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Forced Migration and Human Capital: Evidence from Post-WWII Population Transfers

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Abstract

We study the long-run effects of forced migration on investment in education. After World War II, millions of Poles were forcibly uprooted from the *Kresy* territories of eastern Poland and resettled (primarily) in the newly acquired *Western Territories*, from which the Germans were expelled. We combine historical censuses with newly collected survey data to show that, while there were no pre-WWII differences in educational attainment, Poles with a family history of forced migration are significantly more educated today than other Poles. These results are driven by a shift in preferences away from material possessions toward investment in human capital.

JEL: N33, N34, D74, I25

Keywords: Poland, Forced Migration, Uprootedness, Human Capital

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"And so it happened that ... the marshall came: 'Leave' — 'But where should I go?'— 'To Poland.' And I say: 'I am in Poland.' And he says: 'This is not Poland anymore.' "[1]

Forced migration is a life-changing experience. It leaves deep scars in the memory of expellees. Does the experience also affect subsequent generations? In his bestselling autobiographical novel *A Tale of Love and Darkness*, Amos Oz wrote, *"It was always like that with Jewish families: they believed that education was an investment for the future, the only thing that no one can ever take away from your children, even if, Heaven forbid, there's another war, ... another migration"* (Oz, 2005, p. 172). The idea that being uprooted by forced migration increases the demand for education has been put forward in economics (e.g., Brenner and Kiefer, 1981), but the hypothesis has proven difficult to test.[2] It is hard to identify the link between forced migration and investment in education. Forced migrants typically differ from locals along other socioeconomic and cultural characteristics such as ethnicity, language, and religion. In addition, labor-market competition with locals could have a direct effect on educational choices of migrants.

In this paper, we explore a unique historical setting to study the effect of forced migration on human-capital investment, absent the typical confounding factors. In the aftermath of WWII, over 2 million Poles were expelled from their homes when Polish frontiers were moved westward. Figure 1 illustrates Poland's redrawn borders. Poland's Eastern territories (*Kresy*) became part of the Union of Soviet Socialist Republics (USSR), while the former German areas (*the Western Territories*) became Polish. Before WWII, the Western Territories had been home to about 8 million Germans who were forced to resettle after the war, leaving land and capital stock behind. In the east, Poles were forced to leave Kresy; and the vast majority resettled in the now sparsely populated Western Territories. We compare the descendants of Poles who were forced to migrate with all other Poles of the same ethnicity, language, and religion.

We worked with the nationally representative Polish social survey, *Diagnoza*, to include, in their 2015 wave, questions about respondents' ancestors from Kresy. Among the almost 30,000 respondents, more than 11% had ancestors from Kresy. We find that descendants of forced migrants have significantly higher educational attainment today, as compared to all other Poles. The educational advantage that descendants of forced migrants have is quantitatively important: They have on average one extra year of schooling, driven by a higher propensity to finish secondary or

[1] Testimony cited in an exhibition of the Polish History Museum devoted to forced migration from Kresy. See Appendix I for detail and sample photographs.

[2] Stigler and Becker (1977) attribute the idea to Reuben Kessel (undated; see their footnote 1). Regarding the most prominent case—that of the Jews—Botticini and Eckstein (2012) have convincingly challenged the idea that forced migration and discrimination are the main drivers of their educational lead. They argue that Jewish preferences for education can be explained by historically-rooted religious motives.

higher education. By contrast, before WWII, when Poland consisted of the Kresy territories and Central Poland (CP), Poles in Kresy had lower literacy rates. Figure 2 illustrates the reversal in education of Poles originating from Kresy vs. Poles from Central Poland comparing education levels of these groups before and after WWII.

The Diagnoza survey allows us to compare descendants of forced Kresy migrants with all other Poles. However, the survey contains no information about ancestors other than from Kresy. To address this, we conducted an additional survey, *the Ancestry Survey*, in 2016, in the Western Territories (WT), where the majority of Kresy migrants were transported after WWII. We asked a representative sample of about 4,000 respondents about the origin location of *all* their ancestors in the generation of the youngest adults in 1939. We obtained the detailed locations of origin of almost 12,000 ancestors from all over present-day Poland, as well as from Kresy. In addition, the Ancestry Survey allows us to compare the education levels of the descendants of forced migrants from Kresy, of voluntary migrants from CP, and of Poles who had already lived in WT before the war (autochthons). We find that descendants of migrants from Kresy are the most educated, followed by descendants of voluntary migrants. Descendants of autochthons are the least educated group in Poland's WT today.

Our Ancestry Survey also allows us to confirm our main results in a border-sample analysis. We restrict the sample to people whose ancestors in 1939 lived less than 150 kilometers from either side of the Kresy border. We find that among respondents who live in the same town or village today, those whose ancestors lived in Kresy have significantly higher education today than those whose ancestors lived in CP, within our Kresy border sample.

We examine two potential threats to identification: First, preexisting differences—people from Kresy may have already had higher educational attainment or different preferences for education before WWII. Second, selection—people from either Kresy or from other parts of the country may have differentially selected into specific locations. We use a combination of historical data, survey data, and border discontinuity analyses to address these concerns. We then examine several possible mechanisms behind our results. Using both historical sources and empirical analysis, we document that Kresy migrants did not have differential access to resources, schooling, or employment opportunities at their destination locations. Nor is there any indication that congested labor markets, differential fertility, out-migration, or economic conditions at destinations confound our results. We conclude that a shift in preferences toward investment in human capital is the most likely explanation for our findings.

We support this interpretation with survey evidence, showing that descendants of forced migrants value material goods less, and more strongly aspire to educate their children. They also possess fewer physical assets compared to what they can afford. Historical narratives from the

time of the expulsions corroborate our survey evidence, suggesting a change in preferences toward education. For example, a memoir by a forced migrant from Kresy, who came from a simple peasant family, reads: *"In Western Territories, there was a specific situation. People did not attach great importance to material wealth. After all, nobody had it at that time ... Most of the people who came here were still living in the memories of places of their origin and of material things that had belonged to their families for generations. In a new life situation, the cult of new values emerged, i.e., values that are indestructible, that cannot be lost, and that die with the man—the cult of knowledge, of skills, which can resist cataclysms"* (Bieniasz (1987), as cited in Halicka (2015), p. 262).

Our interpretation is consistent with recent evidence revealing how preferences can adjust to shocks to environmental or institutional conditions. A robust body of evidence describes how individual preferences change in response to exposure to violence, natural disasters, or economic shocks.[3] Recent evidence suggests that these effects persist in future generations (Galor and Özak, 2016; Zhang, 2018). Our work is also related to the literature that studies the economic effects of migration. This research typically focuses on two broad topics: The effect of migrants on short-run and long-run economic outcomes at their destinations, and socioeconomic effects on migrants themselves and on their descendants.[4] A large body of work has examined *forced migration*, driven by natural disasters, international wars, and civil wars.[5]

Our focus is on the long-term effects of forced migration after WWII, in the generations of children, grandchildren, and great-grandchildren of adult expellees. In the context of forced migration due to WWII, two related papers are Bauer, Braun, and Kvasnicka (2013) and Sarvimäki, Uusitalo,

[3]See Blattman and Miguel (2010) for a review of the literature on exposure to violence, and Voors, Nillesen, Verwimp, Bulte, Lensink, and van Soest (2012), Bauer, Cassar, Chytilová, and Henrich (2014), Cassar, Grosjean, and Whitt (2013), or Jakiela and Ozier (2019) for more recent contributions. On natural disasters, see Cameron and Shah (2015), Cassar, Healy, and von Kessler (2017), and Hanaoka, Shigeoka, and Watanabe (2018). On economic shocks, c.f. Giuliano and Spilimbergo (2014), Fisman, Jakiela, and Kariv (2015), and Malmendier and Nagel (2016).

[4]See the comprehensive discussions in Borjas (2014), Card and Peri (2016) and Dustmann, Schönberg, and Stuhler (2016) for short-run effects; for evidence of the long-run effects of migrants at their destinations see Hornung (2014), Peters (2017), and Murard and Sakalli (2018). Dustmann, Frattini, and Lanzara (2012) provide an overview of the literature on second-generation immigrants. Katz and Rapoport (2005) build a model that formalizes how forced migration can lead to a shift away from investing in physical capital toward investing in human capital.

[5]Becker and Ferrara (2019) survey the literature on the effects of forced migration. Card (1990), Braun and Omar Mahmoud (2014), Bharadwaj, Khwaja, and Mian (2015), and Borjas and Monras (2017) use forced migration to identify the effect of migration on economic outcomes at the destination. Several papers examine relatively short-run effects of natural disasters. Sacerdote (2012) looks at the effects on test scores of students displaced from New Orleans after Hurricane Katrina. Nakamura, Sigurdsson, and Steinsson (2017) study the labor market outcomes of families displaced by the eruption of a volcano off the coast of Iceland in 1973. Jacob (2004) and Chyn (2018) exploit exogenous variation in mobility caused by public-housing demolitions in Chicago. While neither paper finds effects on educational attainment, displaced children have better labor market outcomes as adults. The literature has also examined the effects of *voluntary* migration (Abramitzky, Boustan, and Eriksson, 2014; Sequeira, Nunn, and Qian, 2019; Bazzi, Gaduh, Rothenberg, and Wong, 2016).

and Jäntti (2019). Bauer et al. (2013) study the economic integration of Germans expelled from Poland's Western Territories into West Germany. They find that migrant children tend to acquire more education than their native peers. The main mechanism behind this finding is congestion: Former farming families had to look for work outside agriculture because agricultural land in West Germany was already held by native Germans. We show below that this mechanism is unlikely to be at play in the largely emptied Western Territories. Sarvimäki et al. (2019) study the effect of forced migration of 11% of the Finnish population after the Soviet invasion in 1939 on income of migrants.

Relative to the existing literature, we make several contributions. First, we test the prominent hypothesis, untested by the previous literature, that uprootedness leads to investment in human capital. Uprootedness is arguably a contributing factor to numerous studies on forced migration, such as Bauer et al. (2013), Nakamura et al. (2017), Sarvimäki et al. (2019), though their contexts did not allow them to prove that it was the main factor at play. Second, we analyze the hitherto unstudied mass population movements in post-WWII Poland, where Poles expelled from Kresy were resettled into the largely empty ex-German Western Territories. This unique setting allows us to bypass common confounding factors associated with forced migration, such as different ethnicity, language, or religion, as well as congested labor markets. Third, we break new ground by studying the long-run effects of forced migration on the descendants of migrants over several generations. This is relevant to policymaking in a world with large waves of forced displacement. Finally, our results suggest that caution is warranted in the prominent approach that uses forced migration as an instrument to estimate the effect of voluntary migration—this instrument may directly affect outcomes via a change in preferences.

