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The Economic Integration of Forced Migrants: Evidence for Post-War Germany

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ABSTRACT

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The flight and expulsion of Germans from Eastern Europe during and after World War II constitutes one of the largest forced population movements in history. We analyze the economic integration of these forced migrants and their offspring in West Germany. The empirical results suggest that even a quarter of a century after displacement, first generation migrants and native West Germans that were comparable before the war perform strikingly different. Migrants have substantially lower incomes and are less likely to own a house or to be self-employed. Displaced agricultural workers, however, have significantly higher incomes. This income gain can be explained by faster transitions out of low-paid agricultural work. Differences in the labor market performance of second generation migrants resemble those of the first generation. We also find that displacement considerably weakens the intergenerational transmission of human capital between fathers and children, especially at the lower tail of the skill distribution.

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1   Introduction

The mass exodus of Germans from Eastern Europe to West Germany during and after World War II marks one of the largest forced population movements in history. It involved millions of Germans who fled or were expelled, most of them from the former eastern territories of the German Reich. In 1950, displaced Germans (*Heimatvertriebene*) accounted for nearly 17 percent of the total West German population. Their integration posed a paramount challenge for the war-ridden country. West Germany's cities, infrastructure and housing stock laid in ruins, and the displaced arrived with hardly any possessions. Although prospects looked grim initially, integration has been viewed as swift and successful by the contemporary German public. This paper provides a comprehensive empirical analysis of the medium- and long-run economic integration of the displaced and their offspring, and explores to what extent such a positive view is indeed justified. Our results suggest that it is largely not.

The question of how immigrants integrate into the economy of the destination country is a major theme in migration research (Bauer et al., 2005; Kerr and Kerr, 2011). Following the seminal study by Chiswick (1978), empirical studies on the economic integration of immigrants have mostly focused on the US and on the relative earnings of first generation migrants who migrated voluntarily (see Borjas, 1999, for a survey). Far less attention has been devoted to other economic outcomes, such as unemployment, occupational status, or wealth, and to the economic integration of second generation migrants (Kerr and Kerr, 2011).[1] Furthermore, only a few studies have investigated the integration of migrants who have been forced to migrate because of natural disasters, wars, or ethnic conflicts.[2] This is despite the fact that forced migration is a problem of global scale. At the end of 2009, more than 43 million people were forcefully uprooted because of conflict and persecution alone (UNHCR, 2010).

Our study of forced migrants in post-war Germany provides a comprehensive analysis of a major migration episode in world history and broadens the scope of the existing integration literature in several respects. We consider forced rather than voluntary migrants and study both first and second generation migrants. Moreover, and unlike most of the few studies on forced migrants, we are able to investigate medium- and long-run outcomes.[3] Last but not least, we consider a broader set of outcomes than most studies. Apart from income, we explore also unemployment, the occupational status and sectoral affiliation of individuals, home ownership, the sectoral and regional post-displacement mobility of migrants, and their educational attainment.

From an analytical perspective, our specific historical setting provides a natural experiment that allows us to abstract from many confounding factors that usually aggravate the analysis of the integration of migrants. First, displacement was not confined to a selective sub-group of Germans in Eastern Europe, e.g.,

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[1]Among the notable exceptions are Algan et al. (2010) who provide a comprehensive comparative analysis of the performance of first and second generation immigrants in France, Germany, and the UK. The authors do not only concentrate on wages but also study differences in employment and educational attainment.

[2]Notable exceptions are Ibáñez and Vélez (2008) who study the welfare consequences of displacement in Colombia; Kondylis (2007, 2008) who investigates displaced persons from Bosnia and Herzegovina and Rwanda; Vigdor (2007), Groen and Polivka (2008), and Sacerdote (2009) who study persons displaced by hurricane Katrina in the US; and Sarvimäki et al. (2009) who study Fins forced to re-settle from areas ceded to the Soviet Union after World War II.

[3]Except for the study by Sarvimäki et al. (2009), all of the work on forced migration cited above focuses exclusively on short-run outcomes measured mostly only one to three years after displacement.

to those that could expect to gain from migrating. Empirical problems associated with selective migration (Borjas, 1991), therefore, do not arise. Second, selective re-migration (Lubotsky, 2007) is no problem either, as forced migrants could not return to their homelands that lay beyond the Iron Curtain. Third, displaced Germans from Eastern Europe and native West Germans spoke the same language and were very homogeneous in their culture and education. Language acquisition and the transferability of skills, both notoriously difficult to measure, thus do not play a role for the integration process. Fourth, the vast majority of forced migrants arrived in West Germany within a relatively brief period of time (1944-1946). As a consequence, differential cohort and time effects that arise if cohorts of migrants of different average productivity enter the destination economy in different phases of the economic cycle (Borjas, 1999) are not encountered in our analysis. Our dataset also provides detailed information on the socio-demographic and labor market characteristics of migrants prior to displacement. We are thus able to control for potential pre-war differences between the displaced and native West Germans.

Our findings show that even a quarter of a century after displacement, forced migrants and native West Germans that were comparable before the war perform strikingly different in post-war Germany.[4] In 1971, first generation migrants still exhibit significantly lower average incomes, a higher risk of unemployment, and a lower likelihood to own residential property. Displacement, however, was far from uniform in its effects across migrants of different background. Most notably, we find a large positive income differential for agricultural workers that have been displaced in the wake of World War II.[5] We show that this differential, and also income differences more generally, can be explained by the massive changes in the occupational and sectoral employment structure of forced migrants that were induced by displacement. Displacement accelerated transitions out of agriculture, increased blue-collar employment, and reduced self-employment among migrants.

Differences in the labor market performance of second generation migrants largely resemble those of the first generation. Second generation men also have lower incomes than their native West German peers, and both men and women exhibit markedly lower home ownership rates. Furthermore, displacement-induced changes in the sectoral and occupational structure of first generation migrants largely carry over to their offspring. There is also evidence that migrant children tend to acquire more education than their native peers. In fact, intergenerational upward mobility in education is much higher among the displaced. This finding may be explained by the fact that the loss of family wealth, businesses and farms forced the children of migrants to compete on the wider labor market, and in particular to look for work outside agriculture. Formal education, as a consequence, became more important for individual economic success.

The remainder of the paper is structured as follows. We first provide a brief historical overview of

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[4]Earlier results by Lüttinger (1986) already cast doubt on the view that the integration of the displaced had been swift and largely a success. Lüttinger (1986) uses the same data as we do but does not account in his analysis for pre-war differences between the displaced and native West Germans. He also does not analyze the relative incomes of forced migrants. Schmidt (1997) also includes ethnic Germans that migrated to West Germany after 1942 in his analysis of wage assimilation of migrants in Germany. Using cross-sectional data from 1982 and 1990, he does not find large differences between ethnic German immigrants and natives. However, also Schmidt (1997) is not able to account for pre-war differences in the two groups.

[5]This result is broadly consistent with evidence provided by Sarvimäki et al. (2009) who study the displacement of Fins from areas ceded to the Soviet Union in the aftermath of World War II. Sarvimäki et al. (2009) find a positive effect of displacement on the long-term income of male Fins who lived in rural areas before displacement. They do not, however, provide separate regressions for those that had been employed in agriculture before the war.

the mass exodus of Germans from Eastern Europe and discuss measures that were taken by policy makers to integrate these migrants in West Germany. Section 3 presents the data we use and provides summary statistics on the pre-war socio-economic structure of the migrant and native West German populations. Section 4 outlines our empirical strategy for identifying the effects that displacement has on the relative economic performance of migrants in West Germany. Section 5 presents our results for the first generation of forced migrants, and Section 6 our results for their offspring. Finally, Section 7 summarizes our key findings and concludes.

2 Historical Background

During the mass exodus of German civilians from Eastern Europe, millions of Germans were uprooted and re-settled in the territory of the later West German state (Federal Republic of Germany).[6] In September 1950, forced migrants totaled 7.9 millions and accounted for 16.5 percent of the West German population (Federal Statistical Office, 1955). As a result, and despite heavy war losses, the West German population increased dramatically from 39.4 million in 1939 to 47.7 million in 1950. By far the largest number of forced migrants came from the Eastern territories of the German Reich that Germany lost after World War II (see Figure 1 for an overview of Germany's territorial losses between 1919 and 1945). In September 1950, these so-called *Reichsdeutsche* numbered about 4.4 millions and accounted for more than 55 percent of all forced migrants in West Germany. Another 1.9 millions displaced individuals came from Czechoslovakia, predominantly from the *Sudetenland*.[7] A large number of the displaced had also resided in those territories that Germany had ceded after World War I, such as Danzig and West Prussia. Forced migrants were not a selected group of the German populations living in Eastern Europe but represented a complete cross-section of Germans in these regions, since their re-settlement was comprehensive and universal, and thus beyond individual choice.

