        | 0.637<br>(0.021) |
| aged 18-25                          | 0.107<br>(0.007)    | 0.119<br>(0.015) | 0.109<br>(0.010)        | 0.117<br>(0.014) |
| aged 25-45                          | 0.293<br>(0.015)    | 0.313<br>(0.020) | 0.298<br>(0.019)        | 0.308<br>(0.021) |
| aged 45-65                          | 0.225<br>(0.009)    | 0.205<br>(0.017) | 0.218<br>(0.016)        | 0.213<br>(0.017) |
| aged 65 and above                   | 0.078<br>(0.006)    | 0.064<br>(0.013) | 0.073<br>(0.012)        | 0.069<br>(0.012) |
| Observations                        | 263                 | 263              | 263                     | 263              |

*Notes:* The table shows the mean of each variable. Standard deviations are reported in brackets. Columns (1) and (2) show the mean and standard deviations for counties in which the expellee share in 1950 is above and below the median. Columns (3) and (4) show summary statistics for counties in which the agricultural employment share in 1939 is above and below the median. Variables are measured at the level of districts (*Regierungsbezirke*), i.e., each county is assigned the value of the district it is located in.

## H Approximating the BP Vote Share among Natives

Let  $VotesBP_i^j$  be the number of votes that the *Bayernpartei* (BP) received in county  $i$  from group  $j$ , where we distinguish between natives ( $j = nat$ ), expellees ( $j = exp$ ) and the total population ( $j = pop$ ) (with  $VotesBP_i^{nat} + VotesBP_i^{exp} = VotesBP_i^{pop}$ ). Likewise,  $VotesAll_i^j$  denotes the total number of votes recorded from group  $j$  in county  $i$ . Assume that no expellee voted for the BP and its anti-expellee rhetoric. We can then write the BP vote share in county  $i$  as the BP vote share among natives multiplied by the share of votes from natives among all votes, i.e.:

$$\frac{VotesBP_i^{pop}}{VotesAll_i^{pop}} = \frac{VotesBP_i^{nat}}{VotesAll_i^{nat}} \times \frac{VotesAll_i^{nat}}{VotesAll_i^{pop}}. \quad (\text{H.7})$$

Rearranging yields:

$$\frac{VotesBP_i^{nat}}{VotesAll_i^{nat}} = \frac{VotesBP_i^{pop}}{VotesAll_i^{pop}} \times \frac{1}{\frac{VotesAll_i^{nat}}{VotesAll_i^{pop}}} \quad (\text{H.8})$$

$$\approx \frac{VotesBP_i^{pop}}{VotesAll_i^{pop}} \times \frac{1}{1 - ExpelleeShare_{i50}} \quad (\text{H.9})$$

Equation (H.8) shows that we can derive the BP vote share among native voters by dividing the BP vote share in the total population by the share of votes from natives among all votes. As the latter term is not observable in our data, we approximate it with the share of natives in the population (or by one minus the expellee share).

Approximating the vote share by the population share of natives seems sensible for several reasons. First, the age composition of natives and expellees were similar (see Table B1) and thus also the share of eligible voters in both groups. Second, natives and expellees were also similar in their socio-demographic characteristics (see again Table B1). This should limit systematic differences in voter turnout between the two groups. Third, even in local elections, voter turnout was high at the time, with little regional variation. Across Bavarian counties, for instance, the mean participation rate in the state elections of 1950 was 82.4% with a standard deviation of 4.4%. This should again limit the extent of potential differences between the vote and population share of natives.

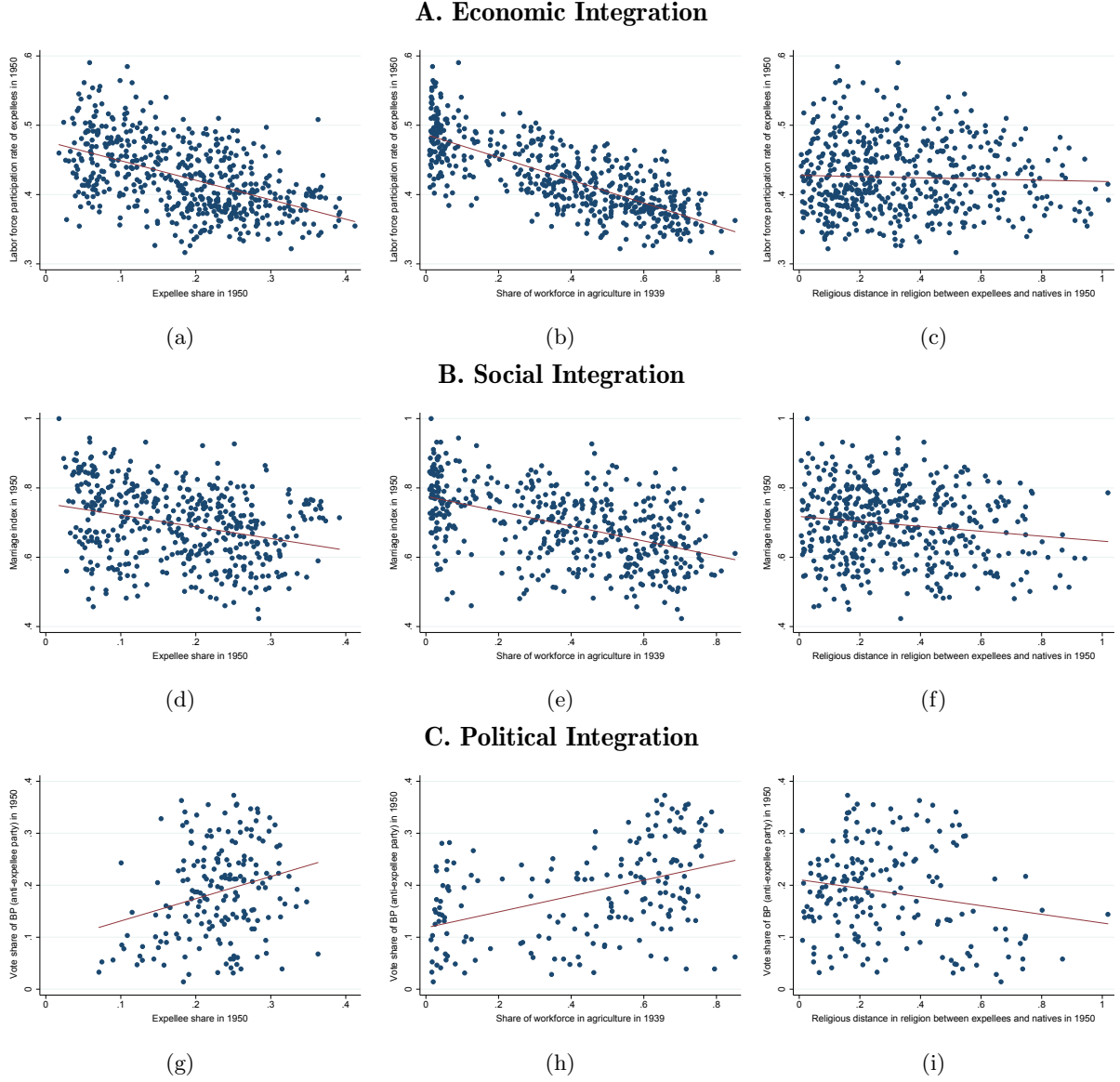
Consistent with our arguments above, we do not find a statistically significant association between the county-level expellee share and voter turnout in the 1950 Bavarian state elections (as we would expect if, for instance, participation differed greatly between the two groups).<sup>37</sup> Overall, we thus expect our measure in (H.9) to reasonably well approximate the BP vote share among natives. Our measure will under-estimate (over-estimate) the actual BP vote share among natives if the share of natives is lower (higher) among voters than among the population at large.

