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Abstract

Armed conflicts, natural disasters and infrastructure projects continue to force millions into migration. This is especially true for developing countries. After World War II, about 8 million ethnic Germans experienced a similar situation when forced to leave their homelands and settle within the new borders of West Germany. Subsequently, a law was introduced to foster their labor market integration. We evaluate the success of this law using unique retrospective individual-level panel data. We find that the law improved expellees' overall situation but failed to restore their pre-war occupation status. This holds implications for the design of integration policies today.

JEL Codes: N30, J61, D04

Keywords: Forced Migration; Integration policy; Difference-in-Differences; Germany

I. Introduction

Armed conflicts, natural disasters, or large-scale infrastructure projects can cause significant migration flows within countries. Examples include the Darfur conflict, which ended in August 2009 and displaced 2.7 million people (Olson 2011); 1.7 million people displaced by the 2004 Indian Ocean Tsunami (Athukorala and Resosudarmo, 2005); and tens of millions of people displaced simply by the damming of rivers, such as the million-plus individuals who were relocated upon the completion of the Three Gorges Dam in China (World Commission on Dams, 2000). Despite these sizeable figures, there has been little research on forced migration flows and, more importantly, policies to alleviate the consequences of those flows. This lack of research is presumably due to the limited availability of data which can restrict more detailed analyses. Furthermore, existing literature on (internal) migration, driven by economic opportunities, does not help us understand forced migration flows because those migrants are likely to be a selective group of individuals.¹ To overcome this problem, Sarvimäki et al. (2009) have focused on a historical situation which has provided suitable data to derive policy implications.

We complement this emerging literature and study the effect of an integration policy in the context of a forced mass migration that occurred in the aftermath of WWII, possibly one of the largest mass migration shocks ever experienced by a developed country in modern history. About 8 million ethnic Germans (hereafter, *expellees*) were forced to leave their homelands in East Prussia, Silesia, Pomerania, and Bohemia and settle within the new borders of West Germany (cf. Schmidt 1994).² This forced mass migration affected all individuals, regardless of social status or skill level, and, accordingly, there are no status- or skill-specific selection issues. Upon their arrival, the migrants were primarily distributed across the U.S. and British

¹ See Borjas (1994, 1999) for an extensive review of the economics of immigration.

² Another 4 million expellees settled in East Germany and about half a million in Austria. However, in this paper, we focus on the expellees who settled in West Germany.

zones of occupation in Germany according to a central allocation formula (cf. Edding 1952; Grosser 2001, 2006; Hofmann 2000). The unexpectedly large number of expellees eventually rendered impossible the idea of complementing regional labor markets with the expellees' skills. Thus, regional selection at the destination plays no major role and, as the immigrants are all ethnic Germans, cultural and language issues can also be ruled out.

The absence of selectivity allows us to compare the expellees to the local West Germans. A simple comparison of the two groups' occupational status before and after WWII reveals that many expellees experienced an enormous loss in status as a large fraction ended up working as unskilled workers. After the Federal Republic of Germany was founded in 1949, the Federal Expellee Law (*Bundesvertriebenengesetz*) was introduced (in 1953) to improve the overall situation of the expellees and restore to them the status they held prior to WWII. Part of this law was aimed at improving the expellees' economic situation through the reintegration into agriculture of those who had worked in this sector before the war; easing entry into occupations like doctors or lawyers; and promoting self-employment and entrepreneurship. For example, individuals were granted credit at a reduced interest rate or tax credits when starting a business.

To evaluate the effect of this integration policy, we exploit for the first time in economic literature data from the 1971 micro census that allow us to identify and distinguish expellees from local West Germans.³ Moreover, the 1971 census contains a special survey of expellees and includes information about their occupational status before WWII in 1939 and after WWII in 1950 and 1960. Based on this retrospective information, we set up a quasi-panel and evaluate the immigrant legislation in a difference-in-differences framework. To account for unobserved immigration effects unrelated to the policy, we create a second control group and integrate it in a triple-difference approach. This second control group consists of East Germans who immigrated to West Germany before the Berlin Wall was built in 1961. These

immigrants were to some extent comparable (i.e., no language barriers) to the expellees but they were not covered by the Federal Expellee Law. As the East German immigrants do differ to some extent from the expellees, we apply matching techniques on observable variables in 1939 to make this second control group (i.e., East German refugees) comparable to the expellees in terms of pre-war characteristics. Our results suggest that expellees' overall situation was somewhat improved by the Federal Expellee Law, but that the law failed to restore them to their pre-war occupational status.

The remainder of the paper is organized as follows. Section 2 provides the historical background. Section 3 introduces our data and Section 4 explains our identification strategy. Results are provided in Section 5. Section 6 concludes.