The displacement of Germans from Eastern Europe started in the autumn of 1944. A closing-in front line and fear of atrocities by advancing Soviet troops caused hundreds of thousands of Germans to flee westwards. As final defeat became imminent, they were joined by a growing number of Germans who fled for fear that liberated non-German populations would take revenge for the suffering and harm the Nazis had inflicted upon them. After the unconditional surrender of Nazi Germany in May 1945, large-scale disorganized (so called 'wild') expulsions of Germans followed, mainly from Poland and Czechoslovakia, which Germany had occupied during the war. In the eyes of many, German atrocities during the occupation had rendered future peaceful cohabitation impossible.

The Potsdam Treaty of August 1945 between the United States, the United Kingdom, and the Soviet Union shifted Germany's eastern border westwards. Germany lost East Prussia, Silesia, and two thirds of Pomerania, which together accounted for approximately 24 percent of Germany's land size in 1937. With the exception of parts of East Prussia that fell to Russia, these territories were placed under Polish administrative control. The German territory west of the Oder-Neisse line was divided into a British, a

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[6]See Connor (2007) for a detailed account of the exodus.

[7]Though mainly inhabited by ethnic Germans, the Sudetenland had become part of the independent Czechoslovak state after World War I when Austria-Hungary broke apart. It was annexed by Nazi Germany in September 1938.

French, an American, and a Soviet zone of occupation. The first three of these were later joined to form the Federal Republic of Germany (founded in May 1949); the latter became the German Democratic Republic (October 1949). The Potsdam Treaty also stipulated that German populations in the ceded territories and in post-war Poland at large, as well as Germans in Czechoslovakia and Hungary, were to be expelled. Most of these 'organized' expulsions were carried out in the course of 1946. They continued, albeit on a much smaller scale, into the late 1940s. By 1950, the mass expulsions of Germans from their homelands in Eastern and Central Europe had finally come to a close.

FIG. 1: German Territorial Losses in World War I and II
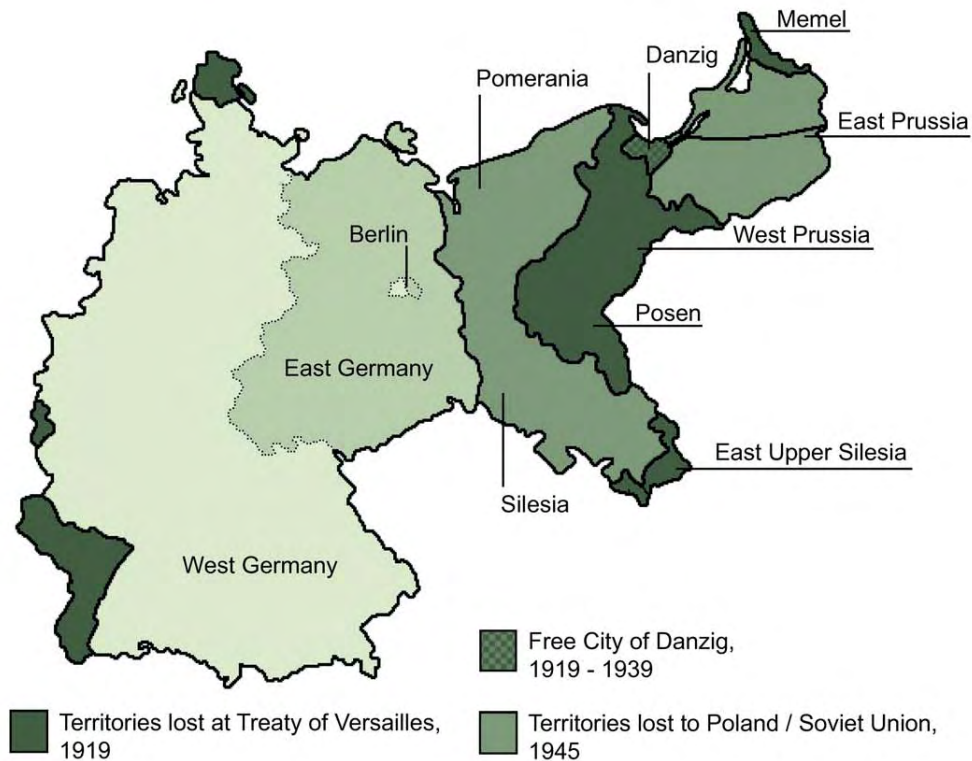
The integration of millions of forced migrants posed a paramount challenge for post-war West Germany. The displaced, having lost both their homes and savings, arrived with hardly any possessions. West Germany's infrastructure and industry were devastated, and significant parts of Germany's main food-growing areas in the east had been lost. In the first post-war years, housing was the major problem.[8] The two major parties in West Germany, the social-democratic SPD and the conservative CDU, actively sought to achieve legal, political, and economic equality between the displaced and the native West German population (Connor, 2007). To this end, several measures were taken. One of the most important was the 'Law of Equalization of Burden' (*Lastenausgleichsgesetz*). It provided compensation to forced migrants (and indigenous West Germans) for their loss of property, and sought to spread the burden of war more equally in society.[9]

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[8]In West-German cities (with a population of 20,000 or above), more than 40 percent of the pre-war housing stock was destroyed (Deutscher Städtetag, 1949).

[9]See Hughes (1999) for a detailed account of how the war-damaged were compensated for their losses.

Those whose property had remained unaffected by the war were to compensate the war-damaged. Amongst other sources, funds for compensation were derived from a levy on capital that had remained wholly or partly intact. Unlike other European countries, therefore, West Germany actively sought, by law, to redistribute wealth in order to (at least partially) restore the pre-war distribution of property. Under the same law, the displaced could also apply for grants to set up businesses and for public assistance in finding housing. A second major legislative initiative was the 'Expellee Land Resettlement Law' (*Flüchtlingssiedlungsgesetz*) of 1949. The law aimed at fostering the integration of forced migrants in agriculture and provided tax incentives for the lease or purchase of farms.

Despite the dismal prospects in 1945, economic recovery was surprisingly swift. Following the currency reform in June 1948, industrial production picked up rapidly and almost doubled by 1950. Despite occasional slowdowns, growth remained strong for most of the 1950s and 1960s. Unemployment, too, fell steadily from 11 percent in 1950 (its post-war peak) to 1.3 percent in 1960, and remained at low levels until the beginning of the 1970s. In fact, already from the mid 1950s onward, labor was in increasingly high demand. Forced migrants provided an important labor reservoir for the booming post-war industry and prevented labor shortages despite booming demand (Ambrosius, 1996). It is for this reason that migrants are considered an important element of Germany's rapid recovery after the war, a recovery that led contemporaries in the 1960s and 1970s to view the integration of displaced Germans as a success story (Lüttinger, 1986).

3   Data and Pre-War Differences

For our analysis of the relative economic performance of forced migrants and their offspring in West Germany we use individual-level data from the German 1971 supplementary microcensus (Mikrozensus-Zusatzerhebung, 1971). This official, nation-wide, and compulsory survey was explicitly conducted in the early 1970s to provide information on the medium- and long-run economic and social integration of individuals that had been displaced in the wake of World War II. The survey provides detailed information on the social and occupational structure of the German population between 1939 and 1971. It covers one percent of the 1971 West German population that was born before 1957 and contains a total of 486,642 observations. Foreigners were excluded from the survey.

In the survey, respondents provided (partly retrospective) information on their occupations and sectors of employment in 1939, 1950, 1960 and 1971. The dataset also contains information on house ownership in 1939 and 1971, the year of birth of the respondents, their current marital status and educational attainment, their year of migration to West Germany (if applicable), and their total monthly net income as of March 1971. The latter is recorded in seven ranked categories, and is missing for farmers (the self-employed in agriculture who own arable land) but not for agricultural workers in dependent employment. The dataset also provides information on parental background (the occupational status, sector of employment, and educational attainment of parents) when respondents were 15 years old.