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<sup>37</sup>Regressing voter turnout on our main explanatory variables yields a coefficient on the 1950 expellee share of 10.667 with a standard error of 11.847. The coefficient implies that a one standard deviation increase in the expellee share (s.d. 0.054) increases voter turnout by 0.58 percentage points (relative to a mean of 82.4%). The effect would thus be small even if it were statistically significant.

## I Additional Descriptives

Figure I1: Raw Correlations of Main Variables of Interest with Various Integration Measures



*Notes:* The scatter plots show the correlations between our main variables of interest and measures of integration. Panels (a)-(c) focus on economic integration, as measured by the labor-force-to-population rate of expellees in 1950. Panels (d)-(f) focus on social integration, as measured by the inter-marriage rates of expellees and native West Germans. Panels (g)-(i) focus on political integration, as measured by the vote share of the *Bayernpartei* (BP).

## J Additional Regression Results

### J.1 Expellee inflows are uncorrelated with pre-war economic conditions

We provide evidence that expellee inflows are uncorrelated with pre-war economic prospects, once we control for our set of covariates. Table J1 shows the results of regressing various pre-treatment indicators of the economic situation on the expellee share in 1950 and our standard set of control variables.

County-level GDP data is not available before 1957. Following common practice in economic history,<sup>38</sup> we instead use population growth in 1871–1939, 1910–1939, and 1925–1939 as our main proxy for economic growth. We use turnover per worker in the labor force (first suggested by Vonyò 2012), and the self-employment rate, which generally correlates negatively with economic development (see, e.g., Henrekson and Sanandaji (2014)), as alternative proxies. In all regressions the coefficient on the expellee share in 1950 is statistically insignificant. Taken together, the regressions support our identifying assumption that a county’s expellee share is uncorrelated with its (pre-war) economic situation.

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<sup>38</sup>See, e.g., Cantoni (2015) and Hornung (2015) for applications in the German context.

Table J1: Expellee Share and the Pre-Treatment Economic Situation

| Dependent variable:   | annual population growth |                      |                      |                      |                      |                      | turnover per worker 1939 |                      | self-employment rate 1939 |                      |
|---|--------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------------------|----------------------|---------------------------|----------------------|
|   | 1871-1939                |                      | 1910-1939            |                      | 1925-1939            |                      |                          |                      |                           |                      |
|   | (1)                      | (2)                  | (3)                  | (4)                  | (5)                  | (6)                  | (7)                      | (8)                  | (9)                       | (10)                 |
| Expellee share 1950   | -0.015<br>(0.014)        | -0.025<br>(0.033)    | 0.000<br>(0.005)     | -0.003<br>(0.008)    | 0.009<br>(0.009)     | -0.006<br>(0.011)    | -0.255<br>(1.906)        | 0.725<br>(3.186)     | -0.029<br>(0.019)         | -0.012<br>(0.027)    |
| Agricultural employment share 1939                                      | -0.070***<br>(0.015)     | -0.021***<br>(0.006) | -0.026***<br>(0.005) | -0.012***<br>(0.003) | -0.038***<br>(0.008) | -0.020***<br>(0.004) | -7.152***<br>(1.646)     | -2.569***<br>(0.679) | 0.197***<br>(0.015)       | 0.214***<br>(0.010)  |
| Religious distance 1950   | -0.018***<br>(0.006)     | -0.016**<br>(0.008)  | -0.002<br>(0.002)    | 0.001<br>(0.002)     | -0.000<br>(0.003)    | 0.006***<br>(0.002)  | -0.578<br>(0.510)        | -0.510<br>(0.648)    | -0.001<br>(0.008)         | 0.007<br>(0.006)     |
| Population share living in cities with at least 10,000 inhabitants 1939 | 0.010<br>(0.010)         | 0.036***<br>(0.009)  | -0.006*<br>(0.003)   | 0.003<br>(0.002)     | -0.016***<br>(0.005) | -0.002<br>(0.002)    | -0.853<br>(1.112)        | 2.033***<br>(0.611)  | -0.009<br>(0.009)         | 0.012**<br>(0.006)   |
| Rubble per capita 1939  | 0.040<br>(0.255)         | -0.288<br>(0.221)    | -0.062<br>(0.049)    | -0.176***<br>(0.062) | -0.020<br>(0.083)    | -0.259***<br>(0.059) | 114.413**<br>(49.068)    | 82.697*<br>(42.621)  | 0.377*<br>(0.215)         | 0.254<br>(0.218)     |
| Distance to inner German border is smaller than 75 km (0/1)             | 0.004<br>(0.003)         | -0.002<br>(0.002)    | 0.002*<br>(0.001)    | -0.000<br>(0.001)    | 0.005***<br>(0.001)  | 0.001<br>(0.001)     | 0.206<br>(0.387)         | -0.198<br>(0.318)    | -0.007*<br>(0.004)        | -0.011***<br>(0.003) |
| Majority is Catholic in 1939 (0/1)                                      | 0.010*<br>(0.005)        | 0.009<br>(0.006)     | 0.004***<br>(0.001)  | 0.004***<br>(0.001)  | 0.002<br>(0.001)     | 0.003**<br>(0.001)   | -0.083<br>(0.470)        | 0.321<br>(0.447)     | -0.005<br>(0.004)         | -0.003<br>(0.003)    |
| $R^2$   | 0.430                    | 0.497                | 0.271                | 0.397                | 0.299                | 0.473                | 0.571                    | 0.636                | 0.831                     | 0.877                |
| State dummies   | no                       | yes                  | no                   | yes                  | no                   | yes                  | no                       | yes                  | no                        | yes                  |
| Number of observations  | 526                      | 526                  | 526                  | 526                  | 482                  | 482                  | 487                      | 487                  | 526                       | 526                  |

*Notes:* The table provides supportive evidence for our identifying assumption that expellee share is uncorrelated with economic prospects. In columns (1) to (6) the dependent variable is the annual population growth rate in various time periods. In columns (7) and (8) the dependent variable is turnover per worker in 1939 and in columns (9) and (10) the self-employment rate in 1939. All regressions include our standard set of explanatory variables. Columns (2), (4), (6), (8) and (10) includes dummies for each of the nine West German states. Regressions are weighted with population in 1939. Standard errors clustered at the labor market region level are in parentheses.