2. Historic Context

The significant territorial changes that occurred in the aftermath of WWII resulted in large migration streams across Europe. The biggest of these involved almost 8 million ethnic Germans who were forced by the Red Army and, after WWII, the Potsdam Treaty to leave their homelands in East Prussia, Pomerania, Silesia, East Brandenburg, and the Sudetenland and settle within the new borders of West Germany. This forced mass migration affected all ethnic German individuals regardless of their social status or skill level (Bethlehem 1982; Schmidt 1994). Table 1 illustrates the distribution of expellees across West German states in absolute numbers, as a fraction of the expellee population, and as a fraction of the local West German population.

<< Insert Table 1 about here >>

The distribution mechanism of expellees (*Heimatvertriebene*) across settlement states worked in the following way. In the period between the end of WWII in 1945 and the foundation of the two separate German states in 1949, the allied powers divided Germany into four

³ For a description of these data in the context of expellees, see Luettinger (1989).

occupation zones. Figure 1 shows the four occupation zones, along with the predominantly ethnic German areas where the expellees lived before WWII. In 1949, the French, British, and U.S. zones of occupation were merged into the Federal Republic of Germany (FRG) while the Soviet zone became the socialist German Democratic Republic (GDR). Table 1 reveals that there was an especially pronounced difference in the number of expellees in the French occupation zone compared to the other zones. This is due to the French authorities' desire for inhabitants and occupying soldiers to be self-sufficient in terms of food production, thus restricting the number of people competing for already scarce resources (Grosser 2001). As a result, Rhineland-Palatine and the French-occupied areas in Baden-Württemberg initially did not experience any inflow of expellees.⁴ The other zones' occupation authorities distributed the expellees according to a central formula based on the availability of nutrition and housing space. Since most German cities were destroyed and nutrition and housing were more plentiful available in rural areas, the vast majority of expellees were settled in the countryside (cf. Brakman et al. 2004; Grosser 2006).

<< Insert Figure 1 about here >>

The economic situation of most expellees was precarious. Some of them were able to meet at least a part of their needs by working as unskilled labor in the agricultural sector, but many suffered hunger and had to beg or steal to fulfill their basic needs (Vaskovics 2002). Since much of the economic infrastructure was destroyed in post-war Germany, few salaried jobs were available and competition for them was fierce. In this competition, the locals, with already established networks, had the advantage. In many regions, expellees were viewed as a burden and this was reflected in governmental restrictions on their rental contracts (Schaut 1995). Often, expellees were refused the permits necessary for starting a business. Attaining

⁴ Only after 1948 did authorities order internal reallocations from regions with a high number of expellees to those with fewer, particularly to the French regions. Thus, by 1956, about 1 million expellees had been forced to relocate again.

recognition of formal occupational qualifications, e.g., certificates for lawyers or doctors, was complicated (Müller 1993; Schaut 1995). There were barriers to accessing capital because banks did usually not provide credit to expellees without any collateral. As a result, in 1953, only a small fraction of expellees worked in the same field or occupation as they had in 1939 (Schaut 1995).

In 1953, the German government introduced the Federal Expellee Law (*Bundesvertriebenengesetz*) with the goal of restoring the expellees' status quo and improving their situation. The law provided official acceptance and legitimation for a wide range of occupational certificates held by expellees, including those of doctors, dentists, and craftsmen (§§ 69–71). The law improved access to capital for founding a business, provided tax incentives for self-employment (§§ 72 and 73), helped integrate into the agriculture sector those who had been farmers prior to WWII (§§ 35–68), offered better opportunities to rent state-owned property for business purposes (§ 76), and ensured that businesses run by expellees were treated preferentially when public contracts were awarded (§§ 74 and 75).

The law set out eligibility requirements for these privileges, certain of which were tied to having an official status as an expellee (Categories A and B). This status was defined in Section 1 of the 1953 Federal Expellee Law, and defines an expellee as being either a German citizen or an ethnic German who before and/or during World War II lived within the 1917–1937 borders of eastern Germany and Austria-Hungary. In addition to expellees, political refugees from the socialist GDR (and, prior to 1949, the Soviet zone) were also covered by this law (§ 3). However, to qualify as “eligible refugees” (Category C), GDR refugees had to prove that they had suffered “a direct threat to life and limb or their personal freedom” (Ackermann 1995, p. 13).

Beside the group of eligible refugees who were covered by the integration policy, there was a large group of refugees from the GDR who did not qualify for support under the Federal

Expellee Law (cf. Ackerman 1995; Heidemeyer 1994; Hoffmann 2000). As it became clear that Germany's separation was permanent and that East Germany was adopting a Soviet system, many East Germans looked west for political freedom and economic prosperity. More than 2.75 million people fled East Germany to resettle in West Germany prior to construction of the Berlin Wall in 1961 and, like the expellees, the refugees from the GDR were centrally distributed across the federal states according to §17(1) of the 1950 provisional accommodation law (*Notaufnahmegesetz*). The provisional accommodation law granted some financial support to the refugees but it was far less extensive than that available under the Federal Expellee Law. In the empirical section of this paper, we focus on expellees in Categories A and B only, omitting from our analysis those refugees from East Germany (Category C) who were covered by the Federal Expellee Law. Given their political motives for leaving East Germany, these refugees are probably a highly distinctive group and including them in our empirical analyses could bias our estimates of the effect of the Federal Expellee Law. Table 2 summarizes the different groups of ethnic German immigrants and their eligibility for benefits under the Federal Expellee Law.