The survey distinguishes between displaced individuals, migrants from the Soviet zone of occupation, and the indigenous West German population (henceforth referred to as 'natives'). Germans that migrated

from the Soviet occupation zone (or accordingly the GDR) to West Germany are excluded from the analysis. Natives are defined as non-displaced individuals that had lived on the territory of the later West German state already on January 1st, 1939. Displaced individuals are those with an official displacement identification card (*Vertriebenenausweis A/B*). This card was granted to Germans who had lived in the former eastern territories of the German Reich (or abroad) before the war and were displaced during or after the war. Importantly, children of forced migrants that were born after displacement inherited the official displacement status from the parent with child custody. This feature allows us to study the relative post-war economic performance of migrant children.

We analyze the economic integration in West Germany of forced migrants and their offspring (henceforth referred to as first and second generation migrants). First generation migrants are defined as individuals who were born between 1906 and 1925 and lived in areas east to the Oder-Neisse line in 1939. Individuals in this birth cohort were aged 14-33 in 1939 and 46-65 in 1971 and thus of working age throughout the observation period of our analysis (1939-1971). Displaced individuals that arrived in West Germany after 1950 and individuals for which information on 1939 socio-economic characteristics are missing are excluded from the analysis. The estimation sample for our analysis of the relative economic performance of first generation migrants contains 123,471 individuals, of whom 18.7% or 23,140 individuals are migrants (56.1% of which are female) and 100,331 are natives (57.9% of which are female).[10]

Second generation migrants are defined as children of displaced parents who were born between 1940 and 1949 and migrated to West Germany before the age of seven. This second generation (and their native peers) was aged 22-31 in 1971 and consequently educated in West Germany only. We again exclude displaced individuals who arrived in West Germany after 1950 and individuals with missing information.[11] The estimation sample for our analysis of the relative post-war economic performance of second generation migrants contains 59,373 individuals (49.4% of which are female), of whom 9,147 had been displaced (47.2% of which are female).

Columns (1) to (4) of Table 1 report, by gender, means of available pre-war covariates for first generation displaced and native individuals, and columns (5) and (6) normalized differences in these variables. All pre-war data refer to 1939. Apart from age, we have information on house ownership, the socioeconomic status of individuals, and their sector of employment. The table also shows average years of education of displaced and natives, which have been derived from the educational qualifications that individuals held in 1971.[12] These qualifications may be different from those that individuals held in 1939. The vast majority of individuals in our estimation sample (birth cohorts 1906-1925), however, should have completed their education prior to displacement.[13]

Table 1 shows that displaced and native individuals are very similar in their pre-war characteristics.

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[10]Imbalanced sex ratios in both groups are the result of World War II male casualties. Men born between 1906 and 1925 were aged 20 to 39 in 1945. War-induced shortfalls among men were largest among this age cohort (see Bethmann and Kvasnicka, 2007).

[11]By doing so, we also restrict our analysis to those individuals that were living with both parents at the age of 15 (as otherwise parental covariates are missing).

[12]The dataset only records the highest degree obtained. Years of education are inferred from the minimum years of education that is required to obtain a particular degree. Information on the latter is taken from Müller (1979). The education variable also accounts for times in apprenticeships.

[13]Displacement started in late 1944. In that year, the youngest first generation migrants in our data were aged nineteen (only 1.67% of all individuals). Only 5% of the individuals in our sample have more than 13 years of education.

	Men		Women		Normalized Difference	
	Displaced	Natives	Displaced	Natives	Men	Women
	(1)	(2)	(3)	(4)	(5)	(6)
Age (yrs.)	23.2	23.8	23.2	23.8	-0.07	-0.07
House ownership	50.7	49.4	48.5	48.0	0.02	0.01
Years of education[1]	10.5	10.4	9.4	9.2	0.01	0.04
Socio-economic status (%):						
Employed	88.4	89.4	55.1	53.3	-0.02	0.03
Self-employed[2]	4.5	4.9	1.4	1.5	-0.01	0.00
Farmer[3]	4.1	3.7	1.5	1.0	0.01	0.03
Civil servant	8.5	6.5	0.6	0.4	0.05	0.02
White collar worker	12.3	13.5	14.9	14.3	-0.03	0.01
Blue collar worker	43.0	46.1	22.8	22.4	-0.04	0.01
Helping family member	5.0	4.3	10.0	10.0	0.02	0.00
Apprentice	11.1	10.5	3.8	3.6	0.01	0.01
Unemployed	0.4	0.4	0.2	0.1	0.00	0.01
Out of Labor force	11.1	10.1	44.7	46.6	0.02	-0.03
Sector of employment (%):						
Agriculture	18.9	12.5	14.6	11.6	0.12	0.06
Industry	32.7	41.3	13.1	15.7	-0.13	-0.05
Construction	8.8	9.2	0.4	0.4	-0.01	0.00
Trade/Transport	12.6	12.9	10.4	10.8	-0.01	-0.01
Finance	2.4	2.8	2.0	2.4	-0.02	-0.02
Public and private services	12.7	10.3	14.4	12.2	0.05	0.04
Unknown[4]	11.9	10.0	45.2	47.0	0.02	-0.02
Observations	10,155	42,206	12,985	58,125		

NOTE: Sample means of pre-war covariates. All data refer to 1939. The normalized differences are calculated as $\Delta x = (\bar{X}_1 - \bar{X}_0)/(\sqrt{S_1^2 + S_0^2})$, where $\bar{X}_1$ and $\bar{X}_1$ (S_1^2 and S_0^2) are the sample means (variances) among displaced and non-displaced individuals. [1] Not all individuals may have completed their education prior to World War II. [2] Self-employed outside agriculture. [3] Farmer with own land. [4] Includes all individuals who are not employed.

Most normalized differences in pre-war covariates between the two groups are smaller than 0.10. The largest differences exist in the shares of men that are employed in agriculture and industry, a result of the more agrarian structure of the eastern territories of the German Reich. However, even these differences are sufficiently small (0.12, respectively -0.13) so that pre-war differences in observables can be (robustly) controlled for in standard linear regressions.[14]

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[14]Results of linear regressions tend to be sensitive to the specification if normalized differences exceed 0.25 in absolute value (Imbens and Wooldridge, 2009).

4 Empirical Strategy

We are interested in the relative economic performance of first and second generation migrants in post-war West Germany. To investigate whether first generation migrants and native West Germans that were comparable before the displacement fared differently in their medium- and long-run economic outcomes, we run regression models of the following type:

$$Y_{it} = \alpha + X_{i,39}\beta + \delta D_i + \varepsilon_{it}, \tag{1}$$

where Y_{it} is a particular post-war outcome of person i at time t (such as income, house ownership, labor force status, or sectoral affiliation), D_i is a dummy variable that indicates whether a person has been displaced, $X_{i,39}$ is a vector of pre-war control variables, and ε_{it} is an error term. Our prime parameter of interest, δ, measures the average difference in a particular economic outcome between the displaced and otherwise (as of 1939) comparable native West Germans. Economic outcomes are mainly measured at $t = 1971$. Where available, we also consider economic outcomes in 1950 and 1960. For a subset of outcomes (the geographic and sectoral mobility of individuals), t also refers to decades (1939-1950, 1950-1960, or 1960-1971). Estimation is generally by OLS. Our analysis of income differences, however, makes use of interval regression techniques, as the income variable is banded. We estimate equation (1) separately for men and women.

Equation (1) controls for observable pre-treatment differences between displaced and native individuals. It does not control for contemporaneous differences in the year the outcomes are measured, as such differences may not be exogenous to displacement status.[15] For δ to have a causal interpretation, displacement status D_i must be uncorrelated, conditional on observed pre-war characteristics $X_{i,39}$, with any unobserved pre-war differences between the two groups that prove sufficiently persistent to affect individual economic outcomes in the medium- or long-run (i.e., in 1950, 1960, or 1971). All pre-war differences between the displaced and natives that do not exert such a lasting impact are irrelevant for the identification of the causal effect of displacement on medium- and long-run economic outcomes.