## J.2 First Stage Results

Table J2: Forced Migration and Labor Force Participation: First Stage Results

|   | (1)                  | (2)                  |
|---|----------------------|----------------------|
| <b>Dependent variable: Expellee share 1950</b>                          |                      |                      |
| Expellee share 1946   | 0.879***<br>(0.017)  | 0.895***<br>(0.027)  |
| Agricultural employment share 1939                                      | -0.001<br>(0.008)    | -0.025***<br>(0.009) |
| Predicted religious distance 1939/1946                                  | -0.002<br>(0.003)    | -0.004<br>(0.004)    |
| Population share living in cities with at least 10,000 inhabitants 1939 | 0.006<br>(0.005)     | -0.007<br>(0.005)    |
| Rubble per capita 1946  | -0.570***<br>(0.165) | -0.362**<br>(0.150)  |
| Distance to inner German border is smaller than 75 km (0/1)             | 0.007**<br>(0.003)   | 0.006*<br>(0.003)    |
| Majority is Catholic in 1939 (0/1)                                      | -0.001<br>(0.002)    | -0.001<br>(0.002)    |
| <b>Dependent variable: Religious distance 1950</b>                      |                      |                      |
| Expellee share 1946   | 0.044<br>(0.076)     | 0.104<br>(0.157)     |
| Agricultural employment share 1939                                      | -0.111**<br>(0.044)  | -0.082*<br>(0.043)   |
| Predicted religious distance 1939/1946                                  | 0.776***<br>(0.030)  | 0.767***<br>(0.032)  |
| Population share living in cities with at least 10,000 inhabitants 1939 | -0.022<br>(0.015)    | -0.005<br>(0.022)    |
| Rubble per capita 1946  | -1.354*<br>(0.694)   | -1.237*<br>(0.729)   |
| Distance to inner German border is smaller than 75 km (0/1)             | -0.027*<br>(0.014)   | -0.021<br>(0.014)    |
| Majority is Catholic in 1939 (0/1)                                      | 0.062***<br>(0.013)  | 0.053***<br>(0.015)  |
| State dummies   | no                   | yes                  |
| Number of observations  | 526                  | 526                  |

*Notes:* The table presents the first stage regression results pertaining to Table 1, columns (4) and (5) as well as to Table 2, columns (4) and (5). The first stage regressions use the expellee share in 1946 and the predicted population-weighted religious distance as instrument for the expellee share 1950 and the religious distance 1950, respectively. Column (2) includes dummies for each of the nine West German states. Regressions are weighted with population in 1939. \*\*\*, \*\* and \* denote statistical significance at the 1%-, 5%- and 10%-level, respectively. Standard errors clustered at the labor market region level are in parentheses.

### J.3 Robustness Checks

Table J3: Economic Integration: Robustness Checks

| Dependent variable: labor force participation rate 1950                   | calculated over overall population |                      |   |                      |                                       |                      |  |                      | calculated over population of working age |                      |
|---|------------------------------------|----------------------|---|----------------------|---------------------------------------|----------------------|--|----------------------|---|----------------------|
|   | unweighted                         |                      | weighted with share of expellees over all West German expellees |                      | with alternative measure for damage I |                      | with alternative measure for damage II |                      |   |                      |
|   | IV<br>(1)                          | IV<br>(2)            | IV<br>(3)   | IV<br>(4)            | IV<br>(5)                             | IV<br>(6)            | IV<br>(7)                              | IV<br>(8)            | IV<br>(9)                                 | IV<br>(10)           |
| Expellee share 1950   | -0.142***<br>(0.029)               | -0.164***<br>(0.047) | -0.201***<br>(0.034)  | -0.171***<br>(0.056) | -0.174***<br>(0.041)                  | -0.211***<br>(0.058) | -0.206***<br>(0.038)                   | -0.241***<br>(0.069) | -0.232***<br>(0.049)                      | -0.377***<br>(0.081) |
| Agricultural employment share 1939  | -0.134***<br>(0.012)               | -0.131***<br>(0.011) | -0.148***<br>(0.015)  | -0.151***<br>(0.013) | -0.178***<br>(0.018)                  | -0.143***<br>(0.016) | -0.192***<br>(0.028)                   | -0.138***<br>(0.017) | -0.153***<br>(0.027)                      | -0.198***<br>(0.024) |
| Religious distance 1950   | 0.011<br>(0.010)                   | 0.003<br>(0.009)     | 0.007<br>(0.015)  | -0.009<br>(0.010)    | 0.005<br>(0.015)                      | 0.001<br>(0.010)     | 0.004<br>(0.016)                       | 0.001<br>(0.011)     | 0.004<br>(0.022)                          | 0.009<br>(0.015)     |
| Population share living in cities with at least 10,000 inhabitants 1939   | 0.004<br>(0.007)                   | 0.005<br>(0.007)     | -0.014<br>(0.009)   | -0.006<br>(0.007)    | -0.023*<br>(0.012)                    | 0.003<br>(0.009)     | -0.015<br>(0.016)                      | 0.009<br>(0.009)     | 0.036***<br>(0.010)                       | 0.018<br>(0.012)     |
| Rubble per capita 1939  | 0.338<br>(0.402)                   | 0.394<br>(0.331)     | 1.055**<br>(0.458)  | 1.017**<br>(0.395)   |                                       |                      |  |                      | 0.206<br>(0.480)                          | 0.499<br>(0.440)     |
| Distance to inner German border is smaller than 75 km (0/1)               | 0.001<br>(0.005)                   | 0.003<br>(0.004)     | 0.002<br>(0.006)  | 0.004<br>(0.005)     | 0.002<br>(0.008)                      | -0.000<br>(0.007)    | 0.008<br>(0.008)                       | 0.001<br>(0.007)     | 0.014<br>(0.011)                          | 0.008<br>(0.009)     |
| Majority is Catholic in 1939 (0/1)  | 0.003<br>(0.004)                   | -0.008**<br>(0.003)  | 0.002<br>(0.007)  | -0.010**<br>(0.004)  | 0.001<br>(0.007)                      | -0.007<br>(0.005)    | -0.000<br>(0.008)                      | -0.007<br>(0.005)    | -0.003<br>(0.012)                         | -0.013*<br>(0.007)   |
| Loss in housing space, 3 categories<br>[reference category: minor losses] |                                    |                      |   |                      | -0.007<br>(0.005)                     | -0.004<br>(0.005)    |  |                      |   |                      |
| substantial losses  |                                    |                      |   |                      |                                       |                      |  |                      |   |                      |
| very substantial losses   |                                    |                      |   |                      | 0.024***<br>(0.009)                   | 0.017**<br>(0.008)   |  |                      |   |                      |
| Damaged dwellings 1945  |                                    |                      |   |                      |                                       |                      | 0.000<br>(0.016)                       | 0.014<br>(0.017)     |   |                      |
| Weak identification test (Cragg-Donald Wald F statistic)                  | 1103.24                            | 711.82               | 1127.86   | 887.69               | 1013.82                               | 741.59               | 1015.21                                | 743.20               | 1027.51                                   | 759.96               |
| Shea's Partial $R^2$ : expellee share 1946                                | 0.890                              | 0.754                | 0.878   | 0.821                | 0.916                                 | 0.808                | 0.910                                  | 0.800                | 0.920                                     | 0.842                |
| Shea's Partial $R^2$ : predicted religious distance                       | 0.814                              | 0.778                | 0.820   | 0.788                | 0.797                                 | 0.749                | 0.797                                  | 0.749                | 0.799                                     | 0.751                |
| State dummies   | no                                 | yes                  | no  | yes                  | no                                    | yes                  | no                                     | yes                  | no  | yes                  |
| Number of observations  | 526                                | 526                  | 526   | 526                  | 526                                   | 526                  | 526                                    | 526                  | 526                                       | 526                  |