<< Insert Table 2 about here >>

3. Data on Expellees and Refugees from the Soviet Zone of Occupation After WW II

Our primary source of data is the German micro census, which provides official representative statistics for the population and labor market in Germany. With its sampling of 1 percent of the population, it is the largest household survey in Europe. The micro census is a random sample combining a one-stage cluster sample design with a partial rotation procedure. In each sampling district, chosen from within the territory of the Federal Republic of Germany, all households and persons are interviewed. Every year one-quarter of the sample households is replaced.

We generate our data set from an extension of the 1971 German micro census (MZU 1971). This extension was designed to gain insight into expellees' integration into the German labor market and society. It is particularly interesting for our analysis since the survey contains detailed retrospective information on the occupational and economic status of the German population in 1939, 1950, and 1960; we use this information to construct a quasi-panel data set.

The data include expellee identifiers, detailed information on individuals' state of residence in 1939, and their time of arrival within the new borders of West Germany. As summarized in Table 2, we define a person as an expellee if he or she (1) possesses a Category A or B pass, (2) lived in the former eastern territories of the German Reich or Austria-Hungary in 1939, and (3) arrived within the new borders of Germany between 1945 and 1950. This allows us to distinguish expellees from Eastern Europe who were forced to migrate immediately after WWII from those who came during the Nazi regime or those who voluntarily arrived after 1950 in search of economic opportunities. After excluding individuals with missing data on occupational status in 1939, 1950, or 1960, our sample contains 25,713 expellees. By restricting the analysis to individuals who had completed their education by 1939, we can compare all individuals' occupational status before and after WWII. This restriction carries the cost of losing 2,530 observations, leaving us with 23,183 observations in the expellee group. The sample also includes 146,786 local West Germans and 3,100 East Germans who migrated to West Germany during 1945 and 1950, 2,093 of whom were not accepted as political refugees and therefore were not covered by the Federal Expellee Law. Given an overall population of roughly 50 million in West Germany in 1950, this sample is a good representation of the population shares, i.e., the group of expellees (8 million) being about 15 percent of the local West German population and the refugees from East Germany (2.75 million) about 5 percent.

<< Insert Table 3 about here >>

Table 3 shows the occupational status of local West Germans and expellees before and after WWII. In 1939, the expellees' occupational structure is very similar to that of local West Germans. Presumably due to the loss of their property, in 1950 a smaller fraction of expellees was self-employed (compared to local West Germans) and we observe almost no self-employed farmers. We further observe that disproportionate numbers of expellees either worked in unskilled occupations or did not work at all in 1950. The fraction of expellees reporting non-employment or pensioner status increased from 2.7 percent in 1939 to 9 percent in 1950.

The simple comparison of occupational status before and after WWII reveals that the expellees experienced an enormous loss in status, which explains their highly disadvantageous economic situation. As a response, in 1953, the German government introduced the Federal Expellee Law. The success of this law is evaluated in the next section.

4. Identification Strategy: From DiD to DiDiD

Based on our quasi-panel, we evaluate the success of the Federal Expellee Law in a difference-in-differences (DiD) framework (see Campbell 1969; Card and Sullivan 1988; Card 1990). First, we compare the expellees' economic situation in 1939, i.e., before the displacement, with their economic situation in 1960, i.e., after the Federal Expellee Law was introduced. This first step evaluates whether the law was successful in restoring the expellees' status quo. Given that the 1953 Federal Expellee Law was intended to address the expellees' disadvantageous economic situation after WWII, we then compare the expellees' economic situation in 1950, i.e., after their displacement but before the Federal Expellee Law was introduced, with their economic situation in 1960. This second step evaluates the law's success in improving the expellees' overall situation. Together, these two steps form the first difference in our DiD approach. To account for the general improvement of the economic situation in Germany during the "economic miracle" (*Wirtschaftswunder*) of the 1950s, we

then compare the evolution of the expellees' economic situation with the evolution of local West Germans' economic situation. This gives us the second difference in our DiD approach. In this framework, the success of the Federal Expellee Law can be formally described as follows:

$$\Delta^2 = (E_{Ex}^{1960} - E_{Ex}^{1939}) - (E_{West}^{1960} - E_{West}^{1939}) \quad (1a)$$

$$\Delta^2 = (E_{Ex}^{1960} - E_{Ex}^{1950}) - (E_{West}^{1960} - E_{West}^{1950}) \quad (1b)$$

Here, *Ex* denotes expellees and *West* denotes local West Germans. E_{Ex}^t (E_{West}^t) represents the average economic situation of the expellees (local West Germans) in year t . We define several outcome variables to assess the economic situation of expellees: the probability of being unemployed or employed as an unskilled worker; the probability of working in the agricultural sector after WWII conditional on working in that sector in 1939; and the probability of being self-employed in the agricultural sector as well as in the non-agricultural sectors of manufacturing and services.