The rest of the paper is organized as follows. Section II. provides historical background. Section III. describes the data. Section IV. shows the main results using the two surveys. Section V. examines threats to identification, such as (potential) selection of migrants. Section VI. presents evidence on mechanisms. Section VII. concludes.

II. Historical Background

II.A. The Change of Poland's Borders

Redrawing Poland's Borders in the 20th Century

During the period known as the Partitions of Poland, Poland did not exist as an independent state. The Second Polish Republic (SPR) was created in 1918. In September 1939, Nazi Germany and the Soviet Union invaded the SPR, splitting it according to the Molotov-Ribbentrop Pact, and Poland once again ceased to exist as an independent state. At the end of World War II, an independent

Poland reemerged within redrawn borders that "moved" Poland 200 kilometers to the west. These new borders were established during the Tehran, Yalta, and Potsdam Conferences. Poland gained the former German territories of Silesia, Pomerania and East Prussia, collectively known as the Western Territories. At the same time, Poland lost the Eastern Borderlands, known as *Kresy*. The Kresy territory was divided among the Soviet Republics of Lithuania, Belorussia, and Ukraine. Figure 1 illustrates the change in Polish borders.[6]

We refer to the part of Poland that belonged to the SPR before WWII and continued to be Polish after WWII as Central Poland. Thus, the territory of Poland before WWII comprised Central Poland and Kresy, whereas the Polish territory after WWII comprised Central Poland and the Western Territories. The 1931 Polish census—the last census of the SPR—counts about 3 million ethnic Poles in Kresy. Before WWII, according to the 1939 German census, 8.8 million people lived in areas that after WWII became the Polish Western Territories. Almost 90% declared themselves to be German, 10% Poles, and about 1% Jews (Dziewanowski, 1977).

Arbitrariness of the Kresy Border of 1945

The Kresy border was established roughly along the so-called Curzon Line after many discussions between Josef Stalin and the Allies. The Curzon Line had earlier been suggested as an armistice line by the British Foreign Secretary, Lord Curzon, during the 1920 Polish-Soviet conflict—a suggestion that was then disregarded by both Poland and the USSR. The 1921 Treaty of Riga instead provided Poland with land that—on average—was about 250 kilometers eastward of the Curzon Line. The Curzon Line also did not correspond to the border Germany and the Soviet Union established in their Molotov-Ribbentrop Pact. After the military defeat of Poland in September 1939, the USSR annexed territories extending well to the west of the Curzon Line—as far as Lublin and Warsaw. Nor did the Curzon Line separate geographically different areas: There is no discontinuity in geo-climatic characteristics such as precipitation, temperature, elevation, terrain ruggedness, or in suitability for various crops (see Appendix V.A).

After recapturing eastern Poland from Germany in 1944, the Soviets unilaterally declared the new border between Poland and the USSR approximately along the Curzon Line, to which the Allies ultimately conceded at the Yalta Conference.[7] Historians of Poland agree that the post-WWII border between Poland and the USSR, which we henceforth refer to as the Kresy border,

[6]The eastern border of the SPR was established by the 1921 Treaty of Riga which marked the end of the Soviet-Polish war of 1919-1921. The borders of the SPR around Silesia and East Prussia were adjusted as a result of several referenda in 1920-1922. Throughout the analysis and on the map, we consider the final SPR border as of 1922.

[7]In Appendix I.C, we give more detail on variants of the Curzon Line that were under consideration. We show that our results hold when we restrict our sample to counties that different versions of the Curzon Line placed on different sides of the border, i.e., counties that could have become Polish or Soviet territories, depending on the different variants of the Curzon Line (Table A.12).

was arbitrary. For example, Davies (1981, p. 493) writes: *"All decisions regarding the Polish frontiers were taken ad hoc[...] No attempt to trim the frontiers to the wishes of the population ever succeeded [...] It was decided in 1944–5 to trim the population to the requirements of arbitrary frontiers."*

Poles in Kresy and Central Poland Before WWII

In the context of our study, a relevant question is whether Poles from Kresy were exposed to radically different experiences than Poles from other regions already before WWII. In the two periods when Poland was a sovereign state—the Polish-Lithuanian Commonwealth (1569-1795) and the SPR (1918-1939)—Poles had the same rights in all parts of the country. In particular, Poles who lived in what later became Kresy and Poles who lived in what later became Central Poland had exactly the same status (Davies, 1981). By contrast, during the Partitions of Poland, the living conditions and the rights of Poles differed across the three empires (e.g., Davies, 1981; Grosfeld and Zhuravskaya, 2015). The Russian and the Austro-Hungarian Partitions stretched over parts of Kresy and parts of Central Poland. *Within* these two partitions, Poles had the same rights whether they lived in Kresy or elsewhere.[8] Overall, Poles in Kresy faced differential treatment (as compared to Poles in other parts of Poland) only once—when they were forced to move from Kresy at the end of WWII.

II.B. Post-WWII Mass Population Movements

In conjunction with the redrawing of Poland's borders after WWII, mass migration occurred. At the end of WWII, an estimated 2.5 million to 3.4 million Germans (who had not fled as the Red Army advanced), and 1 million Poles were still living in WT (Dziewanowski, 1977). The remaining Germans were expelled from WT and had to resettle in Germany, west of the Oder-Neisse Line. Poles from Kresy were forced to resettle within the new Poland, while Ukrainians, Belorussians, and Lithuanians had to leave Poland and resettle in the USSR. These mass migrations began in 1944 and were largely completed by 1948 (e.g., Schechtman, 1962; Eberhardt, 2003).

Historians agree that the members of these groups had essentially no alternative but to move—Polish and Soviet authorities sought to quickly create irreversibility, by moving populations according to the new frontiers (see Davies, 1981; Kersten, 1986).

[8] Below, in Section VI.B., we show that our results hold when we restrict the sample to ancestors who lived within the former Russian Partition of Poland (which covered about three-quarters of Kresy and half of CP). The Prussian Partition did not include any part of Kresy, and the Austro-Hungarian Partition covered about one-quarter of Kresy (Grosfeld and Zhuravskaya, 2015). We also show that exposure to violence during WWII does not drive our results.

Forced Migration from Kresy

By 1950, 2.1 million Poles had been forced to move from Kresy. The Polish State Repatriation Bureau tried to ensure an orderly movement of Poles from Kresy directly to WT; but war-related devastation, destruction of infrastructure, and lack of adequate transport made this task difficult. Approximately one-quarter of Kresy migrants, many of whom had family ties in CP, settled there. Polish authorities sought to resettle Kresy deportees in those places in WT that had soil and climatic conditions most closely resembling the conditions at the origin locations, which in practice meant that trains brought people to WT from Kresy along the same latitude. Each family was allowed to bring up to two tons of belongings, including livestock; thus, they had to leave most of their possessions behind (Ciesielski, 1999).

Not everybody left during the post-war population exchange. In 1945-1946, authorities in the Lithuanian and Belorussian SSR were concerned that agricultural production could be halted by a drop in agricultural labor and tried to prevent Poles in rural areas from leaving. In contrast, Ukrainian authorities did not attempt to prevent rural Poles from leaving due to the high levels of animosity between Poles and Ukrainians at the end of WWII (e.g., Ciesielski, 1999). In all three Soviet republics, pressure on the urban Polish population to leave was high. We exploit the urban vs. rural and Ukraine vs. rest-of-Kresy variation below.

Voluntary Migration from Central Poland

Despite WWII-related destruction, WT offered abundant land, housing, infrastructure, and capital stock. Before the war, these territories had been densely populated, making them an attractive destination for voluntary migrants from CP, who were seeking a better fortune. Deprivation and poverty were the main drivers of migration from CP (Zaremba, 2012, p. 97). The flow of migrants from CP started in the spring of 1945. Some of this early voluntary migration was spontaneous (mostly from the neighboring Polish areas, sometimes on foot, or by horse carts and trucks), and some was triggered by an advertising campaign organized by the Polish authorities that promoted a move to WT to populate the newly acquired land as quickly as possible.

Aggregate Statistics on Mass Population Movements

The first full post-WWII population census in Poland, in 1950 (GUS, 1955), gathered information about the mass movements of the Polish population by asking about the place of residence before September 1, 1939.[9] Table 1 reports aggregate statistics from the 1950 census about the origin of

[9]In particular, respondents indicated whether they had lived within the post-WWII Polish borders, and if so, in which region (voivodeship). If in 1939, respondents had lived outside the borders of post-WWII Poland, they had to indicate the country in which their 1939 place of residence was located in 1950. Thus, forced Kresy migrants indicated that they lived in the USSR before the war.

the Polish population, separately in the Western Territories and in Central Poland. In 1950, the Polish population was 24.6 million, 23% (5.6 million) of whom lived in WT. Within WT, about 50% (2.8 million) came from CP, 28% (1.6 million) came from Kresy, and 20% (1.1 million) were autochthons, i.e., Poles who had lived in WT when they belonged to Germany before the war. The remaining 2.7% came from other countries, mostly from France. Within CP, 96.5% (18.4 million) of the population came from CP and only 3% (about 583,000) came from Kresy. Very few inhabitants of CP came from WT or from abroad (0.1% and 0.3%, respectively).

Ethnically and religiously, post-WWII Poland was largely homogeneous, composed of ethnic Poles of Roman Catholic faith who differed only in their pre-WWII region of residence. In 1950, Poles constituted 97.8% of the total Polish population. The remainder were Germans, Ukrainians, Belorussians, and Jews, with each group accounting for less than 1% of the population (Eberhardt, 2000, p. 76).

The Arrival of Migrants in the Western Territories

Upon arriving in the Western Territories, Poles (whether they came from Kresy or Central Poland) were allocated land, housing, and capital that expelled Germans had left behind. In rural areas, this primarily meant houses, land plots, and agricultural machines; in urban areas—apartments, townhouses, shops, and office buildings. Initially, the Polish administration was very weak and operated under conditions of chaos, confusion, and lack of rules. There was no register of available properties, and people were more or less free to find and claim a place. During this first period, the capital goods left by Germans were distributed on a first come, first serve basis (Halicka, 2015, p. 203). When institutions and the Polish administration became stronger, authorities began to organize the distribution of land and capital. The arrival of migrants in WT coincided with the land reform in 1944-1948. Migrants to rural areas typically got lots of 8-10 hectares per family; larger estates were parceled out among several families (Davies, 1981, p. 559). The peasants became owners of their land for an equivalent of a one-year harvest payable in several installments. Large farms of more than 100 hectares in WT (and more than 50 hectares in CP) were transformed into State Collective Farms. The houses and flats left by Germans were nationalized, and settlers got lifetime rental contracts.