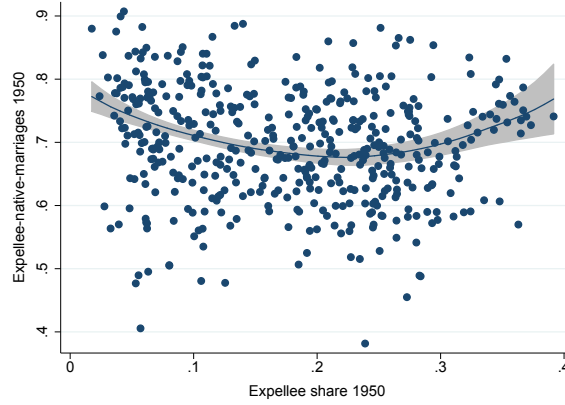
*Notes:* The dependent variable in columns (1) to (8) is the labor force participation rate of expellees in 1950 calculated over the overall population. The dependent variable in columns (9) and (10) is the labor force participation rate of expellees in 1950 calculated over the population of working age (aged 18 to 65 years). All regressions are IV regressions using the expellee share in 1946 and the predicted population-weighted religious distance as instrument for the expellee share 1950 and the religious distance 1950, respectively. Columns (2), (4), (6), (8) and (10) include dummies for each of the nine West German states. Regressions in columns (3) and (4) are weighted with the county's share of expellees over all West German expellees; regressions in columns (5) to (10) are weighted with population in 1939. \*\*\*, \*\* and \* denote statistical significance at the 1%-, 5%- and 10%-level, respectively. Standard errors clustered at the labor market region level are in parentheses. The weak identification test refers to the Cragg-Donald  $F$  statistic; critical values from Stock and Yogo (2005) suggest the instruments to be strong.

Table J4: Social Integration: Robustness Checks

|  | unweighted           |                      | weighted with share of<br>expellees over all West |                      | with alternative<br>measure for damage I |                      | with alternative<br>measure for damage II |                      |
|--|----------------------|----------------------|---|----------------------|--|----------------------|---|----------------------|
|  | IV                   | IV                   | IV  | IV                   | IV                                       | IV                   | IV  | IV                   |
|  | (1)                  | (2)                  | (3)   | (4)                  | (5)                                      | (6)                  | (7)                                       | (8)                  |
| Expellee share 1950  | -0.219***<br>(0.074) | -0.360***<br>(0.096) | -0.232**<br>(0.096)                               | -0.166<br>(0.110)    | -0.443***<br>(0.103)                     | -0.410***<br>(0.132) | -0.306***<br>(0.103)                      | -0.328***<br>(0.124) |
| Agricultural employment share 1939   | -0.125***<br>(0.031) | -0.094***<br>(0.029) | -0.111***<br>(0.042)                              | -0.116***<br>(0.027) | -0.011<br>(0.050)                        | -0.067**<br>(0.030)  | 0.016<br>(0.058)                          | -0.062**<br>(0.029)  |
| Religious distance 1950  | -0.038<br>(0.031)    | -0.036*<br>(0.020)   | -0.094*<br>(0.050)                                | -0.060***<br>(0.022) | -0.073*<br>(0.043)                       | -0.060**<br>(0.025)  | -0.083*<br>(0.044)                        | -0.064***<br>(0.024) |
| Population share living in cities with at least 10,000<br>inhabitants 1939 | 0.027<br>(0.018)     | 0.009<br>(0.016)     | 0.020<br>(0.027)                                  | -0.011<br>(0.016)    | 0.063**<br>(0.030)                       | -0.006<br>(0.017)    | 0.022<br>(0.034)                          | -0.015<br>(0.017)    |
| Rubble per capita 1939   | 0.973<br>(0.671)     | 0.728<br>(0.481)     | 0.053<br>(0.862)                                  | 0.774<br>(0.512)     |  |                      |   |                      |
| Distance to inner German border is smaller than<br>75 km (0/1)             | 0.065***<br>(0.011)  | 0.055***<br>(0.010)  | 0.059***<br>(0.017)                               | 0.047***<br>(0.014)  | 0.041**<br>(0.020)                       | 0.053***<br>(0.017)  | 0.026<br>(0.022)                          | 0.050***<br>(0.017)  |
| Majority is Catholic in 1939 (0/1)   | -0.026**<br>(0.011)  | -0.042***<br>(0.010) | -0.027*<br>(0.014)                                | -0.043***<br>(0.009) | -0.012<br>(0.016)                        | -0.030***<br>(0.009) | -0.018<br>(0.016)                         | -0.034***<br>(0.009) |
| Loss in housing space, 3 categories<br>[reference category: minor losses]  |                      |                      |   |                      |  |                      |   |                      |
| substantial losses   |                      |                      |   |                      | 0.044***<br>(0.016)                      | 0.015<br>(0.011)     |   |                      |
| very substantial losses  |                      |                      |   |                      | 0.009<br>(0.019)                         | 0.023*<br>(0.013)    |   |                      |
| Damaged dwellings 1945   |                      |                      |   |                      |  |                      | 0.159***<br>(0.037)                       | 0.085***<br>(0.029)  |
| Weak identification test (Cragg-Donald Wald F statistic)                   | 790.79               | 560.84               | 827.65  | 704.18               | 707.19                                   | 557.36               | 706.44                                    | 562.95               |
| Shea's Partial $R^2$ : expellee share 1946                                 | 0.889                | 0.745                | 0.895   | 0.832                | 0.914                                    | 0.815                | 0.902                                     | 0.807                |
| Shea's Partial $R^2$ : predicted religious distance                        | 0.780                | 0.755                | 0.787   | 0.766                | 0.759                                    | 0.721                | 0.758                                     | 0.721                |
| State dummies  | no                   | yes                  | no  | yes                  | no                                       | yes                  | no  | yes                  |
| Number of observations   | 458                  | 458                  | 458   | 458                  | 458                                      | 458                  | 458                                       | 458                  |

*Notes:* In all columns, the dependent variable is an index measuring expellee-native-marriages in 1950. All regressions are IV regressions which use the expellee share in 1946 and the predicted population-weighted religious distance as instrument for the expellee share 1950 and the religious distance 1950, respectively. Columns (2), (4), (6) and (8) include dummies for each of the nine West German states. Regressions in columns (3) and (4) are weighted with the county's share of expellees over all West German expellees; regressions in columns (5) to (8) are weighted with population in 1939. \*\*\*, \*\* and \* denote statistical significance at the 1%-, 5%- and 10%-level, respectively. Standard errors clustered at the labor market region level are in parentheses. The weak identification test refers to the Cragg-Donald  $F$  statistic; critical values from Stock and Yogo (2005) suggest the instruments to be strong.

Figure J1: Effect of Expellee Share on Marriage Behavior: Semi-Parametric Estimates



*Notes:* The figure shows results from Robinson’s double residual semi-parametric regression estimator (Robinson 1988) with our usual set of control variables. The dependent variable is an index for marriages between expellee and native in 1950. The expellee share is allowed to affect the marriage index nonlinearly using an Epanechnikov kernel. The expellee share is considered endogenous. We use the expellee share in 1946 as an instrument for the expellee share in 1950. The confidence interval shown is based on standard errors clustered at the labor market region level.