To derive the DiD estimator Δ^2 from Equation (1), we use the 1939 or 1950 and 1960 information for our sample of expellees and local West Germans and solve the following equation in first differences:

$$\Delta E_{i,1960-1939} = \alpha + \beta Ex_i + \varepsilon_i \quad (2a)$$

$$\Delta E_{i,1960-1950} = \alpha + \beta Ex_i + \varepsilon_i \quad (2b)$$

Here, $\Delta E_{i,1960-1939}$ (respectively, $\Delta E_{i,1960-1950}$) is the observed difference in the economic situation of individual i , Ex_i is a dummy variable that identifies the expellees, and ε_i is a standard error term. Appropriate controls for individual characteristics such as gender or educational endowment are time constant and therefore drop out in our model. Equations (2a)

and (2b) are equivalent to regressions with individual fixed effects. The coefficient of interest is β , which measures the DiD estimator Δ^2 described in Equation (1).

Interpreting Δ^2 as a causal effect of the Federal Expellee Law is based on the strong assumption that the expellees' economic situation would have evolved similar to that of local West Germans in the absence of the Federal Expellee Law. In other words, our DiD approach in Equation (2b) assumes that in the absence of the Federal Expellee Law, there would have been no catching-up by expellees due to a progressive integration of the expellees in West Germany. To relax this assumption, we consider an additional control group: those refugees who came to West Germany from the Soviet zone of occupation before construction of the Berlin Wall in 1961 and who were not covered by the Federal Expellee Law (non-eligible refugees; cf. Table 2). Based on this second control group, we establish a difference-in-differences-in-differences (DiDiD) approach that controls for two trends (see Hamermesh and Trejo 2000). First, it covers the general economic improvement that occurred during Germany's economic miracle (*Wirtschaftswunder*) of the 1950s by considering the evolution of the local West Germans' economic situation. Second, it accounts for the general progress of integration by considering the evolution of the economic situation of non-eligible refugees from the Soviet zone of occupation. In the DiDiD framework, the effect of the Federal Expellee Law is formalized as follows:

$$\Delta^3 = \Delta_{Ex}^2 - \Delta_{Non-West}^2 \quad (3)$$

with

$$\Delta_{Ex}^2 = (E_{Ex}^{1960} - E_{Ex}^{1950}) - (E_{East}^{1960} - E_{East}^{1950}) \quad (3a)$$

$$\Delta_{Non-West}^2 = (E_{Non-West}^{1960} - E_{Non-West}^{1950}) - (E_{West}^{1960} - E_{West}^{1950}) \quad (3b)$$

Again, *Ex* denotes expellees and *Non-West* covers both immigrant groups, i.e., the expellees and non-eligible refugees from the Soviet zone of occupation (*East*). $\Delta_{Non-West}^2$ is the DiD

estimator that compares the evolution of the immigrants' economic situation with the evolution of the local West Germans' economic situation. Δ_{Ex}^2 is the DiD estimator that compares the evolution of the expellees' economic situation with the evolution of the economic situation of non-eligible refugees from the Soviet zone of occupation. Thus, in order to interpret the DiDiD estimator Δ^3 as a causal effect of the Federal Expellee Law on the expellees' economic situation, the identifying assumptions are fairly weak in this DiDiD approach, requiring only that there is no contemporaneous shock that specifically affects the expellees' economic situation relative to the local West Germans' economic situation during the period the Federal Expellee Law was effective (see Gruber 1994).

To obtain the DiDiD estimator Δ^3 , we extend our sample by adding the non-eligible refugees from the Soviet zone of occupation and derive, in analogy to Equation (2), the following regression equation:

$$\Delta E_{i,1960-1950} = \alpha + \beta Ex_i + \delta Non-West_i + \varepsilon_i \quad (4)$$

In this extended equation, *Non-West_i* is a dummy variable that identifies immigrants including both expellees and non-eligible refugees from the Soviet zone of occupation. The coefficient of interest that identifies the DiDiD estimator Δ^3 described in Equation (3) is β .

5. Micro Evidence on the Evaluation of an Integration Policy

The identifying assumption for applying a difference-in-differences approach is the comparability of our treatment and control groups, namely, the expellees, the local West Germans, and East German refugees. Therefore, we first show that the pre-war differences between the expellees and local West Germans are very small. We then present the difference-in-differences, as well as the triple-difference results where we control for the ongoing social integration of immigrants. Since we find some pre-war differences between

the expellees and the non-eligible refugees from East Germany, in the last subsection we improve the comparability of our groups by using a propensity score matching method.