Forced Kresy migrants and voluntary migrants from Central Poland arrived in the Western Territories at the same time. They were treated equally upon arrival (Schechtman, 1962, p. 213). The Ministry of Recovered Territories collected statistics on the rates of arrival of migrants by month during 1946 and 1947. Figure A.6 in the appendix visualizes these data, showing that the share of migrants arriving in WT from Kresy was about 40%-50% of all incoming migrants throughout this two-year window. By the end of 1947, the Kresy migration of the first repatriation

wave came to an end.[10]

II.C. Uncertainty Perceived by Kresy Migrants and Its Connection with Education

Historical and journalistic accounts of resettlement in WT suggest that forced migrants perceived a higher degree of uncertainty than other settlers or autochthons. Inhabitants viewed the fate of WT as uncertain because of the lack of a legal guarantee for the Polish-German border.[11] The prominent Polish sociologist Zdzisław Mach described this in an interview with the leading Polish newspaper *Gazeta Wyborcza*: *"Settlers did not feel that the land they found was given to them forever. Until the 70s it was not certain that the Western Territories would remain part of Poland. ...Władysław Gomułka [the first Communist Party secretary] ...did not invest in the Western Territories because at heart he was not sure what would happen to them... It is not a random expression that the first generation of resettlers were living on suitcases. They never felt sure and secure..."* (*Gazeta Wyborcza*, Dec 29, 2010).

Settlers from Kresy, traumatized by their expulsion, worried that Germany would take over WT (e.g., Zaremba, 2012). Magdalena Grzebałkowska, a journalist and the author of *"1945: War and Peace,"* a book based on the testimony of descendants of resettlers to WT, was herself born in WT; her grandparents had been forced to move from Kresy. In her book, she reflects on her own experiences: *"As a child, I was worried that if something is postgerman, at some point it may become postpolish. Unconsciously, I inherited the fear of my ancestors-settlers that the place where I live is given to us just for a moment"* (Grzebałkowska, 2015, p. 72). In an interview with the authors of this paper (conducted on May 9, 2018), Grzebałkowska confirmed that the experience of forced migration had an important effect on her perception of uncertainty, which in turn is related to education decisions: *"Unlike migrants from Central Poland who always had an option of going back to Central Poland (and some actually did go back),... forced Kresy migrants got the 'one-way ticket' and lost everything... When you lost everything, it seems worth investing in yourself, getting more education."*

III. Data

We use several data sets for modern-day and historical Poland in our analysis. To capture modern-day educational attainment at the individual level, we use two surveys that also ask questions about

[10] In Appendix VII.B, we discuss the so-called second repatriation of Poles from the USSR in 1955-1959, which amounted to about 10% of all Kresy migrants.

[11] Until 1950, a mere memorandum from the Potsdam Conference guided the demarcation of the border along the Oder-Neisse Line; in 1950, East Germany and socialist Poland signed the first bilateral treaty legalizing it. In 1970, West Germany and Poland signed a similar treaty. The final treaty was signed by Poland and reunified Germany in 1990; it was ratified by the Polish Sejm and the German Bundestag in 1991.

the history of migration of respondents' ancestors in the aftermath of WWII.[12] We complement these surveys with aggregate (regional and county-level) data from historical censuses that describe population characteristics in Poland before and after WWII. We describe each of these data sources in turn.

III.A. Diagnoza Survey

The Diagnoza ("Social Diagnosis") survey from the Council for Social Monitoring (2015) is a large-scale household survey comparable to similar surveys in the United States (Panel Study of Income Dynamics) or the United Kingdom ("Understanding Society"). It is a representative sample of the Polish population with eight waves between 2000 and 2015 (see http://diagnoza.com/index-en.html). We commissioned the addition of several questions to the 2015 wave, which inquired whether any of the ancestors of the respondent came from Kresy and if so, from which exact location.[13] The 2015 wave, with approximately 30,000 observations, allows us to compare education and other outcomes for respondents with *any* ancestors from Kresy to those without ancestors from Kresy. We focus on the education of respondents, using years of education as our main variable of interest. We also use two dummies for educational attainment: (i) having (at least) secondary education and (ii) having (at least) completed higher (tertiary) education. We also use a number of questions about the attitudes of respondents toward the education of their children and toward the accumulation of material wealth.

A drawback of the Diagnoza survey is that it includes only information on ancestors from Kresy but not on ancestors from other areas, such as from CP. In addition, the survey does not report the exact ancestor who lived in Kresy (e.g., mother, father, grandmother). Our Ancestry Survey fills these gaps.

III.B. Ancestry Survey

To complement the Diagnoza survey, we conducted our own survey in 2016 in the Western Territories, which saw the largest inflow of Kresy migrants after WWII. In our Ancestry survey (Becker, Grosfeld, Grosjean, Voigtländer, and Zhuravskaya, 2016), we asked a professional survey company to draw a representative sample of the population in WT (3,169 respondents), as well as an additional representative sample of people in WT with Kresy origin (900 respondents).[14] We

[12] In Appendix IV.D, we also use a third survey, the Life in Transition Survey (LiTS), which has a substantially smaller sample than the other surveys, but nevertheless confirms our results.

[13] The main question added was: "Is there anybody in your household who himself or his parents or grandparents were living before WWII in the Eastern Borderlands (Kresy)?" If the answer was "yes," respondents were asked to indicate up to three localities where their relatives lived in Kresy in the summer of 1939. We geocoded these places.

[14] This oversample of 900 additional respondents with Kresy origin was done via "random route" sampling, i.e., after interviewers had interviewed one of the randomly drawn 3,169 respondents, they would go from door to door in the neighborhood until they found a respondent with Kresy origins. Our baseline regressions are unweighted, following

asked detailed questions about the place of living of respondents' ancestors for each ancestor in the generation of the youngest adults in 1939 (see Appendix IV.5). For instance, if the youngest adult generation was the respondent's parents, we asked where the mother and the father of the respondent lived on September 1, 1939. If the generation of the youngest adults in the family in 1939 was the respondent's grandparents, we asked where each of the four grandparents lived. Similarly, if the generation of the youngest adults in 1939 was the respondent's great-grandparents, we solicited information for all eight great-grandparents. Overall, the 4,069 respondents gave information about 13,223 ancestors. Most respondents knew the exact name of the locality of origin of their ancestors (not just the broad region of origin), even when the generation of youngest adults in the family was the great-grandparents. This highlights the salience of the mass population movements in the family histories of Poles.[15] Overall, we were able to identify and geocode the place of residence for 11,928 of the 13,223 ancestors.

We report summary statistics for the Diagnoza survey and for our Ancestry Survey in Tables A.1 and A.2. Figure A.7 in the appendix displays the origin of ancestors in our Ancestry Survey.

III.C. Historical Censuses

Post-WWII Polish Census: 1950—The Polish census in 1950 (GUS, 1955) contains information on population movements. It asked which Polish region or which country people lived in before WWII (according to post-WWII borders – thus, people who lived in Kresy in 1939 had to answer "USSR"). In WT, this information is available by county (powiat) of residence; in CP, it is available by region (voivodeship) of residence, and for Kresy there is no further detail (since all of Kresy falls under the USSR). Appendix III benchmarks the surveys' responses against the information on post-WWII migration given by the 1950 Polish census.

Interwar Polish Censuses: 1921 and 1931—We use two censuses conducted in the SPR (GUS, 1928, 1938). The census closer to WWII was conducted in 1931; it gives information on literacy rates and shares of population with different languages and religions by locality, but without cross-tabulations of the data. The 1921 census, in contrast, has literacy rates by religious denomination, allowing us to measure the literacy rates among Roman Catholics. This is a close proxy for the literacy of ethnic Poles because, in the SPR, Poles were by far the largest Roman Catholic group. The only other Roman Catholic group was a Lithuanian minority (accounting for 0.12% of the

the advice from Solon, Haider, and Wooldridge (2015) against the indiscriminate use of sample weights. However, our survey results are nearly identical when using weights that account for the oversampling of respondents with ancestors from Kresy (shown in Appendix IV.B).

[15] In our survey, we were able to monitor the interview process. We were impressed by how survey respondents engaged with the questionnaire. Most respondents were so fascinated by our questions about their ancestry that they tried earnestly to respond accurately. Many checked family archives to make sure that they answered as precisely as possible. Some even called back to tell us their family stories.

population in Kresy in 1931). Other groups had different religious affiliations, such as Orthodox Christians, Greek Catholics, and Jews.

Pre-WWI Russian Empire Census: 1897—The 1897 Census of the Russian Empire (Troynitsky, 1899) provides information on literacy rates in Russian as well as in the native language if different from Russian. For our purposes, we extract the literacy rate of native Polish speakers.

Pre-WWI German Empire Census: 1900—We use the share of Polish speakers in 1900 across localities in WT (from Kaiserliches Statistisches Amt, 1903) as a proxy for the autochthon population.

IV. Results: Forced Migration from Kresy and Education Outcomes

Our analysis relates modern-day education outcomes to the place of origin of respondents' ancestors. We use our two individual-level data sets—the Diagnoza survey and our Ancestry Survey. Diagnoza has two advantages: it covers all of today's Poland, and it has a large number of respondents. On the downside, Diagnoza includes information only on whether respondents had *any* ancestors from Kresy territories; it lacks information on how many ancestors were from Kresy, as well as the origin of ancestors from regions other than Kresy. Our Ancestry Survey fills this gap, by collecting information on all ancestors from the generation that was affected by the post-WWII population transfers. One caveat: we conducted our Ancestry Survey only in WT (where most Kresy migrants resettled), which could raise concerns about selection of voluntary migrants to WT. We discuss this in detail in Section V.. Overall, the Diagnoza survey and our Ancestry Survey can be seen as complements: The former allows us to compare descendants of forced Kresy migrants to all other Poles, so that selection of the control group is not an issue. The latter includes more detailed information on ancestors by focusing on the area that saw the largest inflow of migrants. The main results in both surveys are nearly identical, suggesting that neither missing detail on non-Kresy ancestors in Diagnoza, nor selection of voluntary migrants in the Ancestry Survey confound our results.