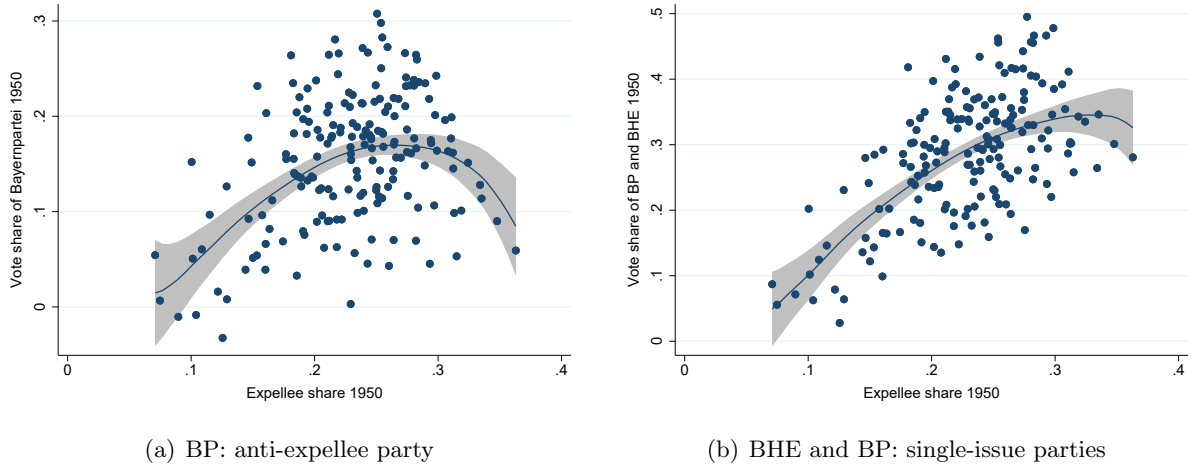
#### J.4 Semi-Parametric Estimates for Social and Political Integration

This sub-section explores potential nonlinearities in the effect of the expellee share on marriage and voting behavior. Figure J1 presents the results from a semi-parametric IV regression of inter-marriages rates between expellees and natives on the expellee share; estimates from a semi-parametric OLS regression look very similar. The figure reveals a negative effect of the expellee share on inter-marriage rates, which is diminishing in the expellee share. Intermarriage rates are close to 80 for counties with small expellee inflows; expellees in these counties may simply had to marry a native for want of other expellees at marriageable age. The mean expellee share of 17.8% in our marriage estimation sample implies an intermarriage rate of below 70. For expellee shares of about 30% and larger, inter-marriage rates increase again in the expellee share. This finding is consistent with the notion that a relatively equal mix of newcomers and natives fosters inter-group contact and strengthens the incentives to integrate (Bazzi et al. 2019).<sup>39</sup> We caution, however, that the increasing part of the relationship is estimated with relatively large standard errors.

Figure J2 reveal a hump-shaped effect of the expellee share on our vote shares of interest (see Figure J2). Results from semi-parametric OLS regressions look very similar. Both the vote share of the anti-expellee party and the overall vote share of single-issue parties increase in the expellee share up to an expellee share of 0.25; for larger expellee shares, the estimated vote share of BP decreases again. This finding can again be couched in the notion that a sufficiently large share of expellees fosters intergroup contact, which may promote integration (Bazzi et al. 2019) and reduce misperceptions about the characteristics of immigrants (?).

<sup>39</sup>Bazzi et al. (2019) demonstrate that diversity has an inverse U-shaped effect on the integration of diverse group in Indonesia, as reflected in language use and intergroup marriage. Integration is weak in areas with a clear majority, but strong in areas with an equal mix of groups.

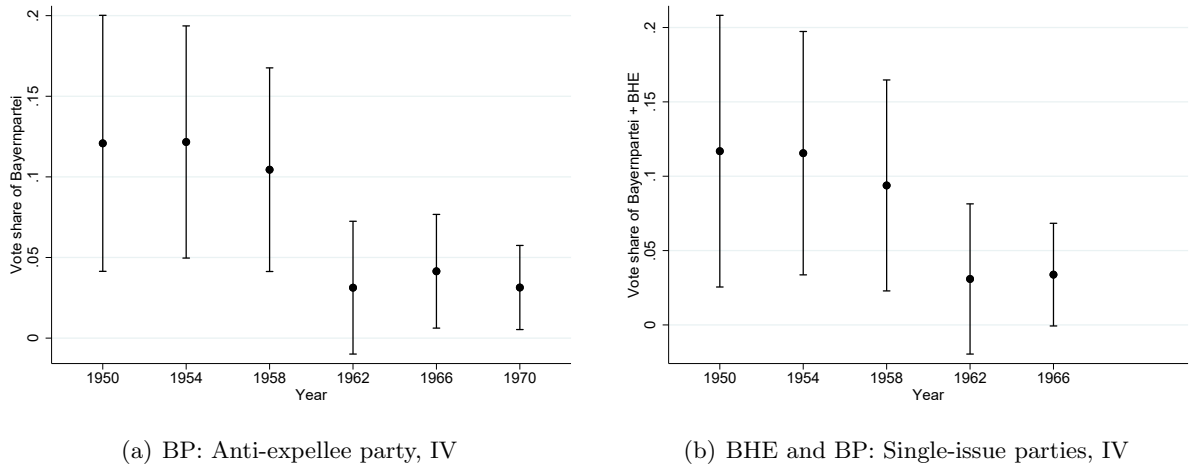
Figure J2: Effect of Expellee Share on Voting Behavior: Semi-Parametric Estimates



*Notes:* The figure shows results from Robinson's double residual semi-parametric regression estimator (Robinson 1988) with our usual set of control variables. The dependent variable in Panel (a) is the vote share of BP (anti-expellee party) in 1950; the dependent variable in Panel (b) is the vote share of BP and BHE (single-issue parties). The expellee share is allowed to affect the vote share nonlinearly using an Epanechnikov kernel. The expellee share is considered endogenous. We use the expellee share in 1946 as an instrument for the expellee share in 1950. The confidence intervals shown are based on standard errors clustered at the labor market region level.

## J.5 Political Integration: Dynamics

Figure J3: Effect of Religious Distance on Voting Behavior: Dynamics



*Notes:* All panels show the dynamics in the effect of the religious distance on voting behavior with 95% confidence intervals. In Panel (a) the dependent variable is the vote share of BP (anti-expellee party). In Panel (b) the dependent variable is the vote share of BP + BHE/GDP (single-issue parties). Both panels display estimates from IV regressions, which follow the specification in Table 3, columns (3) and (7). In 1966 (1970), BP did no longer run for office in 23 (26) out of 186 districts; in these districts the vote share of BP is set to 0. There are no estimates for the vote share of BP + BHE/GDP in 1970 as the BHE/GDP did no longer stand for election in 1970. The full set of results is displayed in Appendix Tables J5 and J6.