Note that δ does not measure the causal effect of displacement on the displaced, i.e., an average treatment effect on the treated (ATT). The influx of forced migrants into post-war West Germany is likely to have had general equilibrium effects that affected the West German economy at large and hence also our comparison group – the indigenous West German population. Therefore, estimates of δ do not measure mean differences between forced migrants' actual post-war outcomes and their potential post-war outcomes that would have materialized in a 'no displacement' counterfactual situation. Rather, δ captures differences in the medium- and long-run economic performance between displaced individuals and natives *in post-war Germany*. This is no drawback. From a policy perspective of the host country, the relative economic fortunes of the displaced are of prime interest, rather than the situation that would have prevailed had war and displacement not occurred. From a technical perspective, estimates of δ have a clear interpretation, as they

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[15]However, we will also estimate specifications that add selected post-war labor market characteristics of individuals to our baseline model. While the ensuing estimates do not have a causal interpretation, they are nevertheless of interest. They indicate to what extent displaced and non-displaced individuals who were comparable before the war and also observationally equivalent at the time that outcomes are measured still exhibit mean differences in their economic performance.

measure differences between two well-defined groups in the same economy, at the same point in time and under the same post-war macroeconomic trends.

Identification requires that conditional on $X_{i,39}$, displacement status D_i is uncorrelated with unobserved pre-war differences that still affect economic outcomes in post-war West Germany. For a number of reasons, we believe that this identifying assumption is likely to hold in the context of our analysis. First, and most importantly, displacement was not a choice and hence not confined to a selective sub-group of Germans in Eastern Europe. All Germans east of the Oder-Neisse line, and not only, e.g., those that could expect to gain from re-settling to West Germany, were forced to migrate. Potential self-selection problems that are commonly a case of concern in the analysis of voluntary migration (Borjas, 1991) should thus not play a role in our context. Furthermore, and also of great importance, the displaced and the native West German population shared common cultural features and spoke the same language.[16] Such homogeneity between migrants and natives, rarely encountered in other migration flows, avoids the need to control, by way of often imperfect measures, for differences in language skills that may result in productivity differentials. Third, and more generally, the ceded regions in the East had been an integral part of Germany since the Reich came into existence in 1871. They had all been part of the Free State of Prussia in the Weimar Republic and of the Kingdom of Prussia before 1871, a feature shared by seven of the 11 administrative regions (Bundesländer) of West Germany.[17] The new borders of West Germany thus cut through Prussian territories that had been integrated for centuries.[18] Last but not least, and again rather exceptional for studies on migrant integration, we are able to control for a wide range of productivity-related pre-displacement characteristics of migrants and natives, such as their sector of employment or occupational status.

For the second generation of forced migrants, we also consider various economic outcomes and compare them to those of native West Germans. As for the first generation, we explore 1971 income levels and house ownership rates as well as other labor market outcomes (employment status, sector of employment, and occupational status). In addition, we investigate the relative educational attainment of second generation migrants (as of 1971) and study differences in the intergenerational transmission of human capital between migrants and natives. For all but the last of these outcomes, and akin to the first generation, we run regression models of the following type:

$$Y_i^{2nd} = \delta + X_i^{2nd} \eta + \theta D_i^{2nd} + \omega_i, \tag{2}$$

where Y_i^{2nd} is a particular 1971 outcome of person i, D_i^{2nd} is a dummy that indicates whether person i has an official displacement status and migrated to West Germany before the age of seven, and ω_i is an error term (we dropped the t subscript because all outcome variables now refer to 1971). Control variables in X_i include age and age squared of person i in 1971. Again, we run separate regressions for males and females. Estimates of θ provide information on the economic performance of second generation migrants relative to that of their native West German peers. We will also consider a specification that adds pre-war *parental*

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[16]Note that forced migrants from Czechoslovakia, i.e., from the Sudetenland, also shared these features and were allowed to run their own German schools.

[17]North Rhine-Westphalia, Lower Saxony, Hesse, Rhineland-Palatinate, Saarland, Schleswig-Holstein and West-Berlin were partly or completely founded on former Prussian territory.

[18]As shown in Section 3, pre-war differences in observables between the displaced (the treated) and the indigenous West German population (our comparison group) are rather small in terms of standardized differences, a fact that testifies to the general pre-displacement homogeneity of both groups.

covariates to the set of controls in X_i. Estimates of θ then measure the average difference in economic performance between second generation migrants and indigenous peers who were born to parents that were comparable before the war. Unfortunately, the dataset only provides information on pre-war parental house ownership. All other parental characteristics take reference to the time a child was aged 15, i.e., to a date well after the war, and are thus likely to have been affected by the displacement. As the parent generation had mostly finished formal education by 1939, however, we consider parental education as largely exogenous to displacement and use it as an additional parental pre-war covariate.

To analyze differences in the intergenerational transmission in education between the displaced and native West Germans, we estimate the following regression model:

$$E_i^{2nd} = \lambda + X_i^{2nd}\rho + \tau_1 D_i^{2nd} + \tau_2 E_i^F + \tau_3 E_i^F \times D_i^{2nd} + \tau_4 E_i^M + \tau_5 E_i^M \times D_i^{2nd} + \upsilon_i, \tag{3}$$

where E_i^{2nd} is child i's education, E_i^F and E_i^M are measures of the respective education of the child's mother and father, and υ_i is an error term. Education is measured in years. Control variables in X_i^{2nd} include age and age squared of child i and a dummy for parental house ownership in 1939. The primary coefficients of interest in equation (3) are τ_3 and τ_5. They measure to what extent the intergenerational transmission process in education differed between forced migrants and indigenous West Germans.

5   First Generation Migrants

This section reports our findings on the relative economic performance of first generation forced migrants in post-war West Germany. We first consider long-term (1971) income and house ownership, with the latter acting as a proxy for wealth. Section 5.2 documents other labor market outcomes, such as individuals' labor force status, sector of employment, and occupational status, and explores to what extent these outcomes can explain income gaps between the displaced and natives. Finally, Section 5.3 investigates the post-displacement medium-run (1950-1960) and long-run (1960-1971) sectoral and geographic mobility of forced migrants and natives.

5.1   Income and House Ownership

Panels A to C of Table 2 report our estimation results on the 1971 relative incomes of displaced and comparable (in 1939) native workers, i.e., estimates of δ from equation (1). Panel A provides two types of baseline estimates: the first stem from regressions of log income in 1971 on a constant and on displacement status; the second from regressions that include also age and age squared, 1939 house ownership status, the 1939 sector of employment of individuals (seven categories), and the 1939 socioeconomic status of individuals (nine categories) as explanatory variables. All income regressions consider only individuals who are employed in 1971.

The top-left entry of Panel A shows that a even quarter of a century after displacement, both male and female migrants exhibit significantly lower average incomes than their native counterparts: in 1971, displaced men earn 4.9% less than native men and displaced women 3.4% less than native women. The

second row of Panel A indicates that part of these unconditional mean differences can be explained by productivity-related pre-war differences between displaced and non-displaced individuals. Adding pre-war characteristics to the specification, the income gap between displaced and non-displaced men (women) declines by a third (half) to -3.3% (-1.8%). However, a sizeable income differential remains between the displaced and comparable natives.

To assess the robustness of these results, Panel B of Table 2 provides estimates from two alternative specifications. The first seeks to assess the importance of potential sample selection bias that may arise from the fact that income information for 1971 in our data is not available for farmers. Farmer status in 1971 correlates with farmer status in 1939. This correlation, however, is weaker for the displaced than for natives because all displaced farmers lost their farmlands. As a robustness check, therefore, we exclude all individuals who were farmers in 1939 from our estimation sample. The first row of Panel B shows that this exclusion does not affect our results. The second alternative specification adds dummies for the years of education of an individual, a prime determinant of labor income, to the set of explanatory variables. Years of education, as noted, are potentially endogenous.[19] Hence, these estimates do not necessarily have a causal interpretation. The inclusion of years of education dummies does not notably change our findings (see the second row of Panel B). In fact, the estimate for displaced men is virtually the same as in our baseline specification. The estimate for displaced women even increases somewhat in absolute terms. Overall, the findings from our two alternative specifications strongly corroborate the results of our baseline regressions: the existence of a sizeable long-term income penalty for displaced individuals that tends to be more pronounced for men than for women.