In both surveys, we estimate the following regression at the respondent level i:

$$Y_i = \beta \, Kresy_i + \phi' \, \mathbf{X}_i + \eta_{Locality_{(i)}} + \varepsilon_i, \tag{1}$$

where Y_i denotes different outcomes of respondent i, such as measures of i's education and attitudes. In the Diagnoza Survey, $Kresy_i$ is a dummy variable that takes the value one if *any* ancestor was from Kresy. When using our own Ancestry Survey, we can also compute $Kresy_i$ as the *share* of i's ancestors from Kresy. $\mathbf{X}_i$ is a vector of the respondent's demographics: gender; age and age^2 interacted with birth-decade dummies, and indicators for whether the respondent lives in a

rural area or in an urban county. Finally, $\eta_{Locality_{(i)}}$ represents fixed effects for the locality of respondents' residence. These absorb differences in the local socioeconomic environment (such as labor market conditions) and in geography (such as whether respondents live in WT). In particular, we use fixed effects for counties (*powiat*) or municipalities (*gmina*). The Diagnoza sample covers 377 counties and 1,726 municipalities, while our Ancestry Survey covers 115 counties and 407 municipalities. In Diagnoza, we cluster the error term ε_i at the household level because several respondents may come from the same household in this survey.[16]

IV.A. Diagnoza Survey Results

Using the Diagnoza survey, Table 2 shows that individuals whose ancestors were expelled from Kresy territories have significantly higher levels of education today. Panel A presents our main results for "years of education." In columns 1 and 2 we examine the full sample, with approximately 28,300 respondents (of whom more than 3,200 had Kresy ancestors). Column 1 reports results without any controls, showing that Kresy ancestry is associated with 0.97 additional years of schooling (relative to an average of 11.91 years). When we include county fixed effects and our set of baseline controls in column 2, the coefficient on Kresy ancestry remains similar and highly significant (0.82 extra years of schooling). This suggests that our results are not affected by spatial sorting of migrants, or by local characteristics such as labor markets or land quality. We refer to column 2 (i.e., including county fixed effects) as our baseline specification. Column 3 shows that results are nearly identical when we control for municipality fixed effects. Next, columns 4 and 5 restrict the sample to respondents in rural and urban areas, respectively. The coefficient on Kresy is somewhat larger in urban areas. Finally, the results are similar for respondents in CP and WT (columns 6 and 7).

In Panels B and C of Table 2, the dependent variable is an indicator for secondary and higher education, respectively. In our baseline specifications in column 2 we find that descendants of Kresy migrants are 11.2 percentage points more likely to finish secondary education (relative to a mean of 50%), and 8.8 percentage points more likely to graduate from college (relative to a mean of 20%). Thus, in *relative* terms, the association between Kresy origin and education is strongest for higher education.[17]

[16] We exclude all respondents in the Diagnoza survey who are younger than 16 years old—the age of completing secondary education. In our Ancestry Survey, all respondents are adults. All our results hold in more restrictive specifications that exclude respondents with "student" status.

[17] To benchmark these estimates, we compare them to the effect of well-known interventions. In the US context, quasi-experimental evidence on federal financial aid by Dynarski (2003) shows that an additional $2000 in aid increased college attendance by about eight percentage points. Bettinger, Long, Oreopoulos, and Sanbonmatsu (2012) find very similar effects of a "combined assistance and information treatment" for federal student aid among low-income families. High-school seniors whose parents received this treatment were eight percentage points more likely to attend and continue college over the subsequent three years. Our estimates for the Kresy effect are similar in size.

Figure 3 presents the Kresy effect on years of education by birth cohorts. If anything, Kresy migrants in the pre-1930 birth cohort (i.e., individuals who had finished their secondary education by the time they were displaced) have somewhat *lower* education than other Poles. This addresses the concern that Kresy migrants may have had higher education already when they were displaced (either due to preexisting differences or due to selection). But among the 1930 birth cohort (i.e., school-age children in 1945), respondents with Kresy origin have about 1.3 extra years of schooling, suggesting that forced migration had an immediate effect on education. Also later generations—the descendants of Kresy migrants—still display an education advantage.[18]

In Table A.4 in the appendix, we show that higher education due to forced migration translates into better labor market outcomes. We find that respondents with ancestors from Kresy earn higher income, are more likely to work in white-collar occupations and are less likely to be unemployed.

IV.B. Ancestry Survey Results

We now turn to our Ancestry Survey, which has information on the origin of *all* ancestors in a respondent's family tree, for the generation of the youngest adults at the beginning of WWII. We use this information to compare the descendants of forced migrants from Kresy with descendants of voluntary migrants from Central Poland, and with autochthons.

Respondent-Level Analysis in the Ancestry Survey

We use the detailed information on ancestor origins in our Ancestry Survey to compute each respondent's *share* of ancestors from Kresy, *share* of ancestors from CP, *share* of ancestors who are autochtonous to the Western Territories, and *share* of ancestors who lived outside of Poland in 1939 (see summary statistics in Table A.2). Columns 1 and 2 in Table 3 (Panel A) present the simplest specification in the Ancestry Survey, using a dummy for "any respondent from Kresy," thus replicating the specification from the Diagnoza survey. The coefficients are similar to the first two columns of Table 2. Next, column 3 uses the *share* of ancestors from Kresy as the main explanatory variable in equation (1). This coefficient reflects the change in education outcomes when moving from zero to one in the share of ancestors from Kresy. The magnitude is similar to the results in columns 1 and 2, where we used a dummy for *any* ancestor from Kresy. In column 3 we also control for the share of ancestors from WT (autochthons) and of Poles who lived abroad in 1939. Note that the share of ancestors from CP is thus the reference group. In addition, we control for the share of each respondent's ancestors who came from rural *origin* locations to capture possible differences between migrants from rural and urban areas. The negative coefficient on the share of ancestors from WT shows that autochthons have lower education levels as compared to

[18] In Appendix IV.A, we discuss these results in more detail, present similar findings for secondary and higher education as an outcome (see Table A.3), and reflect on the role of intergenerational transmission.

descendants of migrants from CP.[19] Overall, the ranking of respondents (from highest to lowest) in terms of education by the origin of ancestors is: Kresy, Central Poland, Western Territories—or, forced migrants, voluntary migrants, autochthons.

Column 4 shows that our results are nearly identical when we include fixed effects for municipalities (*gminy*), which are typically smaller than local labor markets. In columns 5 and 6 we find that point estimates, while not different in terms of statistical significance, are again marginally higher for urban *destinations* of migrants—in line with the Diagnoza results from Table 2. Finally, columns 7 and 8 show that the share of Kresy ancestors is also significantly related to the probability of finishing secondary and higher education.

Ancestor-Level Analysis in the Ancestry Survey

We now turn to the data at the ancestor level, where each ancestor a of each respondent i is a separate observation. This allows us to control for characteristics of individual ancestors, and to exploit the origin location of ancestors around the Kresy border. We estimate the following equation:

$$Y_i = \gamma Kresy_{a_{(i)}} + \psi' \mathbf{A}_{a_{(i)}} + \varphi' \mathbf{O}_{a_{(i)}} + \phi' \mathbf{X}_i + \eta_{Locality_{(i)}} + \varepsilon_{a_{(i)}}, \tag{2}$$

where Y_i is respondent i's education, as above, and $Kresy_{a_{(i)}}$ indicates whether ancestor a of respondent i came from Kresy. In addition to all standard controls for respondents' demographics ($\mathbf{X}_i$) and destination fixed effects $\eta_{Locality_{(i)}}$, we control for ancestor characteristics $\mathbf{A}_{a_{(i)}}$: dummies for whether ancestor a is a parent (21.5% of the sample), grandparent (54.5%), or great-grandparent (24.0%) of respondent i. $O_{a_{(i)}}$ denotes characteristics at the origin location of ancestor a, such as whether a came from a rural area. We also include dummies indicating whether the ancestor was an autochthon or came from abroad, which leaves origin from CP as the comparison group. We cluster error terms by respondents to account for two facts: all ancestry information for a given respondent comes from the same source, and education of the respondent does not vary across ancestors.[20] Panel B of Table 3 presents results at the ancestor level. Throughout, we find

[19] Note that in column 3 the comparison group is Poles with ancestors from CP, while in column 2, the comparison group is ancestors from all of Poland. When running the same specification as in column 2 (i.e., without controlling for other ancestor shares), the coefficient on Kresy share is 0.917, which is nearly identical to the indicator for any ancestor from Kresy in column 2. We explain the similarity of these coefficients in Appendix IV.B: We show that having a majority of ancestors from Kresy does not have a differential effect on descendants' education above and beyond having *any* ancestor from Kresy (Table A.6). This result suggests that Kresy ancestry is salient within families. That is, in families with mixed ancestor origins, those from Kresy may dominate the transmission of values related to education.

[20] Econometrically, respondent-level and ancestor-level regressions are not equivalent. In Appendix IV.C we present Monte Carlo simulations comparing the results of ancestor-level and respondent-level regressions. First, we show that the point estimate of the parameter of interest in the ancestor-level regression, γ, is smaller than the point estimate of the parameter of interest in respondent-level regressions, β from equation (1). The difference between the two

positive and significant coefficients on the indicator for ancestors from Kresy.

IV.C. Identification: Kresy Border Samples

The higher educational attainment of Kresy descendants could be driven by preexisting differences in Kresy. For example, attitudes toward education may have been different in Kresy and CP before WWII—even if literacy rates were similar (see Figure 2). In what follows, we exploit the discontinuity around the Kresy border to identify causal effects of forced migration.[21]

Kresy Border Sample Based on the Diagnoza Survey

We begin with the Diagnoza survey, restricting the sample to the area less than 150 km on each side of the border between Kresy and Central Poland. Arguably, this provides a culturally more homogenous area. At the same time, we face a challenge in constructing this sample. No Diagnoza respondents are living on the Eastern side of the border today. We thus use information on the location of ancestors that is provided in Diagnoza to identify respondents with ancestors within 150 km east of the Kresy border, using the maximum distance to the Kresy border among all Kresy ancestors. As for the area within 150 km *west* of the Kresy border (i.e., in today's Poland), we assume that respondents without Kresy ancestors who live there today also have family roots in the area. We discuss the limitations of this assumption below.

We first check whether there were preexisting differences in education between the two sides of the Kresy border. The left panel of Figure 4 shows that this is not the case: Literacy among Poles (identified by their Roman Catholic religion in the 1921 census) was similar on both sides of the Kresy border. There is also no significant trend in distance on either side of the border. In contrast, the right panel of Figure 4 shows that there is a sharp discontinuity at the border, with today's education jumping by about one year. This confirms that Kresy descendants have substantially higher education levels, even among a subset of individuals with ancestors from locations close to the Kresy border. Table A.10 in the appendix complements Figure 4, presenting results based on spatial regression discontinuity design (RDD) on the Diagnoza border sample.

The Diagnoza border sample analysis has an important shortcoming: Individuals with Kresy roots now largely live in the Western Territories, far away from the historical Kresy border. Our border analysis compares them to individuals who still live close to the Kresy border today (to

parameters depends on the correlation between indicator variables for Kresy origin of different ancestors of the same respondent. Second, we show that the level of significance in the respondent-level and ancestor-level regressions is similar irrespective of the correlation among ancestor origins of the same respondent, as long as this correlation is positive (as is the case in our data). In other words, statistical inference in both types of regressions is the same.