Table J5: Political Integration: Dynamics of Forced Migration and Voting Behavior for Anti-Expellee Party

| Dependent variable: vote share of                                       | Bayernpartei (anti-expellee party) |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|---|------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|   | in 1954                            |                      | in 1958              |                      | in 1962              |                      | in 1966              |                      | in 1970              |                      |
|   | OLS                                | IV                   | OLS                  | IV                   | OLS                  | IV                   | OLS                  | IV                   | OLS                  | IV                   |
|   | (1)                                | (2)                  | (3)                  | (4)                  | (5)                  | (6)                  | (7)                  | (8)                  | (9)                  | (10)                 |
| Expellee share 1950   | 0.489***<br>(0.100)                | 0.562***<br>(0.108)  | 0.297***<br>(0.086)  | 0.365***<br>(0.092)  | 0.228***<br>(0.055)  | 0.226***<br>(0.064)  | 0.121**<br>(0.051)   | 0.112*<br>(0.059)    | 0.018<br>(0.026)     | 0.035*<br>(0.021)    |
| Agricultural employment share 1939                                      | 0.024<br>(0.032)                   | 0.017<br>(0.032)     | 0.047*<br>(0.028)    | 0.042<br>(0.027)     | 0.036*<br>(0.021)    | 0.037*<br>(0.021)    | 0.004<br>(0.018)     | 0.005<br>(0.018)     | 0.006<br>(0.007)     | 0.004<br>(0.006)     |
| Religious distance 1950   | 0.119***<br>(0.034)                | 0.122***<br>(0.037)  | 0.111***<br>(0.031)  | 0.104***<br>(0.032)  | 0.037*<br>(0.020)    | 0.031<br>(0.021)     | 0.043**<br>(0.016)   | 0.041**<br>(0.018)   | 0.028***<br>(0.009)  | 0.031**<br>(0.013)   |
| Population share living in cities with at least 10,000 inhabitants 1939 | 0.012<br>(0.019)                   | 0.013<br>(0.018)     | 0.018<br>(0.015)     | 0.020<br>(0.014)     | 0.008<br>(0.010)     | 0.009<br>(0.010)     | -0.001<br>(0.008)    | -0.001<br>(0.008)    | -0.001<br>(0.004)    | -0.001<br>(0.004)    |
| Rubble per capita 1939  | 1.773<br>(1.145)                   | 2.101*<br>(1.228)    | 1.671*<br>(0.910)    | 1.894**<br>(0.954)   | 1.271***<br>(0.406)  | 1.204***<br>(0.410)  | 0.563*<br>(0.303)    | 0.519<br>(0.326)     | 0.294<br>(0.183)     | 0.390<br>(0.246)     |
| Distance to inner German border is smaller than 75 km (0/1)             | -0.053***<br>(0.010)               | -0.052***<br>(0.010) | -0.043***<br>(0.008) | -0.043***<br>(0.008) | -0.031***<br>(0.005) | -0.032***<br>(0.005) | -0.030***<br>(0.004) | -0.030***<br>(0.004) | -0.014***<br>(0.002) | -0.013***<br>(0.002) |
| Majority is Catholic in 1939 (0/1)                                      | 0.117***<br>(0.018)                | 0.120***<br>(0.020)  | 0.093***<br>(0.015)  | 0.092***<br>(0.015)  | 0.051***<br>(0.008)  | 0.049***<br>(0.009)  | 0.047***<br>(0.006)  | 0.047***<br>(0.007)  | 0.017***<br>(0.004)  | 0.019***<br>(0.006)  |
| $R^2$   | 0.529                              | .                    | 0.427                | .                    | 0.360                | .                    | 0.325                | .                    | 0.218                | .                    |
| Weak identification test (Cragg-Donald Wald F statistic)                | 250.45                             |                      | 250.45               |                      | 250.45               |                      | 250.45               |                      | 250.45               |                      |
| Shea's Partial $R^2$ : expellee share 1946                              | 0.754                              |                      | 0.754                |                      | 0.754                |                      | 0.754                |                      | 0.754                |                      |
| Shea's Partial $R^2$ : predicted religious distance                     | 0.775                              |                      | 0.775                |                      | 0.775                |                      | 0.775                |                      | 0.775                |                      |
| Number of observations  | 186                                | 186                  | 186                  | 186                  | 186                  | 186                  | 186                  | 186                  | 186                  | 186                  |

*Notes:* The IV regressions in columns (2), (4), (6), (8) and (10) use the expellee share in 1946 and the predicted population-weighted religious distance as instrument for the expellee share 1950 and the religious distance 1950, respectively. In 1966 (1970), Bayernpartei did no longer run for office in 23 (26) out of 186 districts; in these districts the vote share of BP is set to 0. Regressions are weighted with population in 1939. \*\*\*, \*\* and \* denote statistical significance at the 1%-, 5%- and 10%-level, respectively. Robust standard errors are in parentheses. The weak identification test refers to the Cragg-Donald  $F$  statistic; critical values from Stock and Yogo (2005) suggest the instruments to be strong.

Table J6: Political Integration: Dynamics of Forced Migration and Voting Behavior for Single-issue Parties

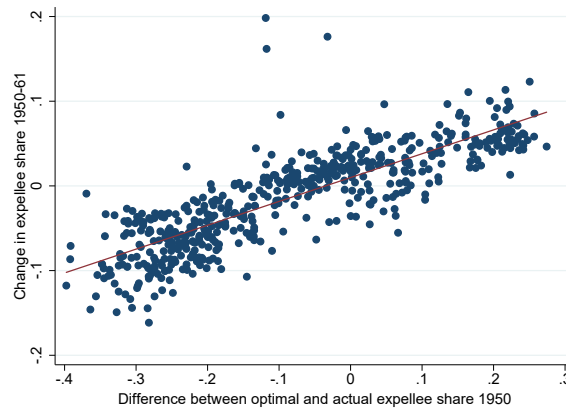
| Dependent variable: vote share of                                       | Bayernpartei + BHE/GDP (special interest parties) |                      |                      |                      |                      |                      |                      |                      |
|---|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|   | in 1954   |                      | in 1958              |                      | in 1962              |                      | in 1966              |                      |
|   | OLS   | IV                   | OLS                  | IV                   | OLS                  | IV                   | OLS                  | IV                   |
|   | (1)   | (2)                  | (3)                  | (4)                  | (5)                  | (6)                  | (7)                  | (8)                  |
| Expellee share 1950   | 0.966***<br>(0.119)                               | 1.066***<br>(0.121)  | 0.730***<br>(0.095)  | 0.821***<br>(0.103)  | 0.502***<br>(0.066)  | 0.543***<br>(0.075)  | 0.145***<br>(0.048)  | 0.136**<br>(0.056)   |
| Agricultural employment share 1939                                      | 0.024<br>(0.038)                                  | 0.012<br>(0.037)     | 0.019<br>(0.032)     | 0.011<br>(0.031)     | 0.006<br>(0.026)     | 0.002<br>(0.025)     | 0.004<br>(0.018)     | 0.005<br>(0.018)     |
| Religious distance 1950   | 0.104***<br>(0.037)                               | 0.116***<br>(0.042)  | 0.098***<br>(0.033)  | 0.094***<br>(0.036)  | 0.031<br>(0.023)     | 0.031<br>(0.026)     | 0.034**<br>(0.016)   | 0.034*<br>(0.018)    |
| Population share living in cities with at least 10,000 inhabitants 1939 | 0.004<br>(0.022)                                  | 0.005<br>(0.021)     | 0.011<br>(0.018)     | 0.013<br>(0.017)     | -0.003<br>(0.013)    | -0.002<br>(0.013)    | 0.000<br>(0.008)     | -0.000<br>(0.008)    |
| Rubble per capita 1939  | 2.395**<br>(1.124)                                | 2.913**<br>(1.267)   | 1.987**<br>(0.838)   | 2.320**<br>(0.919)   | 1.821***<br>(0.483)  | 1.991***<br>(0.532)  | 0.554*<br>(0.291)    | 0.513*<br>(0.311)    |
| Distance to inner German border is smaller than 75 km (0/1)             | -0.044***<br>(0.012)                              | -0.043***<br>(0.012) | -0.039***<br>(0.009) | -0.038***<br>(0.009) | -0.034***<br>(0.006) | -0.033***<br>(0.006) | -0.032***<br>(0.004) | -0.032***<br>(0.004) |
| Majority is Catholic in 1939 (0/1)                                      | 0.119***<br>(0.020)                               | 0.126***<br>(0.022)  | 0.102***<br>(0.016)  | 0.103***<br>(0.017)  | 0.056***<br>(0.010)  | 0.057***<br>(0.011)  | 0.046***<br>(0.006)  | 0.045***<br>(0.007)  |
| $R^2$   | 0.614   | .                    | 0.536                | .                    | 0.445                | .                    | 0.347                | .                    |
| Weak identification test (Cragg-Donald Wald F statistic)                |   | 250.45               |                      | 250.45               |                      | 250.45               |                      | 250.45               |
| Shea's Partial $R^2$ : expellee share 1946                              |   | 0.754                |                      | 0.754                |                      | 0.754                |                      | 0.754                |
| Shea's Partial $R^2$ : predicted religious distance                     |   | 0.775                |                      | 0.775                |                      | 0.775                |                      | 0.775                |
| Number of observations  | 186   | 186                  | 186                  | 186                  | 186                  | 186                  | 186                  | 186                  |