Displacement had heterogeneous effects on income not only by gender. Panel C of Table 2 shows that average 1971 income gaps differ considerably between individuals who had worked in agriculture, industry, and services before the war. For both genders, negative income gaps are largest for individuals who had worked in services in 1939. They are considerably smaller for industrial workers and even positive for agricultural workers. The positive income differentials for the latter group are sizeable. For both male and female agricultural workers, they exceed 10 percent.[20] Displacement, therefore, affect individuals quite differently, depending on their pre-war sector of employment.

At first glance, the finding of a positive income differential for displaced agricultural workers appears surprising. After all, displaced individuals did not re-locate because labor market prospects in the destination region seemed more promising. In the next subsection we will show that the finding of a positive income differential can be explained by the fact that displacement promoted large-scale transitions out of agriculture into industry, where jobs were better paid on average.[21]

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[19]Education is measured only for 1971 (the survey year) but not for 1939. However, the vast majority of individuals in our sample (birth cohorts 1906 to 1925) should have completed their education by the time of displacement. Nevertheless, some may have acquired part of their education also after the war. If so, their choice of education may have been affected by displacement.

[20]We again obtain similar results if we exclude individuals who had been farmers in 1939, that is restrict the analysis to agricultural workers who had been in dependent employment before the war.

[21]Evidence on the long-term incomes of Fins displaced after World War II is consistent with this explanation. Sarvimäki et al. (2009) find a positive effect of displacement on the long-term incomes of male (but not female) Fins who lived in rural areas before displacement. The authors attribute this effect to accelerated transitions from agricultural to modern occupations among the displaced. The study, however, provides no direct evidence on either rates of transition out of agriculture or the long-term incomes of individuals that had been employed in agriculture prior to displacement.

TABLE 2: 1st GENERATION MIGRANTS: LOG INCOME AND HOUSE OWNERSHIP

	Men		Women	
	Displaced	s.e.	Displaced	s.e.
A. Income – Baseline estimates:				
Unconditional (no covariates)	−0.049	(0.005)	−0.034	(0.011)
Conditional on pre-war covariates	−0.033	(0.004)	−0.018	(0.010)
B. Income – Alternative specifications (conditional on pre-war covariates):				
Excluding 1939 farmers	−0.038	(0.005)	−0.017	(0.010)
Conditional on education	−0.034	(0.004)	−0.027	(0.010)
C. Income – Baseline estimates by 1939 sector (conditional on pre-war covariates):				
Agriculture	0.104	(0.011)	0.129	(0.028)
Industry[1]	−0.043	(0.006)	−0.001	(0.022)
Services[2]	−0.066	(0.009)	−0.067	(0.017)
D. 1971 house ownership status[3]:				
Unconditional (no covariates)	−0.088	(0.005)	−0.113	(0.005)
Conditional on pre-war covariates	−0.100	(0.005)	−0.120	(0.004)

NOTE: Estimates for displacement status. Each estimate stems from a separate regression. Income equations are estimated by interval regressions, house ownership equations by OLS. Robust standard errors are reported in parentheses. Regressions condition on employment in 1971. Pre-war covariates include: age, age squared, an indicator for house ownership in 1939, seven categories for the sector of employment in 1939 (agriculture, industry, construction, trade/transport, finance, public and private services, unknown), and nine categories for socioeconomic status in 1939 (self-employed, farmer, civil servant, white-collar worker, blue-collar worker, family member, apprentice, out of labor force, unemployed). [1] Includes construction. [2] Includes trade/transport, finance, as well as public and private services. [3] The share of house owners among natives in 1971 was 52.2 per cent for males and 44.7 per cent for females.

Finally, Panel D of Table 2 reports estimates of the relationship between displacement status and 1971 house ownership as a proxy for wealth. For both men and women, the share of house owners is significantly lower among the displaced. Conditional on pre-war covariates, displacement reduces the chances of men of owning a house in 1971 by almost 20 percent, and of women by more than 25 percent. Quite evidently, therefore, forced migrants have not been able to make up for the loss of property they had suffered as a result of displacement.

5.2 Labor Force Status, Sector of Employment and Occupational Status

Albeit of central importance, income and wealth are but two indicators for the post-war labor market performance and economic integration of displaced individuals. Other indicators are labor force status, sector of employment, and occupational status. In this section, we document the effects that displacement had on these outcomes. We also explore to what extent induced occupational and sectoral changes can explain the long-term income differentials between displaced and natives documented in the previous section.

	Men			Women		
	Natives Mean	Displaced	s.e.	Natives Mean	Displaced	s.e.
A. 1971 Employment status:						
Out of labor force	0.147	−0.013	(0.003)	0.644	0.039	(0.004)
Unemployed	0.003	0.002	(0.001)	0.002	0.005	(0.001)
B. 1971 sector of employment:						
Agriculture	0.094	−0.079	(0.003)	0.199	−0.122	(0.004)
Industry[1]	0.506	0.080	(0.006)	0.274	0.086	(0.008)
Services[2]	0.398	0.000	(0.005)	0.526	0.034	(0.008)
C. 1971 occupational status:						
Self-employed[3]	0.148	−0.050	(0.003)	0.081	−0.025	(0.004)
Farmer[4]	0.073	−0.068	(0.002)	0.028	−0.018	(0.001)
Blue collar worker	0.419	0.130	(0.005)	0.342	0.137	(0.008)
White collar worker	0.253	−0.001	(0.005)	0.295	0.038	(0.007)
Civil servant	0.098	−0.004	(0.003)	0.021	0.003	(0.003)
Helping family member	0.008	−0.006	(0.001)	0.234	−0.134	(0.005)

NOTE: Means of the control group and OLS estimates for displacement status. Each estimate stems from a separate regression. Regressions on the sector of employment and on occupational status condition on employment in 1971. The regression on unemployment conditions on being in the labor force in 1971. Robust standard errors are reported in parentheses. All regressions include the following pre-war covariates: age, age squared, an indicator for house ownership in 1939, seven categories for the sector of employment in 1939 (agriculture, industry, construction, trade/transport, finance, public and private services, unknown), and nine categories for socioeconomic status in 1939 (self-employed, farmer, civil servant, white-collar worker, blue-collar worker, family member, apprentice, out of labor force, unemployed). [1] Includes construction. [2] Includes trade/transport, finance, as well as public and private services. [3] Self-employed outside agriculture. [4] Farmer with own land.

Panels A to C of Table 3 report estimates of the effects that displacement had on our three additional sets of labor market outcomes. All regressions include pre-war controls. Panel A of Table 3 indicates that displaced men have a 1.3 percentage points lower probability of being out of the labor force in 1971 than their non-displaced counterparts;[22] among females, in contrast, this probability is about 3.9 percentage points higher for the displaced than for the natives.[23] Furthermore, displaced men and women both suffer from higher unemployment rates in 1971. The unemployment rate in West Germany in 1971, of course, was very low (below one percent). Although elevated, overall unemployment risks for displaced individuals were therefore still comparatively modest.

Panel B of Table 3 contrasts the 1971 sectoral employment structure of displaced individuals to that of

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[22]This may have to do with the fact that the displaced, having lost their pre-war property and suffering from higher rates of unemployment upon arrival in West Germany, were forced to work until later in live to make their living. Lüttinger (1986) provides evidence for 1971 that pensions were markedly lower among displaced than among non-displaced retirees.

[23]However, this effect is essentially limited to women who were working as helping family members in agriculture before the war. These women could often not resume employment after their families had lost their businesses and farmlands in the East.

comparable natives. As is evident, significantly fewer men and women among the displaced work in agriculture and significantly more in industry. Displaced women are also overrepresented in services. Additional unreported analyses show that these differentials are driven predominantly by workers who were employed in agriculture before the war. In this group, displacement reduces the probability for men (women) of working in agriculture by 39.8 (48.2) percentage points and increases the probability of working in industry by 31.3 (27.2) percentage points. Displacement, therefore, greatly promoted transitions out of agriculture into the industrial sector.

Panel C of Table 3 provides further evidence for this finding. It shows that the occupational structure of women and men in 1971 differs significantly between the displaced and natives. Displaced women and men are far less often self-employed, both outside and inside agriculture. This finding casts strong doubts on the effectiveness of the *Flüchtlingssiedlungsgesetz* that encouraged and supported financially the lease and purchase of farms by forced migrants.[24] Instead, first generation migrants have a thirty percent higher probability of working as a blue-collar worker. Displaced women (but not men) also exhibit a considerably lower likelihood of working as a helping family member. Apart from the immediate loss of family-run businesses, this finding may be explained also by the relatively low rates of self-employment among displaced men.