[21] In Appendix V (Figures A.11 and A.12), we show that there are no jumps at the Kresy border in geoclimatic characteristics or agricultural suitability. This complements the historical discussion on the arbitrariness of the Kresy border in Section II.A..

its west). That is, we compare respondents who live far apart today, rather than within the same location. We address this limitation, using the more detailed data from our Ancestry Survey.

Border Sample Based on the Ancestry Survey

Our Ancestry Survey allows us to perform a border sample analysis. The survey includes information on ancestors from *both* sides of the Kresy border. This enables us to compare people who live in the same town or village in the Western Territories today, but have ancestors from the different sides of the Kresy border.

Figure 5 illustrates the border effect for years of education. We restrict the sample to people with ancestor origin within less than 150 kilometers of the Kresy border. However, in contrast to the Diagnoza analysis, we include fixed effects for the current municipality of respondents in addition to our standard controls. When comparing people who live in the same municipality in WT today, those whose ancestors were expelled from just a few kilometers east of the Kresy border have significantly higher education than those whose ancestors lived a few kilometers west of the Kresy border. Table A.11 in the appendix provides the corresponding spatial RDD results as well as robustness checks.

A limitation of the border analysis in our Ancestry Survey is that migrants from west of the Kresy border (i.e., from CP) may have been selected. To address this concern, the two border analyses from Diagnoza and our Ancestry Survey complement each other: They show that the descendants of forced migrants from east of the Kresy border are more educated than *both* "stayers" in the area west of the Kresy border (Figure 4) *and* "movers," i.e., the descendants of (voluntary) migrants who left this area (Figure 5). The magnitude of the Kresy coefficients is also similar in both analyses (see Tables A.10 and A.11). Thus, in combination, the two border samples suggest that selection of voluntary migrants is unlikely to confound our results.

Contested Border Sample Based on Ancestry Survey

In Section II.A. we discussed that the Kresy border was arguably drawn at random, without accounting for local conditions. We address possible skepticism about this issue by exploiting the fact that the location of the Kresy border was debated, with seven different versions being discussed in 1943 at the Tehran Conference. In Appendix V.D, we further restrict the border sample to areas that were contested during the negotiations about the Curzon Line. In this analysis, we use only ancestors who lived in an area that could either have become part of Poland or of the USSR, depending on the variant of the Curzon Line. Even within this highly restrictive subsample we find a statistically significant effect, with Kresy ancestry implying 0.94 extra years of schooling.

V. Threats to Identification: Preexisting Differences and Selection

This section addresses potential threats to our identification of an effect of forced migration on education. We discuss preexisting differences between Kresy and the rest of Poland as well as selection of migrants.

V.A. Preexisting Differences?

Could our results be driven by differences of Poles from Kresy—in education, in preferences for schooling, in socioeconomic or geographic characteristics—before they were forced to migrate? We show that these are unlikely to affect our findings.

Were Poles in Kresy Already More Educated Before WWII?

An obvious concern is that Poles expelled from Kresy may already have been more educated before WWII. We have presented evidence that allays this concern. Figure 2 shows that in 1921, Roman Catholics (i.e., Poles) in Kresy had a literacy rate of 57.6%, compared to 63.9% in CP. This pattern also holds when we differentiate between rural areas (Kresy: 53.9%; CP: 60.0%) and urban areas (Kresy: 74.2%; CP: 74.7%). Thus, if anything, Poles from Kresy were less educated on average before they were forced to migrate, as compared to Poles from the rest of the SPR.

Did Poles in Kresy Already Have Higher Preferences for Education Before WWII?

Preexisting differences in preferences for education are unlikely to drive our results. As discussed in Section II.A., there were no differences in access to education in Kresy compared to CP before WWII (all belonged to Poland then), and there was also no discrimination of Poles in Kresy. Thus, if Poles from Kresy had had preexisting preferences for education, these should have materialized in higher literacy rates before WWII. In addition, since the Kresy border was arbitrary (see Section II.A. and Appendix V), it is unlikely that preexisting cultural differences would jump at the border.

Socioeconomic and Geographic Characteristics

To what extent do characteristics of migrants' origin locations affect the relationship between Kresy origin and education? To analyze this, we use our Ancestry Survey and augment specification (2) by adding a host of socioeconomic and geographic controls (all measured at ancestor origin locations), as well as their interaction with the Kresy origin dummy. Specifically, using the 1931 Polish census, we interact Kresy origin with the share of Roman Catholics, the shares of native Polish, Ukrainian, and Russian speakers, the literacy rate, and the urbanization rate. We also use the share of literate Roman Catholics from the Polish census of 1921. Going beyond the population characteristics, we look at climate variables at the place of origin from FAO/IIASA (2012) and Jarvis, Reuter, Nelson, and Guevara (2008). A large share of the population was working in

agriculture pre-1939. Thus, land suitability, temperature, the precipitation-evapotranspiration ratio, and ruggedness were key features of the economic environment. Tables A.13 and A.14 in the appendix show that neither the variables' levels nor their interaction terms with Kresy origin are statistically significant. In addition, the coefficients (all based on standardized variables) are typically an order of magnitude smaller than the coefficient on Kresy origin, while the latter maintains its magnitude and significance from our baseline ancestor regressions in Panel B of Table 3. We interpret this as evidence that the effect of uprootedness is driven by forced migration itself, and not by specific circumstances at the place of origin.[22]

Differential War Exposure or Victimization?

Could differential WWII experience of ancestors from Kresy offer an alternative explanation for our findings? Since there are no comparable administrative data from Polish or Soviet sources, we use the Life in Transition Survey (LiTS) from the European Bank for Reconstruction and Development (2016). LiTS asked respondents in 2016 whether anybody in their family was killed or injured as a result of WWII. In Appendix VI.B, we show that while Kresy ancestors are more likely to have experienced injuries or death, a family history of victimization in WWII is not associated with education of descendants, and the coefficient on Kresy origin is not affected by controlling for WWII victimization.

V.B. Selection of Migrants from Kresy?

Could selection of forced migrants from Kresy drive our results? We discuss the possibilities of selection at the origin and selection into destinations.

Were Forced Migrants from Kresy Selected at the Origin?

Selection *at the origin* is highly unlikely among Kresy migrants, given the large-scale efforts to expel Poles from Kresy. However, some historical sources suggest that forced migration out of Kresy was not fully homogenous. In Ukraine, strong animosity between Poles and Ukrainians at the end of WWII led to the (almost) complete exodus of Poles from both urban and rural areas. By contrast, the pressure on Poles to leave was lower in rural areas in the Belorussian and Lithuanian parts of Kresy. We explore this variation by first restricting the sample to urban areas in Kresy, and then to the Ukrainian part of Kresy.

If selection of Poles from Kresy affects our results, the coefficient on Kresy origin should vary

[22] Among the interaction results, the following are worth highlighting: Columns 1-5 of Table A.13 show that our main result is not affected by the share of Poles (measured either as Roman Catholics or as Polish speakers), Ukrainians, or Russians at the ancestors' origin locations. Moreover, the interaction between Kresy and each of these shares is small, negative, and insignificant. This suggests that neither Kresy being a multiethnic area nor a possible animosity between Poles and other ethnicities affects our results.

depending on how much scope for selection a given ancestor's region of origin offered. In Table 4, we create different subsamples depending on ancestors' locations of origin. Regressions are run at the ancestor level as outlined by equation (2). Column 1 replicates our main result using all Kresy ancestors (Table 3, Panel B, column 3). In columns 2 and 3 we present results for ancestors from urban and rural origin locations, respectively. The point estimates are slightly higher for the urban origin sample than for the rural origin sample. In other words, our results are stronger for locations from which the exodus of Poles was nearly universal. One potential concern is that the estimate in the urban origin sample (column 2) could be inflated if more-educated urban migrants from Kresy were displaced to rural areas in WT—according to the 1921 Census, the literacy rate among Roman Catholics in Kresy was 74.2% in urban areas and 53.9% in rural areas. If these (former) city dwellers passed on their taste for education, we would compare their well-educated descendants to the less educated rural population in WT. We address this possibility in column 4, restricting the sample to those cases in which *both* ancestors and descendants are from urban areas. The effect of Kresy is almost unchanged.

In columns 5-8 in Table 4, we restrict the sample to ancestors from the Ukrainian part of Kresy, where exodus was universal. The coefficient in column 5 (for both urban and rural origin locations) is similar to the one when using all Kresy regions (column 1). In addition, columns 6 and 7 show a pattern similar to columns 2 and 3: Coefficients are highly significant for both rural and urban ancestors, and they are somewhat larger in the urban origin subsample. Finally, results hold when restricting the subsample to ancestors from urban areas in Ukraine whose descendants also live in urban areas today (column 8). In sum, the results in Table 4 render it unlikely that selection of Kresy migrants at the origin drives our findings.

Selection of Forced Kresy Migrants into Destinations?

Even if selection from origin locations in Kresy is unlikely, there may have been selection of Kresy migrants or their descendants *into destinations*. As Table 1 shows, while the majority of Kresy migrants settled in WT, about one-quarter moved to CP. For example, if the most capable Kresy migrants moved to WT, our results within WT would be biased. In addressing this concern, we begin by noting that the results from Table 2 (columns 6 and 7) show that the coefficients on Kresy ancestry are, if anything, larger in CP than in WT. Next, we present an additional check: We restrict the Diagnoza sample to respondents with Kresy origin. Within this subsample, we can compare the level of education of those who live in CP (1,268 respondents) with those who live in WT (1,930 respondents). Table A.16 in the appendix shows that respondents with Kresy origin

are somewhat *less* educated in WT than in Central Poland.[23] Overall, these results suggest that selection of Kresy migrants into different areas of Poland is not driving our results.

V.C. Selection of Voluntary Migrants?

In our results for Poland overall (i.e., using the Diagnoza survey), selection of the *control group* (i.e., voluntary migrants) is not an issue—the control group comprises "all other Poles." However, our Ancestry Survey was conducted only in WT, which was the destination not only of forced migrants from Kresy, but also of voluntary migrants from CP. This raises the potential issue of selection of voluntary migrants. In particular, our Ancestry Survey coefficients on Kresy origin would be biased upward if the control group of less educated individuals was more likely to migrate from CP to WT after WWII. We perform several analyses to show that this is unlikely to confound our findings. We differentiate between regional and individual selection of the control group, briefly presenting the methodology and results in the main text, supported by further detail and tables in the appendix.

Regional Selection of Voluntary Migrants from Central Poland to the Western Territories?

We first examine the possibility of regional selection—migrants from CP coming from areas with historically lower education. For each respondent in our Ancestry Survey, we know the place of origin of each of their ancestors; and from the historical censuses, we know the literacy rates at the counties of their origin. This allows us to compare the historical literacy rates in the counties of origin of ancestors from Kresy and from CP. We perform this exercise in Appendix VI.D; we find that Kresy ancestors came on average from counties with a three-percentage-point *lower* pre-WWII literacy rate (see the results in Table A.17), confirming the aggregate pattern shown in Figure 2.