*Notes:* The IV regressions in columns (2), (4), (6) and (8) use the expellee share in 1946 and the predicted population-weighted religious distance as instrument for the expellee share 1950 and the religious distance 1950, respectively. In 1966 (1970), BP did no longer run for office in 23 (26) out of 186 districts; in these districts the vote share of BP is set to 0. Regressions are weighted with population in 1939. \*\*\*, \*\* and \* denote statistical significance at the 1%-, 5%- and 10%-level, respectively. Robust standard errors are in parentheses. The weak identification test refers to the Cragg-Donald F statistic; critical values from Stock and Yogo (2005) suggest the instruments to be strong.

## J.6 Expellee Migration in 1950-61

Figure J4 shows that the, largely migration-induced, actual change in expellee shares in 1950–61 is strongly positively associated with the hypothetical change in expellee shares required to fully close the gap between the actual and optimal allocation of expellees. In fact, the correlation coefficient between the two variables is as high as 0.83.

Figure J4: Actual vs. Optimal Change in Expellee Share



*Notes:* The figure plots the actual change in expellee shares in 1950–61 (in percentage points) against the hypothetical change in expellee shares required to close the gap between the actual and optimal allocation of expellees, along with the linear regression line.

*Sources:* Own calculations, Statistisches Bundesamt (1966).

The migratory response of expellees in the 1950s also support the main results of our analysis. If integration prospects are indeed bad in agrarian regions with high expellee inflows, we would expect expellees to emigrate from those regions to other parts of West Germany once they were able to do so. Table J7 provides evidence in favour of this hypothesis.<sup>40</sup> It relates the percent change in the expellee population in 1950–61 to our three main variables of interest and our standard covariates. The table reports the results of OLS and IV regressions with and without state fixed effects.

As expected, the 1950 population share of expellees and the 1939 agricultural employment share both have a statistically significant negative effect on the change in expellee population. The OLS regression without fixed effects in column (1) suggests that a one standard deviation increase in the 1950 share of expellees led to a subsequent decrease in the expellee population in 1950–61 by 0.493 standard deviation or as much as 40%. Likewise, a one standard deviation in the agricultural employment share decreases the expellee population in 1950–61 by 0.127 standard deviation or 10.2%. The effects are somewhat smaller but still statistically significant when we add state dummies to the regression. There is also some evidence that religious differences between natives and expellees led to a decrease in the expellee population in the 1950s, but only when we exploit variation within federal states.

<sup>40</sup>This result is consistent with previous evidence in Braun and Weber (2016) and Braun et al. (2017). Braun and Weber (2016) show that internal migration from high- to low-inflow regions was one important channel through which regional labor markets adjusted to the inflow of expellees. Expellee-induced population growth in 1939–50 reduced subsequent population growth in 1950–70 (Braun et al. 2017).



Table J7: Resettlement Location and Changes in the Expellee Population 1950–61

| Dependent variable:   | Change in the expellees population 1950-61 (in %) |                      |                      |                      |
|---|---|----------------------|----------------------|----------------------|
|   | OLS<br>(1)  | OLS<br>(2)           | IV<br>(3)            | IV<br>(4)            |
| Expellee share 1950   | -4.436***<br>(0.487)                              | -3.116***<br>(0.857) | -4.396***<br>(0.452) | -2.590***<br>(0.915) |
| Agricultural employment share 1939                                      | -0.443**<br>(0.209)                               | -0.613***<br>(0.151) | -0.453**<br>(0.202)  | -0.660***<br>(0.149) |
| Religious distance 1950   | -0.068<br>(0.125)                                 | -0.208*<br>(0.112)   | -0.066<br>(0.153)    | -0.183<br>(0.142)    |
| Population share living in cities with at least 10,000 inhabitants 1939 | 0.409***<br>(0.102)                               | 0.359**<br>(0.142)   | 0.407***<br>(0.098)  | 0.383***<br>(0.144)  |
| Rubble per capita 1946  | 8.282<br>(6.872)                                  | 11.892<br>(9.218)    | 8.380<br>(6.853)     | 12.544<br>(9.383)    |
| Distance to inner German border is smaller than 75 km (0/1)             | -0.092*<br>(0.054)                                | -0.009<br>(0.049)    | -0.095*<br>(0.056)   | -0.020<br>(0.048)    |
| Majority is Catholic in 1939 (0/1)                                      | -0.083<br>(0.075)                                 | -0.064<br>(0.071)    | -0.081<br>(0.073)    | -0.056<br>(0.071)    |
| $R^2$   | 0.648   | 0.676                | .                    | .                    |
| State dummies   | no  | yes                  | no                   | yes                  |
| Number of observations  | 526   | 526                  | 526                  | 526                  |

*Notes:* The dependent variable is the change in the number of expellees between 1950 and 1961 in percent of the expellee population in 1950. Columns (2) and (4) include dummies for each of the nine West German states. Regressions are weighted with population in 1939. \*\*\*, \*\* and \* denote statistical significance at the 1%-, 5%- and 10%-level, respectively. Standard errors clustered at the labor market region level are in parentheses.