To what extent can these differences in the sectoral and occupational structure of migrants and natives explain the income differentials between these groups that were documented in Section 5.1? To answer this question, Table 4 reports the 1971 distribution of low-, middle-, and high-income earners by sector of employment, occupational status, and gender. Agriculture appears to be largely a low-income sector: Almost two-thirds of male and more than 96 per cent of female agricultural workers fall in the lowest income category. In industry, the respective shares of men and women in this lowest income category are far smaller. Hence, promoting transitions out of agriculture and into industry, displacement tended to result in transitions into better remunerated jobs. This observation can explain why displacement has a positive effect on the 1971 income levels of those who had worked in agriculture in 1939 but not of those who had worked in other sectors before the war. The lower panel of Table 4 shows that the share of low-income earners in 1971 is much higher among blue-collar than among white-collar workers, the self-employed, or civil servants. As displaced workers are relatively more likely to be employed in blue-collar positions (see Panel C of Table 3), the induced changes in the occupational structure of displaced workers can also partly explain why displacement has a negative overall income effect. Our argument that induced changes in the socio-economic status and sectoral affiliation of displaced individuals are important for explaining the observed income differentials is further strengthened by the fact that these differentials become statistically insignificant if we control in our income regressions also for contemporaneous differences in the socio-economic status and sectoral affiliation of individuals (results are not reported but are available from the authors upon request).

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[24]Presumably, the measure had limited impact because there was simply not enough farmland that could be given to the newcomers (Connor, 2007).

TABLE 4: 1st GENERATION MIGRANTS: INCOME BY SECTOR AND OCCUPATION [IN %]

Income (in DM):	Men			Women		
	<800	800-1,199	$\geq$ 1,200	<800	800-1,199	$\geq$ 1,200
1971 sector of employment						
Agriculture	0.663	0.316	0.021	0.964	0.036	0.000
Industry[1]	0.279	0.630	0.091	0.820	0.167	0.013
Services[2]	0.162	0.630	0.208	0.649	0.312	0.039
1971 occupational status:						
Self-employed[3]	0.133	0.444	0.423	0.500	0.324	0.176
Blue collar worker	0.402	0.596	0.002	0.946	0.054	0.000
White collar worker	0.066	0.744	0.190	0.526	0.460	0.015
Civil servant	0.029	0.681	0.290	0.046	0.679	0.275

NOTE: Entries are the shares of workers in an income category. [1] Includes construction. [2] Includes trade/transport, finance, as well as public and private services. [3] Self-employed outside agriculture.

5.3 Sectoral and Geographic Mobility after Displacement

The previous section has documented that displacement-induced sectoral changes can partly explain long-term income differentials between natives and displaced. This section analyzes whether the displacement had *persistent* effects on the mobility of forced migrants. Table 5 reports estimates of the effects of displacement on the post-displacement sectoral and geographical mobility of individuals. To quantify the former, we employ two outcome measures: the likelihood to change sectors between 1950 and 1960 (medium run), and the likelihood to change sectors between 1960 and 1971 (long run). Concerning geographic mobility, we consider an individual's probability of changing the municipality of residence between 1960 and 1971.[25]

Panel B of Table 5 reveals that displaced men and women are far more likely to have changed sectors between 1950 and 1960 than comparable (as of 1939) non-displaced men and women. For displaced men, chances of a sectoral change are 50 percent higher (a 7.2 percentage points difference to the baseline). For displaced women, the differential is even larger (a 60 percent or 8.2 percentage points difference). It is also evident that overall sectoral mobility was lower in the 1950s than in the previous decade, both among the displaced and among natives (see Panel A of Table 5). As the years 1939 to 1950 saw both World War II and the actual mass displacement of Germans, higher rates of sectoral mobility in the 1940s are little surprising. What is surprising, however, is that the *relative* differences in sectoral mobility between displaced and non-displaced men remain almost unchanged in the 1950s. Similarly, the sectoral mobility of displaced females exceeds that of native females not only in the 1940s but also in the 1950s. In the last decade considered (1960s), however, sectoral mobility rates converge between the displaced and natives. For men, in fact, differences disappear completely (see first row of Panel C).

Large and persistent effects of displacement are also observable for the geographic mobility of individ-

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[25]Change of residence information in our data is only available for the decade immediately preceding the survey year of the *Microcensus.*

TABLE 5: 1st GENERATION MIGRANTS: POST-DISPLACEMENT SECTORAL AND REGIONAL MOBILITY

	Men			Women		
	Native Mean	Displaced	s.e.	Native Mean	Displaced	s.e.
A. Change b/w 1939 and 1950:						
Sector of employment	0.236	0.144	(0.006)	0.212	0.192	(0.009)
B. Change b/w 1950 and 1960:						
Sector of employment	0.144	0.072	(0.005)	0.136	0.082	(0.008)
C. Change b/w 1960 and 1971:						
Sector of employment	0.184	0.005	(0.005)	0.189	0.043	(0.008)
Residence	0.093	0.043	(0.004)	0.087	0.065	(0.003)

NOTE: Means of the control group and OLS estimates for displacement status. Each estimate stems from a separate regression. Robust standard errors are reported in parentheses. Regressions on sectoral change condition on being employed in the first and in the last year of the respective decade considered. All regressions include the following pre-war covariates: age, age squared, an indicator for house ownership in 1939, seven categories for the sector of employment in 1939 (agriculture, industry, construction, trade/transport, finance, public and private services, unknown), and nine categories for socioeconomic status in 1939 (self-employed, farmer, civil servant, white-collar worker, blue-collar worker, family member, apprentice, out of labor force, unemployed).

uals (second row of Panel C). Displaced men are almost fifty percent more likely to have changed residence between 1960 and 1971 than comparable non-displaced men. For women, the relative difference is again even larger.

Overall, the evidence presented in Table 5 suggests that displacement had large and persistent effects on the sectoral and geographical mobility of forced migrants. If the displaced had been voluntary migrants, these findings could, at least potentially, be explained by a higher innate mobility of these individuals, as revealed in their original migration decision. The fact that Germans in Eastern Europe were forced to resettle after world War II, however, precludes such selection-based explanations for our results.

6 Second Generation Migrants

In this section, we analyze whether differences in economic outcomes are still observable for second generation migrants and whether any differences that do exist resemble those for the first generation. As defined in Section 3, second generation migrants were born between 1940 and 1949 and re-settled to West Germany before the age of seven. As for first generation migrants, we analyze differences in 1971 incomes and house ownership rates and investigate to what extent observed income differentials can be explained by differences in the labor force status, sectoral affiliation, and occupational status of second generation migrants and their native peers. In addition, we explore the relationship between displacement and educational attainment, and between displacement and the intergenerational transmission of human capital.

6.1 Income and House Ownership

We start by estimating the effect of displacement on log income. We use two specifications. The first specification controls only for age and age squared; the second also controls for pre-war parental characteristics (house ownership and educational attainment of both parents). Results for both specifications are reported in Panel A of Table 6. They show that second generation displaced men have significantly lower incomes in 1971 than their non-displaced peers. What is more, the magnitude of the income differential is comparable to that suffered by first generation men. It also differs little between the two specifications (-2.6 vs. -3.0 percent). In contrast, and unlike their mother generation, second generation displaced women do not exhibit an income penalty relative to native women.

Panel B of Table 6 reports estimates of the effects of displacement on 1971 house ownership, using the same two specifications as in Panel A. In both specifications, second generation displaced men and women have a significantly lower likelihood to own residential property. Compared to indigenous peers, their chances to own a house are almost 25 percent lower. Additional (unreported) regressions show that the negative effect of displacement status on 1971 house ownership decreases significantly for females (from -4.0 to -1.4 percentage points) and even vanishes completely for males if we consider only offspring of parents that did not own a house before the war. These findings indicate that the lower likelihood of second generation displaced individuals to own residential property can, to a large degree, be explained by the loss of property of the parent generation, i.e., by a persistent adverse inter-generational wealth effect.