Pre-War Characteristics

Table 4 provides sample means of the pre-war characteristics of local West Germans (Column 1) and the expellees (Column 2). Importantly, we find very small differences between the two in 1939 in terms of demographic statistics, educational endowment, and occupational structure. Virtually all local West Germans and all expellees received at least basic schooling and in both groups about 6 percent completed advanced secondary education. The most important difference in occupational structure is that expellees are more likely to work as self-employed farmers before WWII compared to West Germans. This might also explain the larger fractions of expellees who own real estate and work in a family business as compared to West Germans.

<< Insert Table 4 about here >>

Effects of the Federal Expellee Law Using a Difference-in-Differences Approach

Table 5a reports difference-in-differences estimates from a regression of the change in the defined outcome variables between 1939 and 1950 on expellee status, i.e., it compares the expellees' occupational status to that of the West German control group before and after their displacement. The results confirm the expellees' loss in status, since their probability of working as unskilled workers or being unemployed is positive and highly significant. The difference-in-differences estimates between 1939 and 1960 allow us to investigate whether the law was successful in restoring the expellees' status quo. Table 5b shows that the expellees' loss of status persists over time, i.e., even after introduction of the Federal Expellee Law, expellees were more likely to work as unskilled workers and less likely to be self-employed. For example, in 1950, expellees are about 9 percentage points more likely to work in an unskilled occupation compared to local West Germans. By 1960, this probability

decreases, but only to 7.6 percentage points. Since the displacement was an extreme intervention with irreversible implications, we now focus on analyzing on whether, and if so, to what extent, the expellees' situation was improved by enactment of the Federal Expellee Law.

<< Insert Table 5a and 5b about here >>

Table 6 reports difference-in-differences estimates from a regression of the change in the outcome variables between 1950 and 1960 on expellee status, i.e., it compares the expellees' occupational status to that of the West German control group before and after the introduction of the Federal Expellee Law. Columns 1 and 4 suggest that the law succeeded in reducing the vulnerability of expellees to unemployment or work as unskilled labor. The probability of unemployment decreases by almost 3 percentage points and the probability of being an unskilled worker decreases by about 1 percentage point; both results are highly significant. Also, the promotion of entrepreneurship through facilitating access to credits or tax incentives shows significant and positive effects, though the magnitude is very small. However, reintegration into the agricultural sector of those who had worked in that sector prior to WWII failed. To account for the possibility that integration into the labor market might depend on an individual's former occupational status, we additionally consider dummy variables indicating an individual's occupational status in 1939. The coefficients of interest remain mostly unaffected.

<< Insert Table 6 about here >>

To interpret our findings as a causal effect of the Federal Expellee Law, we have to assume that expellees are non-mobile. The expellees' initial distribution across regions was arguably random, but if, between 1950 and 1960, the expellees chose to move to economically prosperous regions, any positive effect we might find would suffer from a selection bias. We therefore use additional data sets to confirm that expellees' mobility was limited. First, the

Statistics of German Cities allow us to compare the share of expellees in 1950 with the share in 1961 for 115 cities. For these cities, the correlation coefficient of the observed fraction of expellees in 1950 and 1961 is about 0.79 and highly significant. Second, the repeated cross-sections of the micro census of 1962, 1965, and 1969 allow us to compare the population fractions of expellees by size of municipality over time. We find that the population fractions of expellees by size of municipality did not significantly change over time, suggesting that expellees did not move from rural areas to urban areas in an effort to improve their economic situation.

Furthermore, comparing the economic development of expellees to that of local West Germans in a difference-in-differences approach does not permit us to disentangle the causal effect of the Federal Expellee Law from other unobserved immigration effects. We therefore control for such unobserved immigration effects by integrating non-eligible refugees from East Germany in our estimations, which results in a DiDiD specification.

Effects of the Federal Expellee Law Using a Difference-in-Differences-in-Differences Approach

Table 7 shows the results from a difference-in-differences-in-differences estimation that accounts for unobserved immigration effects by additionally comparing expellees to the group of East German refugees without expellee status who came to West Germany between 1945 and 1950. By considering these non-eligible East German refugees as a second control group, we control for immigrant-specific trends. Interestingly, we now find insignificant effects for the promotion of both non-agricultural and agricultural entrepreneurship among the expellees. In fact, the results show that the promotion of entrepreneurship was successful among the whole group of immigrants, implying a general catch-up process rather than true success of the Federal Expellee Law. Also, the reduced vulnerability to unemployment seems

to be a general immigration trend. However, the absolute coefficient indicating the probability of becoming an unskilled worker increased, i.e., after introduction of the Federal Expellee Law, expellees were 4.2 percentage points less likely to be employed in unskilled occupations compared to East German non-eligible refugees. Table 7 also reports difference-in-differences-in-differences estimates controlling for occupational status in 1939. The sign and magnitude of the coefficients of interest remain largely unaffected, though some of the significance is gone.