## K Optimizing the Distribution of Expellees

This section describes the problem that we solve to obtain the optimal regional distribution of expellees. Let  $E_i$  be the number of expellees in county  $i$ . There are 526 counties in our data. The sum of expellees over all these counties has to equal the total number of expellees residing in West Germany in September 1950, i.e.:

$$\sum_{i=1}^{526} E_i = 7876000. \quad (\text{K.1})$$

Let  $R_i$  be the county-specific labor force participation rate of expellees. Following our empirical analysis, this rate depends negatively on the expellee share,  $ExpelleeShare_i$ , and the pre-war agricultural employment share,  $AgricultureShare_i$ . In particular, we use the regression results from Column (3) of Table 1 to specify  $R_i$  as follows:<sup>41</sup>

$$\begin{aligned} R_i &= 0.532 - 0.186 \times ExpelleeShare_i - 0.184 \times AgricultureShare_i \\ &= 0.532 - 0.186 \times E_i / (E_i + N_i) - 0.184 \times AgricultureShare_i, \end{aligned} \quad (\text{K.2})$$

where  $N_i$  is the county-specific number of natives in September 1950. We take both  $N_i$  and  $AgricultureShare_i$  as exogenously given and set them to their historical values (as reported in the censuses of 1939 and 1950).

The total (Germany-wide) number of expellees in the labor force,  $L(E_1, E_2, \dots, E_n)$ , is then given by:

$$\begin{aligned} L(E_1, E_2, \dots, E_{526}) &= E_1 \times R_1(E_1) + E_2 \times R_2(E_2) + \dots + E_{526} \times R_{526}(E_{526}) \\ &= \sum_{i=1}^{526} E_i \times R_i(E_i). \end{aligned} \quad (\text{K.3})$$

<sup>41</sup>0.532 is the estimated constant of the regression. We abstract from other regional determinants of the labor force participation rate, as none of them is statistically significant in the regression.

The optimization problem is to choose county-specific numbers of expellees,  $E_1, E_2, \dots, E_{526}$ , so as to maximize the total number of expellees in the labor force,  $L(E_1, E_2, \dots, E_n)$ ,<sup>42</sup> subject to the constraints (K.1) and (K.2) as well as the non-negativity constraints  $E_i \geq 0$ .

We solve this problem in **GAMS 25.1**, using the solver **IPOPT**. Note that in the absence of county-specific differences in  $AgricultureShare_i$ , the optimal solution would equalize the expellee share across counties. However, with differences in the agricultural employment share, agrarian regions will receive less expellees. In fact, the optimal distribution indicates that the 171 regions with a pre-war agricultural employment share of 52% or more should receive no expellees at all.

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<sup>42</sup>Maximising the total number of expellees in the labor force is equivalent to maximizing the country-wide labor force participation rate of expellees (as this rate is given by dividing equation (K.3) by the exogenous number of expellees).

## References

- Bazzi, Samuel, Arya Gaduh, Alexander D. Rothenberg and Maisy Wong: 2017, Unity in Diversity? How Intergroup Contact Can Foster Nation Building, *American Economic Review* **109**(11): 3978-4025.
- Cantoni, Davide: 2015, The Economic Effects Of the Protestant Reformation: Testing the Weber Hypothesis In The German Lands, *Journal of the European Economic Association* **13**(4): 561-598.
- Deutscher Städtetag: 1949, *Statistisches Jahrbuch Deutscher Gemeinden 1949*, Alfons Bürger Verlag, Schwäbisch Gmünd.
- FDZ der Statistischen Ämter des Bundes und der Länder: 2008, Volkszählung 1970, *Scientific-Use-File*.
- Henrekson, Magnus and Tino Sanandaji: 2014, Small Business Activity Does Not Measure Entrepreneurship, *Proceedings of the National Academy of Sciences of the United States of America*, **111**(5): 1760-1765.
- Hornung, Erik: 2015, Railroads and Growth in Prussia, *Journal of the European Economic Association*, **13**(4): 699-736.
- MPIDR [Max Planck Institute for Demographic Research] and CGG [Chair for Geodesy and Geoinformatics, University of Rostock]: 2011, MPIDR Population History GIS Collection (partly based on Hubatsch and Klein 1975 ff. and Bundesamt für Kartographie und Geodäsie 2011), Rostock.
- Pfeil, Elisabeth: 1958, Eingliederungschancen und Eingliederungserfolge: regionalstatistische Analysen der Erwerbstätigkeit, Berufsstellung und Behausung der Vertriebenen, *Mitteilungen aus dem Institut für Raumforschung*, Heft 35.
- Poepelt, Konrad: 1959, Die Verschwägerung der Heimatvertriebenen mit den Westdeutschen, *Mitteilungen aus dem Institut für Raumforschung*, Verlag Degener & Co, Neustadt an der Aisch.
- Robinson, Peter M.: 1988, Root-N-Consistent Semiparametric Regression, *Econometrica* **56**(4): 931-954.
- Statistisches Bundesamt: 1950, Die Flüchtlinge in Deutschland. Ergebnisse der Sonderauszählungen aus der Volks- und Berufszählung vom 29. Oktober 1946, *Statistische Berichte*, Arb. Nr. VIII/0/4.
- Statistisches Bundesamt: 1952, Die Bevölkerung der Bundesrepublik Deutschland nach der Zählung vom 13.9.1950, *Statistik der Bundesrepublik Deutschland*, Band 35.
- Statistisches Bundesamt: 1955a, Einführung in die methodischen und systematischen Grundlagen der Volks- und Berufszählung vom 13. 9. 1950, *Statistik der Bundesrepublik Deutschland*, Band 34.
- Statistisches Bundesamt: 1955b, Die Vertriebenen und Flüchtlinge in der Bundesrepublik Deutschland in den Jahren 1946 bis 1953, *Statistik der Bundesrepublik Deutschland*, Band 114.
- Statistisches Bundesamt: 1956, Gebäude- und Wohnungszählung in der Bundesrepublik Deutschland vom 13. September 1950, *Statistik der Bundesrepublik Deutschland*, Band 38.
- Statistisches Bundesamt: 1966, Volks- und Berufszählung vom 6. Juni 1961, *Fachserie A*, Heft 3.
- Statistisches Reichsamt: 1939, Umsatzsteuerstatistik 1935, *Statistik des Deutschen Reichs*, Band 511.
- Statistisches Reichsamt: 1940, *Statistisches Jahrbuch für das Deutsche Reich 1939/40*, Statistisches Reichsamt, Berlin.
- Statistisches Reichsamt: 1941, Die Bevölkerung des Reichs, der Reichsteile, der größeren und kleineren Verwaltungsbezirke, der Gaue der NSDAP, sowie der Großstädte nach der Religionszugehörigkeit auf Grund der Volkszählung vom 17. Mai 1939, *Wirtschaft und Statistik*, 21(9).
- Statistisches Reichsamt: 1943, Berufszählung. Die Berufstätigkeit der Bevölkerung in den Reichsteilen. Volks-, Berufs- und Betriebszählung vom 17. Mai 1939, *Statistik des Deutschen Reichs*, Band 557.
- Stock, James H. and Motohiro Yogo: 2005, Testing for Weak Instruments in Linear IV Regression, in *Identification and Inference for Econometric Models: Essays in Honor of Thomas Rothenberg*, eds. D. W. K. Andrews and J. H. Stock, 80-108. Cambridge: Cambridge University Press.
- Vonyó, Tamás: 2012, The Bombing of Germany: the Economic Geography of War-induced Dislocation in West German Industry, *European Review of Economic History* **16**(1): 97-118.
- Wegenerer, Bernd: 1985, Gibt es Sozialprestige?, *Zeitschrift für Soziologie* **14**(3): 209-235.