TABLE 6: 2nd GENERATION MIGRANTS: LOG INCOME AND HOUSE OWNERSHIP

	Men		Women	
	Displaced	s.e.	Displaced	s.e.
A. Log income				
Without parental covariates	−0.026	(0.006)	0.006	(0.011)
With parental (pre-war) covariates[1]	−0.030	(0.006)	0.005	(0.011)
B. House ownership[2]				
Without parental covariates	−0.029	(0.005)	−0.043	(0.006)
With parental (pre-war) covariates[1]	−0.026	(0.005)	−0.040	(0.006)

NOTE: Estimates for displacement status. Each estimate stems from a separate regression. Income equations are estimated by interval regressions, house ownership equations are estimated by OLS. Robust standard errors are reported in parentheses. Regressions in Panel A condition on employment in 1971. All regressions control for age and age squared of second generation migrants. [1] Parental covariates include a dummy for house ownership in 1939 and a full set of dummies for years of education of both parents. [2] The share of house owners among natives in 1971 was 12.4 percent for males and 19.0 percent for females.

6.2 Labor Force Status, Sector of Employment and Occupational Status

Following our analysis for first generation migrants, this subsection explores to what extent second generation migrants differ from their non-displaced peers in 1971 labor force status, occupational structure and

sectoral affiliation, and whether any such differences resemble those observed for the first generation. We also explore again to what extent differences in the sectoral affiliation and occupational structure between displaced and natives can explain the income penalty for displaced men.

The results of these analyses are summarized in Table 7.[26] Panel A of Table 7 shows that the unemployment risk of second generation migrants does not differ from that of native peers. Displaced and non-displaced individuals, however, do differ in their attachment to the labor market. Among men, displaced individuals are 1.3 percentage points more likely to be out of the labor force. This difference vanishes once we condition on pre-war parental covariates. Among women, in contrast, displaced individuals are 2.7 percentage points less likely to be out of the labor force than native individuals, a finding that proves robust to the use of parental information as additional covariates. The higher labor force participation among female second generation migrants may be explained by the markedly lower marriage and birth rates of this group compared to their indigenous peers. Second generation displaced females have a 6.6 percentage points lower probability of being married than their native peers, and a 4.4 percentage points lower probability of having a child. Although we find similar differences for men, higher marriage and birth rates are arguably of less importance for the labor force participation of men than of women. Less wealth, which materializes in lower home ownership rates, may also contribute to the relatively higher participation rates of displaced females. Indeed, empirical evidence suggests that females, in particular, tend to have higher labor force participation rates if they plan to purchase a home (see Havet and Penot, 2010, for a survey of the relevant literature).

The differences in the sectoral employment structure between displaced and non-displaced young adults resemble strikingly those of the first generation: displaced men and women work far less often in agriculture, and more frequently in industry (see Panel B of Table 7). Displaced women are also significantly more likely to work in the service sector. These differences are large in magnitude, in particular for agricultural employment. Young displaced males are 2.8 percentage points (or 64 percent) and females 6.3 percentage points (or 84 percent) less likely to work in agriculture than their native peers.

Panel C of Table 7 reports estimates of the effects of displacement on the 1971 occupational structure of young adults. Again, the results resemble those found for the parent generation. Second generation migrants (men and women) are significantly less likely to be self-employed in 1971, both as farmers and outside agriculture. Displaced men and women furthermore have a significantly lower probability of working as a helping family member. This is presumably a direct consequence of the much lower self-employment rates among the displaced. In addition, second generation migrants tend to work more often as blue-collar workers. The difference, however, is much smaller than for the first generation and also statistically insignificant for displaced young adult men. The difference for men, however, doubles when differences in parental characteristics are accounted for. Finally, second generation female migrants are over-represented among white-collar workers, and male migrants among civil servants and apprentices. Overall, the above findings suggest that displacement-induced changes in the sectoral and occupational structure of first generation migrants largely carried over to their offspring.

Differences in the occupational structure between second generation male migrants and their native peers

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[26] All regressions include age and age squared as control variables. Results of regressions that control also for parental pre-war covariates can be obtained from the authors upon request. If not mentioned otherwise, the inclusion of pre-war parental characteristics does not materially change the conclusions.

	Men			Women		
	Natives Mean	Displaced	s.e.	Natives Mean	Displaced	s.e.
A. 1971 employment status:						
Out of labor force	0.114	0.013	(0.005)	0.470	−0.027	(0.008)
Unemployed	0.003	0.001	(0.001)	0.004	−0.001	(0.001)
B. 1971 sector of employment:						
Agriculture	0.044	−0.028	(0.002)	0.075	−0.063	(0.004)
Industry[1]	0.547	0.016	(0.008)	0.320	0.036	(0.011)
Services[2]	0.406	0.011	(0.008)	0.601	0.026	(0.011)
C. 1971 occupational status:						
Self-employed[3]	0.043	−0.019	(0.003)	0.021	−0.007	(0.003)
Farmer[4]	0.015	−0.012	(0.001)	0.003	−0.003	(0.001)
Blue collar	0.508	0.012	(0.008)	0.227	0.026	(0.010)
White collar	0.285	−0.001	(0.008)	0.592	0.042	(0.011)
Civil servant	0.101	0.023	(0.005)	0.052	0.009	(0.005)
Working family member	0.018	−0.015	(0.001)	0.096	−0.069	(0.005)
Apprentice	0.010	0.008	(0.002)	0.008	0.002	(0.002)

NOTE: Means of the control group and OLS estimates for displacement status. Each estimate stems from a separate regression. All regressions control for age and age squared of second generation migrants. Regressions on the sector of employment and on occupational status condition on employment in 1971. The regression on unemployment conditions on being in the labor force in 1971. Robust standard errors are reported in parentheses. All regressions include age and age squared as control variables. [1] Includes construction. [2] Includes trade/transport, finance, as well as public and private services. [3] Self-employed outside agriculture. [4] Farmer with own land.

can, at least partly, help to explain the sizeable wage penalty observable for this group. Displaced young male adults are significantly under-represented among the high-earning self-employed outside agriculture, and slightly over-represented among the low-earning group of blue-collar workers. Moreover, they are almost twice as likely to work as low-paid apprentices. Unreported income regressions that condition on 1971 covariates provide supportive evidence for our conjecture that differences in the occupational structure help to explain the income penalty for second generation displaced males. The income penalty halves in size if we condition also on 1971 occupations, whereas the inclusion of other 1971 covariates leaves the income penalty virtually unchanged.

6.3 Education and Intergenerational Transmission of Human Capital

The educational achievement of migrant children is an important yardstick of the integration of immigrants. This section studies the educational attainment of second generation migrants and contrasts it to that of indigenous peers. Educational achievement tends to be positively correlated across generations (see, for

example, Dustmann and Glitz, 2011). However, displacement may affect that relationship.[27] For this reason, this section explores whether the intergenerational transmission process in education differs between migrants and natives.

Table 8 reports estimates of the effects of displacement on the educational attainment of young adults, considering three measures of educational attainment: years of education, and two indicator variables for low and high education. Low education is defined as having at most primary or lower secondary education (*Volksschule*), i.e., only compulsory schooling (eight years), and no vocational degree.[28] High education, in turn, is defined as having completed a degree that requires at least 13 years of education. This group includes individuals with tertiary or upper secondary education (*Abitur*) and individuals with intermediate secondary education (*Mittlere Reife*) that have also completed a commercial apprenticeship (*kaufmännische Lehre*). For each outcome variable, we again run two regressions: one with, and one without parental covariates.

If we do not condition on parental pre-war characteristics, displacement status is associated with an average of 0.08 more years of education for men, and 0.16 more years for women (Panel A of Table 8). For men, this positive correlation disappears when we control for parental pre-war characteristics (house ownership and education); for women, the respective coefficient stays statistically significant but halves in magnitude.[29] Panels B and C of Table 8 show that displacement is associated with a lower likelihood of being low educated, a finding that proves robust to the use of parental pre-war characteristics as additional controls. No significant differences between migrant and native children are observable in the probability of being highly educated.

The lower likelihood of second generation migrants to be low-skilled may again be explained by the sectoral and occupational changes of the parent generation. In 1971, more than 50 percent of all young adult farmers and helping family workers are low-skilled. Second generation migrants, however, have a much lower probability to work either as a farmer or a helping family member. This can be explained by the fact that the majority of first generation migrants who had been employed in agriculture before the war left that sector after displacement. Displaced farmers lost their estates, i.e., property that would have predestined their offspring also for a career in (low-skilled) agriculture. Migrant children were forced to look – and compete – for work outside agriculture, i.e., for work that requires larger investments in human capital.