Individual Selection of Voluntary Migrants from Central Poland to the Western Territories?

While we have shown that regional (county-level) selection is unlikely to affect our results, *individual* selection of voluntary migrants remains a possibility. In particular, uneducated Poles from CP may have decided to seek a better fortune in WT, whereas educated Poles *from the same origin counties* stayed in CP. Negative selection of Central Polish migrants into WT would imply that the control group in our Ancestry Survey has too little education, biasing the coefficient on Kresy origin upward. To examine directly whether there was negative individual selection, we would need historical individual-level data on the education of voluntary migrants and stayers in CP. These are not available. However, we can check whether the (potential) selection concern matters *for our results*: If one were worried about negative selection of migrants from CP, then this would be in

[23] The reason for this difference is probably more recent migration of highly skilled individuals with Kresy background to large urban centers such as Warsaw and Cracow in CP. People with Kresy origin have a particularly high education advantage in these areas (see Table A.16).

the context of persistent lower education of their descendants *today* (i.e., of our control group). Building on this argument, we can use contemporaneous education to show that individual selection is unlikely to affect our results. In Table A.18 in Appendix VI.E we show that respondents in WT with ancestors from CP (i.e., voluntary migrants) are actually slightly *more* educated than a reasonable comparison group—today's respondents in those counties in CP where the voluntary migrants' ancestors originated from. In other words, descendants of voluntary migrants who live in WT today are somewhat more educated than their "cousins" whose (grand)parents stayed in CP. Thus, if anything, our Ancestry Survey results tend to *underestimate* the effect for Kresy origin in WT. Overall, we find no indication that preexisting differences or selection of migrants drive our results.

VI. Mechanisms

In this section, we discuss several potential mechanisms that may drive the education premium of descendants of forced migrants from Kresy. We begin by showing evidence in favor of the most likely mechanism—a shift in preferences toward investment in education as opposed to physical capital ("uprootedness hypothesis" for short). We then continue by discussing alternative possible mechanisms such as congested labor markets, differential out-migration, fertility, recall bias, or returns to schooling. None of these appear to play an important role. At the end of the appendix, we provide a "Guide to Identification and Mechanisms" that summarizes our findings for each potential identification threat and each potential mechanism, with references to tables and sections in the text.

VI.A. Preferences for Education Versus Ownership of Physical Assets

In Table 5, we examine attitudes toward education and material possessions. In the first two columns, we use a question from the Diagnoza survey about respondents' aspiration for the education of their children. The outcome variable is an indicator that takes the value one for respondents with the highest aspiration.[24] People with Kresy ancestors score eight percentage points higher, relative to a mean of 59%. Remarkably, this result remains similar even after we control for the respondent's own education (column 2). Among people with the same number of years of schooling (who also live in the same county), those with Kresy ancestors have significantly stronger preferences for the education of their children.

In columns 3-6 of Table 5, we examine answers to the question, "What is the main condition

[24]The survey question was: "What level of education would you like your children to attain?" The answer included five categories, and we create a dummy for the highest category. Results are robust to using the full categorical variable instead of the dummy for the highest score. Note that the sample is smaller because respondents do not answer this question if their children have already finished their education.

for success in life?" We focus on two outcomes: "possession of material goods" and "freedom." We define dummies equal to one for respondents answering "definitely yes," "yes," or "rather yes." Columns 3 and 4 show that respondents with Kresy ancestors are significantly less likely to believe that material goods determine a successful life; columns 5 and 6 show that descendants of Kresy migrants value freedom more than the rest of the Polish population. In columns 7 and 8, we explore whether the lower value placed on material wealth among descendants of Kresy migrants translates into actual choices about accumulating assets. The Diagnoza survey asks about the possession of 20 different assets (e.g., house, apartment, vacation home, garden land plot, e-book reader, home theatre, boat). For those assets *not* owned, respondents were asked if this was for financial reasons. The dependent variable in columns 7-8 is the number of assets *not* owned for non-financial reasons (i.e., assets that the household could afford, but chooses not to purchase), divided by the number of all non-owned assets.[25] Consistent with the results on stated preferences from columns 3 and 4, we find that Kresy migrants own fewer assets, relative to what they could afford. In sum, the results in Table 5 lend support to the interpretation that forced migration shifted preferences toward investment in education, and away from material possessions.[26]

VI.B. Other Potential Channels

Here, we examine whether our findings may be affected by different local characteristics or different behavior of Kresy migrants *after* migrants arrived at their destinations. Appendix VII.B provides additional detail.

Congestion

Previous literature (as discussed in the introduction) has shown that migrants who lack access to local land resources (which are held by entrenched locals) often opt for education in order to get access to non-agricultural jobs. This is unlikely to affect our results for several reasons. First, the Western Territories were largely empty after WWII, and the idea of the resettlement was to populate this "empty space." Second, as we described in Section II.B., migrants from Kresy and CP arrived to WT at the same time (see Figure A.6 in the appendix). Third, if local congestion drove up the incentives to invest in education, this would be captured by county or municipality fixed effects. Thus, a differential congestion effect for Kresy and CP migrants is a priori unlikely.

[25] Unsurprisingly, Kresy migrants on average own a larger number of assets, as they earn higher incomes due to their higher levels of education. Controlling for the overall number of assets owned by each household does not change our results.

[26] The shift in preferences in Table 5 could be founded on a number of underlying reasons: a shift in the subjective probability individuals attach to being forced to migrate in the future; an increase in the subjective probability that bad things may happen, so that education serves as insurance; a shift in the willingness to take risks; a shift in discount rates; and a shift in the valuation of education per se. We discuss those in Appendix VII.A.

While destination fixed effects in our previous regressions capture any direct effect of congestion on education, it is still possible that congestion affected Kresy migrants differentially. We test for this channel by using interactions between Kresy ancestry and the population of autochthons in the respondent's county of residence. Autochthons were a minority in WT, but their share varied across localities (6.5% in the median county and 15% in the average county). We use the share of autochthons in 1950 from the Polish census. Figure A.15 in the appendix shows that this measure is highly correlated with the share of Polish speakers recorded in the 1900 German Empire census.

Column 1 in Table 6 reports the results using data from the Diagnoza survey, adding an interaction term between the Kresy origin of respondents and the county-level autochthon share to specification (1). We find that the interaction effect between Kresy origin and the historical presence of autochthons is relatively small and insignificant. To facilitate the interpretation of coefficient sizes, we standardized the share of autochthons. The interaction coefficient implies that a one-standard-deviation higher share of autochthons is associated with only 0.14 extra years of schooling among people with Kresy ancestors (relative to a direct Kresy coefficient of 0.73). These results suggest that differential congestion effects for Kresy migrants are unlikely to drive our findings.

Returns to Schooling

Could our results be driven by differential returns to schooling for Kresy migrants? We shed light on this question in columns 2 and 3 in Table 6. Using log household income as a dependent variable, we are interested in the interaction term between Kresy origin and years of education. A significantly positive coefficient would imply higher returns to schooling for Kresy migrants. We find that the interaction term is small and insignificant in both the full Diagnoza sample and WT subsample. This suggests that differential returns to schooling do not affect our results. At the same time, the coefficient on Kresy itself becomes smaller when we control for years of education, suggesting that the effect of Kresy origin on income works via education.

Out-migration

Emigration from Poland was very small before its accession to the EU.[27] Columns 4 and 5 in Table 6 examine whether differential migration from Poland to other countries (after Poland's accession to the EU in 2004) may affect our results. For example, if uneducated people with Kresy origin (or educated people without Kresy origin) were more likely to leave Poland, then this could bias the coefficient on Kresy upwards. We use the fact that the Diagnoza survey asked respondents whether they "plan to go abroad within the next two years, in order to work?" We find no relationship

[27]The shares of people leaving Poland throughout the second half of the 20th century were: 1951-1960: 0.14%; 1961-1970: 0.07%; 1971-1973: 0.06%; 1975-1980: 0.07%; 1981-1990: 0.07%; 1991-1998: 0.06% (Gawryszewski, 2005, pp. 472-473).

between Kresy ancestry and the intent to emigrate (column 4). The interaction term between education and Kresy origin is also small and insignificant (column 5). If the respondents who intend to emigrate have similar characteristics as those who had left already, these results make it unlikely that education and Kresy origin drove emigration in a fashion that would confound our results. As we do not directly observe the people who emigrated, we provide indirect evidence in support of this underlying assumption. The Polish census in 2011 included the question: "How many members of your household have emigrated?" The responses are publicly available at the regional level (Statistics Poland, 2011). In Figure A.16 in the appendix, we show a strong positive relationship between the actual out-migration and the intent to emigrate reported in Diagnoza. This validates our use of the latter as a proxy for emigration from Poland.

Differential Fertility

Columns 6 and 7 in Table 6 study the possibility that differential fertility may confound our results. For example, Kresy migrants may have chosen lower fertility to remain more flexible in an environment that they perceived as highly volatile (see Section II.C.). Fewer offspring could then have enabled higher investment in each child's human capital. Over time, this may have translated into stronger preferences for education. We find that Kresy origin is uncorrelated with the number of children per household member, which is the closest proxy for measuring fertility in our data. While this does not exclude the possibility that differential fertility played a role initially, it makes it unlikely that this channel is at play for the younger generations in our data. In addition, in the differential-fertility interpretation, preferences for education would develop later on, with lower fertility being the initial driver. In contrast, the historical evidence discussed in Section II.C. suggests that preferences shifted immediately, as a direct result of uprootedness.

Economic Development at Destination Locations

The ex-German territories were more developed than Kresy before WWII. Could our results be driven simply by a move to a place with more developed infrastructure? Economic opportunities were open to both forced and voluntary migrants, so they should be captured by location fixed effects. In addition, we observe a similar Kresy effect among respondents in CP, which was relatively poor (see Table 2, columns 6 and 7). This renders it unlikely that economic development at the destination confounds our results. Nevertheless, we provide further checks in Appendix VII.B, using three measures of economic development: (i) the density of railways in 1946 (at the county level), (ii) log industrial production per capita in 1954 (at the regional level), and (iii) the intensity of war-time destruction, separately in rural and urban areas in 1945 (at the county level). Using these measures, Table A.22 shows that while education is strongly associated with measures of development in WT on average, the effect of Kresy origin on education does not depend on the level

of development—the interaction term in columns 2-5 is small and insignificant for all measures of economic development, with the exception of railway density (which is driven by one county: Warsaw). This makes it unlikely that economic conditions at the destination of migrants confound our results.