Extending our difference-in-differences approach necessitates the assumption that our treatment group and the second control group—the non-eligible refugees—are comparable in their pre-war characteristics. However, Column 3 of Table 4 indicates that non-eligible refugees from East Germany differ from local West Germans and expellees. For instance, the average fraction of females (55%) is 4–5 percentage points lower in this group than it is in the group of West Germans and expellees, and marriage propensities are larger. Further, East German non-eligible refugees have more schooling and there are almost no self-employed farmers among them. These findings clearly demonstrate that the non-eligible refugees from East Germany were a self-selected group of individuals searching for economic freedom.

To increase the comparability between the expellees and our second control group, non-eligible refugees from East Germany, we next combine our difference-in-differences-in-differences methodology with propensity score matching techniques.

<< Insert Table 7 about here >>

Matching Results

By combining our difference-in-differences-in-differences methodology with propensity score matching, we increase the comparability between the expellees and our second control group, the non-eligible refugees. Based on gender, education, and occupational status characteristics as observed in 1939, we estimate the propensity score, that is, the conditional

probability to be treated for expellees and non-eligible refugees (Rosenbaum and Rubin 1983, 1985). We then select the five nearest neighbors among the group of non-eligible refugees in terms of propensity score values and obtain the frequency with which the observation is matched. By using those frequencies as weights for the non-eligible refugees, we estimate our difference-in-differences-in-differences regressions.

Table 8 shows weighted sample means of the pre-war characteristics of the expellees and non-eligible refugees from East Germany. Compared to Table 4, there are now hardly any pre-war differences between the groups.

Table 9 reports weighted difference-in-differences-in-differences regression estimates. Interestingly, there are no longer any significant coefficients for promotion of self-employment. However, the point estimate for the probability of being employed as an unskilled worker increases and is highly significant. The probability of working in an unskilled occupation is 14.1 percentage points larger for both immigrant groups. However, the Federal Expellee Law reduced expellees' probability of working in an unskilled occupation by 15.1 percentage points compared to matched non-eligible refugees.

7. Conclusions

In this paper we use unique panel data from an extension of the German micro census to evaluate the evolution of the economic situation of ethnic German expellees after World War II. To evaluate the success of the 1953 Federal Expellee Law, which was introduced with the aim of ameliorating the disastrous situation of expellees upon their arrival in West Germany, we compare the evolution of the expellees' economic situation with that of two control groups, local West Germans and non-eligible refugees from the Soviet zone of occupation who were not covered by the Federal Expellee Law.

Germany suffered heavy damage with a great deal of its urban housing stock being destroyed during WWII. As a result, many local West Germans found themselves in a poor economic

situation directly following the war, although recovery soon followed in the guise of the economic miracle (*Wirtschaftswunder*) of the 1950s. The WWII shock was most severe for the expellees because they were forced to leave their homelands and thus lost their possessions and suffered the severing of their social ties. Accordingly, expellees only recovered slowly from the WWII shock and, despite introduction of the Federal Expellee Law, the gap between formerly comparable local West Germans and expellees remained. Nevertheless, our difference-in-differences-in-differences approach, which allows controlling for the ongoing social integration of expellees, reveals that the Federal Expellee Law was at least somewhat successful in achieving its aim of ameliorating the economic situation of expellees. From our estimation, we conclude that the Federal Expellee Law modestly contributed to expellees obtaining qualitatively better jobs. However, the law failed in its attempts to promote self-employment and to reintegrate expellees into the agricultural sector.

From a policy perspective, this paper might be of special interest in the context of developing countries where forced mass migration still occurs today due to armed conflicts or natural disasters. Beyond the moderate success of the Federal Expellee Law, we find evidence that expellees were rather immobile after being allocated to a destination region by the authorities of the occupation zones. The latter finding contrasts Sarvimäki et al. (2009) who find a high degree of voluntary mobility after the forced migration. This mobility has a large economic benefit for at least some groups of displaced individuals. Combining these two findings, one might develop policies that encourage mobility among expellees. This may help expellees who do not find a job in their initial destination region to look for better matches across local labor markets, thus alleviating their economic situation after being forced to leave their homelands.

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Figure 1: Zones of occupation and predominantly ethnic German areas



Table 1: Heimatvertriebene by State in Post-War Germany in 1950 (Source: Statistisches Bundesamt)

State	Occupation Zone	Number of <i>Expellees</i>	% of <i>Expellees</i>	% of State Population
Bavaria	A	1,937,000	16.2	21
Lower Saxony	B	1,851,000	15.5	27
North Rhine-Westphalia	B	1,332,000	11.2	10
Baden-Württemberg	F/A	862,000	7.2	13.5
Schleswig-Holstein	B	857,000	7.2	33
Hessen	A	721,000	6	16.5
Rhineland-Palatinate	F	152,000	1.3	5
West-Berlin	A/F/B	148,000	1.2	7
Hamburg	B	116,000	1	7
Bremen	A	48,000	0.4	9

Notes: A = American, B = British, F = French, S = Soviet.