Evidence for a weaker intergenerational transmission of human capital among forced migrants corroborates this conclusion. Table 9 reports results from estimating equation (3). Panel A of Table 9 shows that years of education are positively correlated across generations. For non-displaced males, the coefficient estimate is 0.405 on the father's years of education and 0.205 on those of the mother. The education of

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[27]The intergenerational mobility of migrants has only recently received wider attention in the academic literature (see, for example, Bauer and Riphahn, 2007; Dustmann, 2008; Gang and Zimmermann, 2000). In this context, it is interesting to note that the educational attainment of second generation forced migrants, and the intergenerational transmission in education between migrant parents and their children, were already an issue in the political debate in West Germany right after World War II (see Hughes, 1999).

[28]Compulsory years of education were increased to nine years in 1964. Individuals born in 1940-1949 were aged at least 15 in 1964 and hence not affected by this schooling reform.

[29]Some of the young adults who are aged 22 to 31 in 1971 may not have completed their education by the time the survey was conducted. Our results may thus be biased if the share of those still in education differ between migrants and non-migrants. Restricting the analysis to older age cohorts (individuals born in 1940-1945) leads, however, to similar results as those reported. The same holds true for the analyses that follow. Results of these robustness checks are available from the authors upon request.

	Men			Women		
	Natives Mean	Displaced	s.e.	Natives Mean	Displaced	s.e.
A. Years of education						
Without parental covariates	10.82	0.076	(0.034)	10.46	0.162	(0.034)
With parental (pre-war) covariates	10.82	−0.007	(0.030)	10.46	0.080	(0.031)
B. Low education (0/1)						
Without parental covariates	0.124	−0.021	(0.005)	0.271	−0.040	(0.007)
With parental (pre-war) covariates[1]	0.124	−0.016	(0.005)	0.271	−0.030	(0.007)
C. High education (0/1)						
Without parental covariates	0.219	0.011	(0.007)	0.160	0.016	(0.006)
With parental (pre-war) covariates	0.219	0.003	(0.007)	0.160	0.008	(0.006)

NOTE: OLS estimates for displacement status. Each estimate stems from a separate regression. Robust standard errors are reported in parentheses. All regressions control for age and age squared of second generation migrants. Parental covariates include a dummy for house ownership in 1939 and separate controls for the educational attainment of both parents (that correspond to the dependent variable of the regression).

the father is thus more important for the education of sons than the education of the mother. The same holds true for daughters[30] even though the difference in the influence of fathers and mothers is smaller for them. The negative coefficient estimates on the interaction terms between displacement status and a father's education (-0.096 for males and -0.051 for females) indicate that the education of the father is significantly less important for the educational attainment of migrant than of native children. Displacement thus weakens the intergenerational transmission. This finding is consistent with earlier findings in the migration literature which suggest that the persistence of educational attainment across generations tends to be much stronger among natives than among migrants (Gang and Zimmermann, 2000; Bauer and Riphahn, 2007; Aydemir et al., 2008).

Panels B and C of Table 9 show that differences between migrants and natives in the intergenerational transmission of human capital are particularly pronounced in the lower tail of the educational distribution. Compared to their natives peers, both male and female second generation migrants have a significantly lower probability of being low educated if they are born to fathers with just mandatory education (no differences are observable for children born to mothers with mandatory schooling only). At the upper end of the skill distribution, differences in the intergenerational transmission of human capital are far less pronounced (see Panel C of Table 9).[31]

Overall, if judged against a father's education, intergenerational *upward* mobility in education appears much higher among the displaced. The fact that German farmers in Eastern Europe were deprived of their

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[30]Similar findings for Germany are provided by Gang and Zimmermann (2000).

[31]Here, statistically significant differences exist only for second generation males. Displaced young men show a significant lower probability of being high educated if their father is high educated. The difference, however, is small.

TABLE 9: INTERGENERATIONAL TRANSMISSION OF EDUCATIONAL ATTAINMENT

	Men		Women	
	Coeff.	s.e.	Coeff.	s.e.
A. Years of education				
Covariates:				
Displaced	0.587	(0.211)	0.885	(0.218)
Years of educ. father	0.405	(0.008)	0.342	(0.008)
Displaced × years of educ. father	−0.096	(0.021)	−0.051	(0.020)
Years of educ. mother	0.205	(0.010)	0.250	(0.010)
Displaced × years of educ. mother	0.042	(0.025)	−0.031	(0.024)
B. Low-skilled (0/1)				
Covariates:				
Displaced	0.016	(0.006)	−0.000	(0.008)
Low-skilled father	0.192	(0.006)	0.263	(0.007)
Displaced × low-skilled father	−0.085	(0.014)	−0.088	(0.018)
Low-skilled mother	0.054	(0.004)	0.181	(0.005)
Displaced × low-skilled mother	−0.010	(0.009)	−0.008	(0.013)
C. High-skilled (0/1)				
Covariates:				
Displaced	0.009	(0.007)	0.013	(0.006)
High-skilled father	0.374	(0.010)	0.268	(0.009)
Displaced × high-skilled father	−0.056	(0.025)	−0.017	(0.023)
High-skilled mother	0.213	(0.016)	0.215	(0.016)
Displaced × high-skilled mother	0.020	(0.037)	−0.036	(0.036)

NOTE: Robust standard errors are reported in parentheses. All regressions include age, age squared, and home ownership of parents in 1939 as control variables.

land and ultimately driven out of agriculture again provides a potential explanation for this finding. With no land and business to pass on to the second generation, children of (former) farmers were forced to look for work outside agriculture, requiring them to obtain more education than their fathers had obtained.[32]

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[32]This explanation is consistent with results reported in Lüttinger (1986). The author analyses the link between the occupation of fathers and the occupational choice of sons born between 1920 and 1929. He finds that among sons whose fathers worked as farmers displacement status greatly reduces the probability to obtain only low education. Lüttinger (1986) attributes his finding to the loss of farmland that bereaved sons of the possibility to become farmers themselves. The birth cohort considered by Lüttinger (1986), however, is not ideal, as many individuals (sons) in his analysis are likely to have already completed their education by the time of displacement.

7 Conclusion

Each year millions of people are forced to leave their homelands because of wars and natural disasters. Although a sizeable phenomenon, both within and between countries, little is yet known on how forced migrants ultimately integrate into the economies of their destination regions or countries. Studies on forced migration are still scant, and in their focus they are almost exclusively confined to the short run. This paper studies one of the largest forced population movements in history, the displacement of millions of Germans from Eastern Europe, and provides a comprehensive analysis of the medium- and long-run economic performance of these migrants and their offspring in West Germany. As our study considers the integration of forced migrants, it does not suffer from many of the econometric problems that are commonly faced in analyses of the integration of voluntary migrants.

Our findings show that even a quarter of a century after displacement, displaced Germans are, on average, still economically disadvantaged relative to their native peers. In 1971, first generation migrants have significantly lower income levels and home ownership rates, and significantly higher risks of unemployment than comparable (as of 1939) natives. Similar to their parents, second generation forced migrants are also less likely to own a home and male migrants have lower income levels. Displacement had, however, strongly heterogeneous effects. In particular, first generation forced migrants that had been employed in agriculture before World War II have substantially higher long-run incomes than comparable natives. We show that this income gain can be explained by faster transitions of forced migrants from agriculture into other sectors and occupations. Transitions out of agriculture can also explain our finding of a higher intergenerational upward mobility in education among the displaced.

Overall, our results suggest that displacement had significant and mostly negative long-run economic consequences for the displaced. Language deficiencies or a potentially negative self-selection of low-productivity migrants cannot explain our findings; and neither can unfavourable macroeconomic conditions in the destination region (West Germany) that may have hampered the successful integration of forced migrants. In fact, for most of the 1950s and 1960s, aggregate economic conditions were most favorable. Although a faster transition of the displaced from traditional into modern sectors tended to foster a successful integration, this greater mobility evidently did not suffice to achieve long-run economic parity between migrants and natives. In fact, the economic consequences of displacement and the ensuing adjustment processes appear so long lasting that they are still felt by the offspring of the displaced a full quarter of a century after World War II had ended. Our analysis therefore suggests that the substantial policies measures that were undertaken to foster the successful integration of the displaced did not, as is widely believed, achieve their objective in full.

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