Moving as Communities and Other Population Movements

Another potential confounding factor is that Kresy migrants might be more likely to have moved in groups from the same location of origin. If moving in groups was beneficial to their descendants' education, this may have reinforced the education effect. While we do not have census-type data on the number of migrants in a destination who are from the same origin, our Ancestry Survey allows us to generate a proxy for migrants moving as whole communities (which we describe in Appendix VII.B). Table A.23 in the appendix shows that controlling for whether ancestors moved as a community does not affect our main results. On two other issues related to population movements, Table A.24 shows that our results are not affected by (i) the share of Ukrainian and Belorussian minority groups that were expelled from Poland to the USSR in 1945-1946 or by (ii) the "second repatriation" of Poles from the USSR in 1955-1959 (which made up only about 10% of overall migration from Kresy).

Recall Bias: Missing Information About Ancestor Origin Locations

A potential worry in using survey data about ancestral origin is recall bias. For example, more educated respondents may have more information on the location of origin of their ancestors. This is a particularly important issue in the Diagnoza survey, which asks only about Kresy origin. If education leads to a higher probability of remembering ancestors (and thus, ancestors from Kresy), then our results would be biased. In the Diagnoza survey, we cannot control for this potential bias. In contrast, in our Ancestor Survey, recall bias is less of a concern, because it should affect both our "treatment group" of Kresy ancestors as well as the "control group" of ancestors from other areas. Furthermore, we can use our Ancestry Survey to check for differential recall bias among people with ancestors from Kresy, i.e., whether remembering (any) ancestor location is correlated with Kresy origin. We construct, for each respondent, the share of ancestors with missing information on their location of origin (which is low—only 12% on average). We then show that (i) the share of ancestors with missing information is uncorrelated with Kresy origin, and (ii) controlling for this share does not affect our results. We describe how we built this variable in Appendix VII.B and present the results in Table A.25.

VII. Conclusion

Forced migration is an important issue in both historical and modern times. The United Nations High Commissioner for Refugees estimates that more than 65 million people are currently displaced from their home regions as a result of interstate wars, civil conflict, and natural disasters. While the immediate experience of forced migration is dramatic, the long-run effects on the displaced and their descendants are less clear. Such long-term effects of forced migration are difficult to distinguish from confounding factors. We collected novel individual-level data to study the long-run education effects of post-WWII population movements of Poles expelled from Kresy, which were taken over by the USSR. We find that the children, grandchildren, and great-grandchildren of forced Kresy migrants have significantly higher average education levels than all other Poles. This result holds in border samples around the Kresy border and is robust to a host of controls. We also show that descendants of forced migrants value the education of their children more and assign a lower importance to material possessions than other Poles. In examining several possible interpretations of these results, we conclude that the most likely is that uprootedness shifted forced migrants' preferences away from investment in physical assets and toward investment in portable human capital.

We interpret this result as evidence for the classical uprootedness hypothesis. We believe that this is an important mechanism in many contexts of forced migration, but it is often hard to isolate empirically. The Polish context is particularly well-suited to identify the uprootedness effect. The results by Bauer et al. (2013) and Nakamura et al. (2017) have a similar flavor, showing education effects of forced migration. However, in the context of these studies, it is not possible to separate the uprootedness mechanism from other explanations (such as congestion or lack of access to local assets, which the Polish context allows us to rule out).

The observed emphasis on education offers a glimmer of hope for descendants of those who are forced to migrate. Given the large refugee flows in many parts of the world, a policy recommendation emerging from our study is that governments in countries receiving forced migrants foster their access to education. While the international aid community does consider education as important in reducing economic and social marginalization of refugees (G20, 2017; UNICEF, 2017), our results show that the benefits of providing schooling for forced migrants and their children may be even greater—and more persistent—than previously thought.

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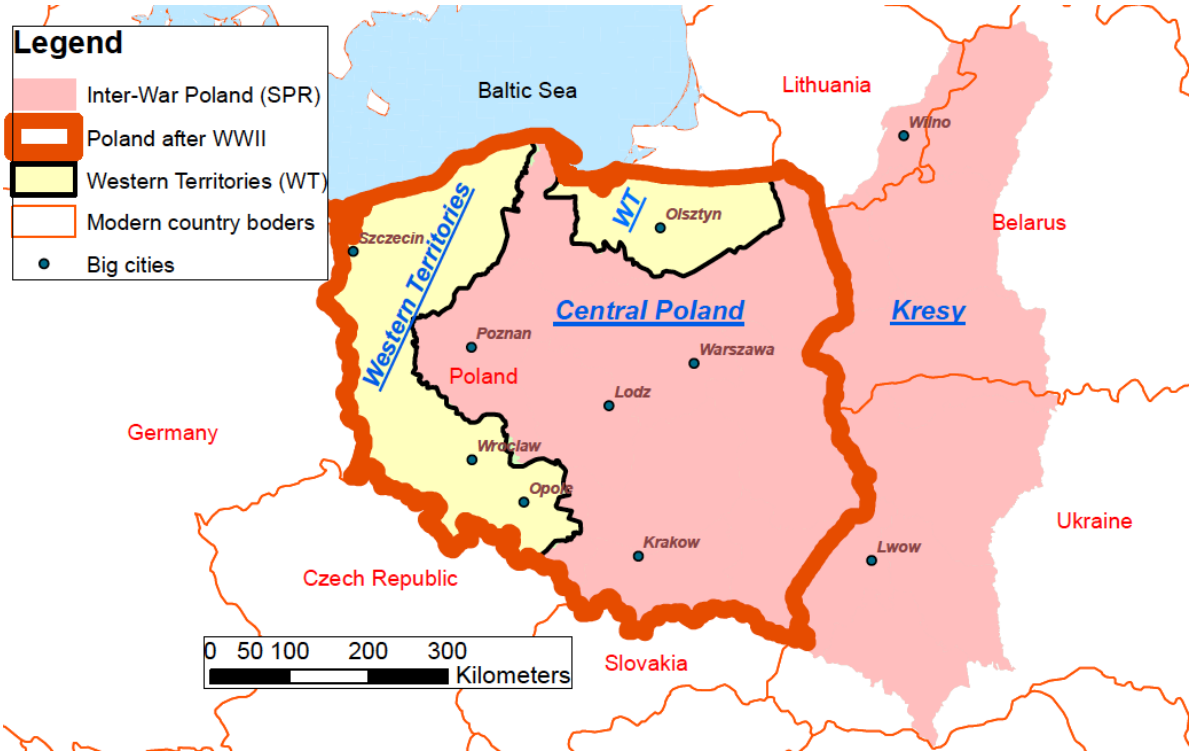

Figure 1: Poland Before and After WWII

Note: This map illustrates the redrawing of Poland's borders after WWII. The former eastern Polish territories (Kresy) became part of the USSR, while the former German areas in the west and north (Western Territories) became part of Poland. Poles from Kresy were forced to leave—the vast majority were resettled to the emptied Western Territories. Map generated by the authors from MPIDR and CGG (2011) and GADM (2008).

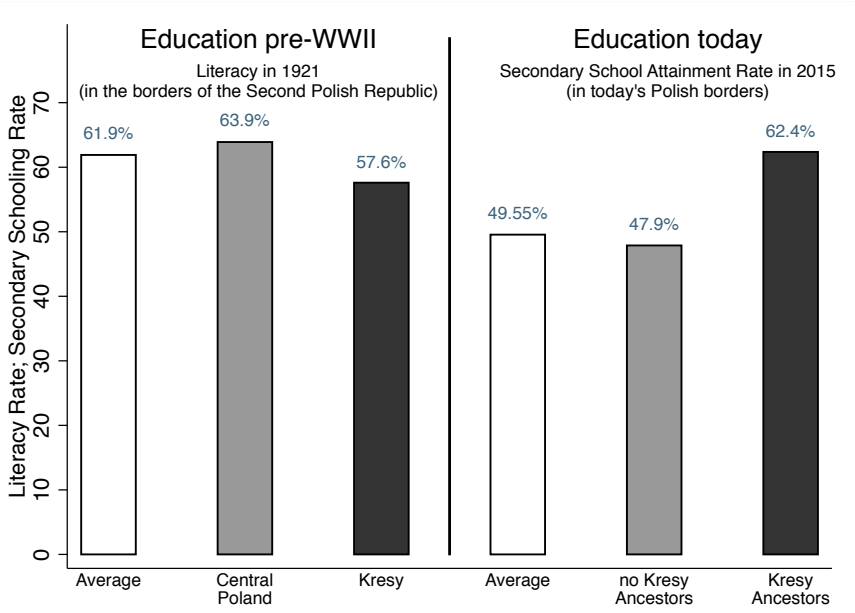

Figure 2: Historical and Contemporaneous Patterns in Education

Note: This figure shows the reversal in educational attainment for forced migrants and their descendants. Kresy residents, who were forced to migrate, had lower literacy before WWII than residents of Central Poland, while today descendants of the Kresy migrants have higher educational attainment. The data are from the 1921 Polish census and the 2015 Diagnoza survey. For 1921, the figure displays literacy rates of Roman Catholics (i.e., ethnic Poles) in the Second Polish Republic, which consisted of Kresy and Central Poland. For contemporary Poland, the figure shows the average secondary-school attainment rate, for people without Kresy ancestors (25,122 respondents), and for people with Kresy ancestors (3,221 respondents). We use the share of people with a secondary degree because it is comparable to the 1921 literacy rates in terms of its nationwide average.

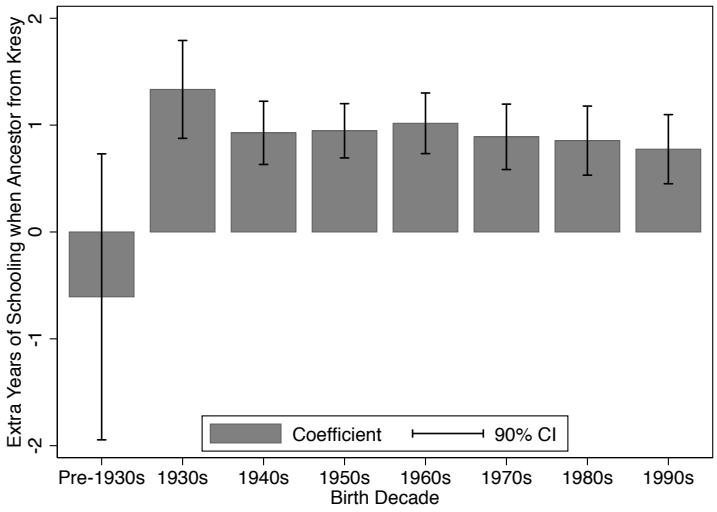

Figure 3: The Kresy Effect on Years of Education, by Birth Cohort

Note: This figure visualizes the results of regressing years of education on Kresy ancestry for different birth cohorts. The underlying regressions include our standard controls (see Table 2 note) and respondent county fixed effects, absorbing potential local differences in the education system and in the labor market environment. Each bar corresponds to the coefficient on "Ancestor from Kresy." The pre-1930 birth cohort was at least 16 years old at the end of WWII and was above schooling age at the time of forced migration. We ran the regressions using the Diagnoza sample for 2015 (Table A.3 in the appendix presents regression results for years of schooling as well as completion rates of secondary and higher education). Respondents who were still students during the 2015 survey are excluded.