Table 2: Ethnic Germans according to state of residence in 1939, immigrant and expellee status

Group	State of Residence in 1939	Immigrant Status	Expellee Status (Category A or B)	Observations
West Germans	West Germany	No	No	146,786
Expellees	Eastern parts of the German Reich or Austria Hungary	Yes	Yes	23,183
Eligible refugees	East Germany	Yes	Yes	1,007
Non-eligible refugees	East Germany	Yes	No	2,093

Notes: Grouping is based on information from the 1971 micro census on state of residence in 1939 and expellee status.

Table 3: Occupational status of local West Germans and expellees before and after WWII

Occupational status	Expellees		Local West Germans	
	1939	1950	1939	1950
Unemployed	0.27%	3.34%	0.27%	0.72%
Unskilled worker	20.94%	25.27%	20.47%	15.96%
Entrepreneur (agricultural)	5.08%	0.68%	3.6%	4.60%
Entrepreneur (non-agricultural)	4.59%	3.71%	4.94%	7.30%
Civil servant	3.21%	1.98%	2.67%	2.34%
Civil servant (qualified)	1.72%	1.35%	1.43%	1.38%
Pensioner, other non-employed	2.67%	9.71%	2.69%	5.73%
Housewife	26.85%	34.12%	29.40%	34.31%
Other	34.67%	19.84%	34.53%	27.66%

Notes: The table shows the percentage shares of expellees and local West Germans by occupational status before and after WWII. The category "others" include employees, craftsmen, and family workers.

Table 4: Pre-war characteristics of West Germans, expellees, and non-eligible refugees

	West Germans	Expellees	Non-Eligible Refugees
Demographics			
Female (%)	0.604	0.591	0.551
Age 1950	42.63	41.84	39.1
Married (%)	0.649	0.654	0.710
Highest Education			
Basic school (%) (<i>Volksschule</i>)	0.643	0.658	0.441
Secondary school (%)	0.26	0.24	0.395
High school (%)	0.013	0.013	0.032
Technical school (%)	0.048	0.045	0.088
University (%)	0.014	0.013	0.031
Assets			
Real estate 1939 (%)	0.485	0.512	0.342
Occupation 1939			
Unemployed	0.003	0.003	0.003
Unskilled worker	0.205	0.209	0.175
Entrepreneur (agricultural)	0.036	0.0508	0.004
Entrepreneur (non-agricultural)	0.049	0.05	0.04
Civil servant	0.027	0.032	0.037
Civil servant (qualified)	0.014	0.017	0.031
Employee	0.139	0.123	0.279
Craftsman	0.128	0.126	0.161
Pensioner, other non-employed	0.027	0.027	0.028
Family worker	0.077	0.094	0.023
Housewife	0.294	0.268	0.22
Observations	146,786	23,183	2,093

Note: The table shows summary statistics from the 1971 micro census.

Table 5: Regression estimates of difference in outcome variable between 1939–1950 and 1939–1969 on expellee status

Difference in dependent variable	(a) 1939–1950					(b) 1939–1960				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	Unskilled Worker	Reintegration Agriculture	Self-Employment		Unemployment	Unskilled Worker	Reintegration Agriculture	Self-Employment		Unemployment
			Agriculture	Non-Agriculture				Agriculture	Non-Agriculture	
Expellee	0.089*** (0.003)	-0.140*** (0.004)	-0.054*** (0.001)	-0.033*** (0.002)	0.026*** (0.001)	0.076*** (0.003)	-0.183*** (0.004)	-0.048*** (0.002)	-0.030*** (0.002)	0.001** (0.000)
Constant	-0.045*** (0.001)	-0.023*** (0.001)	0.010*** (0.000)	0.021*** (0.000)	0.005*** (0.000)	-0.065*** (0.001)	-0.078*** (0.001)	0.005*** (0.000)	0.019*** (0.001)	-0.002*** (0.000)
Observations	169969	91466	169969	169969	169969	169969	115149	169969	169969	169969
R-squared	0.007	0.054	0.015	0.004	0.006	0.004	0.044	0.008	0.002	0.000

*Notes: This table reports difference-in-differences-in-differences results of the change in the outcome variable on an expellees dummy and a constant. *** statistically significant at the 1% level; ** statistically significant at the 5% level; * statistically significant at the 10% level.*

Table 6: Regression estimates of difference in outcome variable between 1950 and 1960 on expellee status

Difference in Dependent Variable	(1)		(2)	(3)				(4)	
	Unskilled Worker		Reintegration Agriculture	Self-Employment				Unemployment	
				Agriculture		Non-Agriculture			
Expellee	-0.012*** (0.003)	-0.011*** (0.003)	-0.012*** (0.002)	0.006*** (0.001)	0.008*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	-0.025*** (0.001)	-0.025*** (0.001)
Constant	-0.020*** (0.001)	-0.033* (0.019)	-0.042*** (0.001)	-0.005*** (0.000)	0.005 (0.004)	-0.002*** (0.000)	-0.001 (0.007)	-0.006*** (0.000)	-0.090*** (0.014)
Controlling for occupational status in 1939	No	Yes	No	No	Yes	No	Yes	No	Yes
Observations	169,969	169,969	91,466	169,969	169,969	169,969	169,969	169,969	169,969
R-squared	0.000	0.028	0.000	0.000	0.090	0.000	0.046	0.007	0.012

Notes: This table reports difference-in-differences results of the change in the outcome variable on an expellees dummy and a constant.

**** statistically significant at the 1% level; ** statistically significant at the 5% level; * statistically significant at the 10% level.*

Table 7: Regression estimates of difference in outcome variable between 1950 and 1960 on expellee and immigrant status

	(1)		(2)	(3)				(4)	
Difference in	Unskilled Worker		Reintegration	Self-Employment				Unemployment	
Dependent			Agriculture						
Variable				Agriculture	Non-Agriculture				
Expellee	-0.042*** (0.008)	-0.040*** (0.008)	-0.044*** (0.004)	0.0004 (0.001)	0.007*** (0.001)	-0.009* (0.005)	-0.006 (0.005)	-0.005 (0.004)	-0.007* (0.004)
Immigrant	0.030*** (0.007)	0.029*** (0.007)	0.032*** (0.003)	0.005*** (0.001)	0.000 (0.001)	0.012*** (0.005)	0.010** (0.005)	-0.020*** (0.004)	-0.019*** (0.004)
Constant	-0.020*** (0.001)	-0.035* (0.019)	-0.042*** (0.001)	-0.005*** (0.000)	0.005 (0.004)	-0.002*** (0.000)	0.002 (0.007)	-0.006*** (0.000)	-0.089*** (0.014)
Controlling for occupational status in 1939	No	Yes	No	No	Yes	No	Yes	No	Yes
Observations	172,062	172,062	92,632	172,062	172,062	172,062	172,062	172,062	172,062
R-squared	0.000	0.027	0.001	0.000	0.090	0.000	0.045	0.000	0.007

*Notes: This table reports difference-in-differences-in-differences results of the change in the outcome variable on an expellees dummy, an immigrant dummy, and a constant. *** statistically significant at the 1% level; ** statistically significant at the 5% level; * statistically significant at the 10% level.*

Table 8: Weighted pre-war characteristics of expellees and non-eligible refugees

	Expellees	Non-Eligible Refugees
Demographics		
Female (%)	0.591	0.591
Age in 1950	41.84	41.87
Married (%)	0.654	0.581
Highest Education		
Basic school (<i>Volksschule</i>) (%)	0.659	0.659
Secondary school (%)	0.24	0.24
High school (%)	0.013	0.013
Technical school (%)	0.045	0.045
University (%)	0.013	0.013
Assets		
Real estate 1939 (%)	0.512	0.291
Occupation 1939		
Unemployed	0.003	0.001
Unskilled worker	0.209	0.21
Entrepreneur (agricultural)	0.051	0.044
Entrepreneur (non-agricultural)	0.05	0.052
Civil servant	0.032	0.034
Civil servant (qualified)	0.017	0.017
Employee	0.123	0.125
Craftsman	0.126	0.124
Pensioner, other non-employed	0.027	0.028
Family worker	0.094	0.091
Housewife	0.268	0.273
Observations	23,139	444
Weights	23,139	23,139

Note: The table shows weighted summary statistics from the 1971 micro census. The weights are obtained by applying a propensity score matching based on gender, education, and occupational status in 1939.

Table 9: Weighted regression estimates of difference in outcome variable between 1950 and 1960 on expellee and immigrant status

	(1)	(2)	(3)	(4)	(5)
Difference in Dependent Variable	Unskilled Worker	Unemployment	Self-Employment		Reintegration
			Agriculture	Non-Agriculture	Agriculture
Expellee	-0.154*** (0.053)	0.075 (0.047)	-0.008 (0.009)	0.022 (0.021)	-0.052*** (0.003)
Immigrant	0.141*** (0.053)	-0.100** (0.047)	0.014 (0.009)	-0.018 (0.021)	0.040*** (0.002)
Constant	-0.020*** (0.001)	-0.006*** (0.000)	-0.005*** (0.000)	-0.002*** (0.000)	-0.042*** (0.001)
Observations	170,369	170,369	170,369	170,369	91,733
R-squared	0.035	0.039	0.003	0.003	0.013

Notes: This table reports weighted difference-in-differences-in-differences results of the change in the outcome variable on an expellees dummy, an immigrant dummy, and a constant. Weights are obtained by propensity score matching based on gender, education, and occupational status in 1939.

**** statistically significant at the 1% level; ** statistically significant at the 5% level; * statistically significant at the 10% level.*