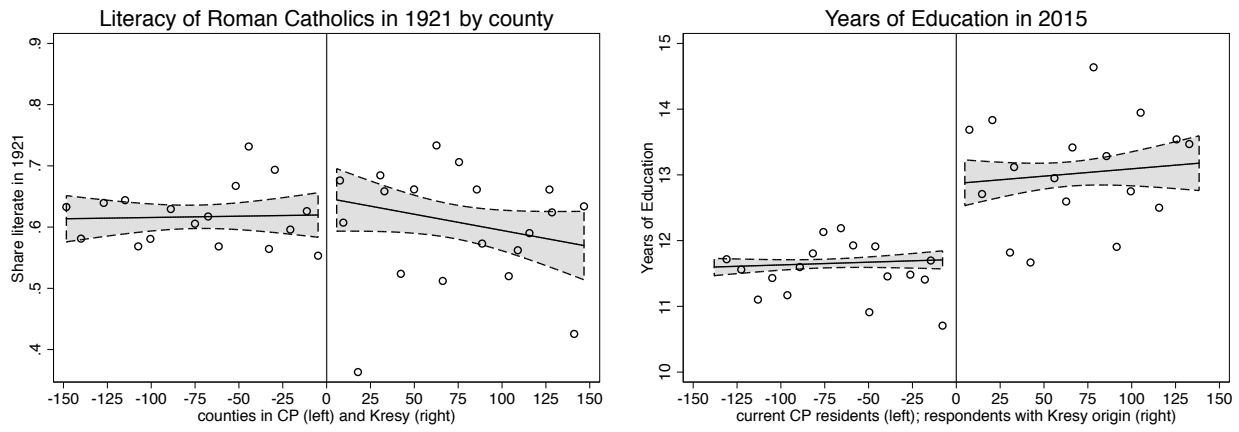

Figure 4: Kresy Border Sample: 1921 Census and 2015 Diagnoza Survey

Note: This figure uses only respondents (from the 2015 Diagnoza survey) with roots in the area less than 150 km from the border between Kresy and Central Poland. The left panel shows that there is no difference in literacy in 1921 around the Kresy border. The right panel tracks individuals with roots near the Kresy border by including (i) individuals from the Diagnoza survey with ancestors from Kresy who lived less than 150 km to the east of the border, and (ii) individuals without Kresy ancestors who live (today) less than 150 km to the west of the border. Dots correspond to data aggregated into 8-km (5-mile) bins for visualization, while the lines are based on all underlying observations, with the shaded areas representing 90% confidence intervals.

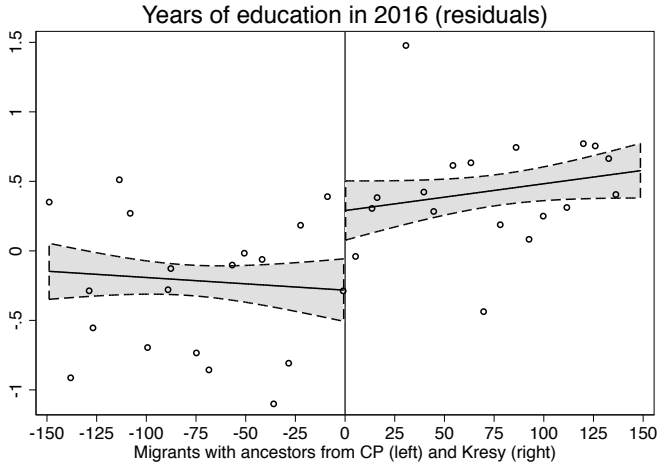

Figure 5: Kresy Border Sample: Ancestry Survey

Note: This figure uses respondents from our Ancestry Survey, i.e., individuals who live in the Western Territories today. Among these, we restrict the sample to people with ancestral roots in the area less than 150 km around the border between Kresy and Central Poland. Underlying the figure is an ancestor-level regression, as in specification (2), of years of education on our standard controls (see Table 3 note) and on respondents' municipality fixed effects. Dots correspond to residuals from this regression aggregated into 8-km (5-mile) bins for visualization, while the lines are based on all underlying observations, the shaded area representing 90% confidence intervals. See Table A.11 in the appendix for the corresponding regression results.

TABLES

Table 1: Polish Population in 1950 (in thousands)

	Western Territories (WT)	Central Poland (CP)	Share of Western Territories
Total population, 1950	5,602	19,012	22.8%
By Region of origin:			
Lived in Central Poland in 1939	2,785	18,355	13.2%
	(49.7%)	(96.5%)	
Lived in USSR (Kresy) in 1939	1,554	583	72.7%
	(27.7%)	(3.1%)	
Lived in Western Territories in 1939	1,112	19	98.3%
	(19.9%)	(0.1%)	
Lived abroad (not USSR) in 1939	152	53	74.0%
	(2.7%)	(0.3%)	

Notes: This table shows the population of Poland in 1950 by area of residence, as well as by area of origin. Data are from the 1950 Polish census. The three major origins are Kresy (which became part of the USSR after WWII), Central Poland (which had been and remained Polish), and the Western Territories (which had been German and became Polish).

Table 2: Forced Migration from Kresy and Education: Diagnoza Survey Results

Dependent variable: Individual-level education, as indicated in each panel

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sample:	All (no controls)	All	All	Rural	Urban	Central Poland	Western Territories
Panel A. Dep. Var.: Years of education							
Ancestor from Kresy	0.969	0.819	0.801	0.670	0.900	0.933	0.705
	(0.080)	(0.074)	(0.080)	(0.123)	(0.094)	(0.112)	(0.100)
Mean Dep. Var.	11.91	11.91	11.91	11.13	12.70	11.94	11.83
Observations	28,341	28,176	28,158	14,111	14,065	21,121	7,055
Panel B. Dep. Var.: Secondary education dummy							
Ancestor from Kresy	0.145	0.112	0.110	0.105	0.118	0.112	0.109
	(0.011)	(0.011)	(0.012)	(0.020)	(0.013)	(0.016)	(0.015)
Mean Dep. Var.	0.50	0.50	0.50	0.37	0.62	0.50	0.49
Observations	28,343	28,179	28,161	14,120	14,059	21,114	7,065
Panel C. Dep. Var.: Higher education dummy							
Ancestor from Kresy	0.106	0.088	0.090	0.061	0.101	0.115	0.063
	(0.010)	(0.010)	(0.011)	(0.016)	(0.014)	(0.016)	(0.013)
Mean Dep. Var.	0.20	0.20	0.20	0.12	0.28	0.20	0.20
Observations	28,343	28,179	28,161	14,120	14,059	21,114	7,065
Controls (all panels):							
Baseline controls‡		✓	✓	✓	✓	✓	✓
Respondent county FE		✓		✓	✓	✓	✓
Respondent municipality FE			✓				

Notes: This table shows that individuals whose ancestors were expelled from the Kresy territories have significantly higher levels of education today. We ran regressions at the respondent level using data from the 2015 Diagnoza survey; standard errors are clustered at the household level.

‡ Baseline controls include respondents' gender, age and age^2 interacted with birth-decade dummies, and indicators for rural places and urban counties.

Table 3: Forced Migration from Kresy and Education in Western Territories: Ancestry Survey

Dependent variable: as indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep. Var.:			Years of Education				Secondary	Higher
Sample:	all	all	all	all	rural	urban	all	all
				Panel A: Respondent-level regressions				
Ancestor from Kresy	0.769	0.911						
	(0.107)	(0.099)						
Share of ancestors, Kresy			0.744	0.721	0.629	0.760	0.104	0.053
			(0.125)	(0.131)	(0.239)	(0.150)	(0.020)	(0.017)
Share of ancestors, WT			-0.980	-1.005	-0.588	-1.240	-0.169	-0.128
			(0.179)	(0.194)	(0.302)	(0.241)	(0.029)	(0.023)
Share of ancestors, abroad			-0.608	-0.493	-1.917	-0.261	-0.004	-0.038
			(0.623)	(0.596)	(1.397)	(0.679)	(0.098)	(0.090)
Share of ancestors, rural			-0.847	-0.849	-0.995	-0.793	-0.107	-0.072
			(0.135)	(0.138)	(0.330)	(0.150)	(0.021)	(0.019)
Mean Dep. Var.	12.70	12.70	12.71	12.71	11.55	13.22	0.52	0.23
R^2	0.01	0.27	0.28	0.36	0.32	0.25	0.20	0.20
Observations	3,716	3,716	3,668	3,668	1,110	2,558	3,668	3,668
				Panel B: Ancestor-level regressions				
Ancestor from Kresy	0.641	0.648	0.497	0.456	0.342	0.526	0.071	0.045
	(0.096)	(0.088)	(0.092)	(0.090)	(0.174)	(0.107)	(0.015)	(0.014)
Ancestor from WT			-0.898	-0.857	-0.711	-0.971	-0.154	-0.126
			(0.136)	(0.133)	(0.228)	(0.175)	(0.024)	(0.020)
Ancestor from abroad			1.017	1.293	-0.040	2.056	0.152	0.107
			(0.976)	(0.859)	(0.711)	(1.182)	(0.137)	(0.179)
Ancestor from rural area			-0.505	-0.517	-0.692	-0.447	-0.071	-0.045
			(0.098)	(0.093)	(0.227)	(0.106)	(0.016)	(0.015)
Grandparent	1.438	0.331	0.394	0.351	0.602	0.348	0.029	0.039
	(0.119)	(0.163)	(0.162)	(0.163)	(0.284)	(0.198)	(0.026)	(0.021)
Great-grandparent	2.508	0.911	1.023	0.873	0.937	1.021	0.165	0.109
	(0.159)	(0.229)	(0.229)	(0.231)	(0.401)	(0.276)	(0.038)	(0.035)
Mean Dep. Var.	13.03	13.03	13.04	13.04	11.95	13.54	0.55	0.26
R^2	0.07	0.28	0.29	0.38	0.32	0.27	0.22	0.23
Observations	11,928	11,928	11,548	11,548	3,617	7,931	11,548	11,548
Controls (all panels):								
Baseline controls[a]		✓	✓	✓	✓	✓	✓	✓
Respondent county FE		✓	✓		✓	✓	✓	✓
Respondent municipality FE				✓				

Notes: This table uses data from our 2016 Ancestry Survey in the Western Territories, showing that a larger share of ancestors from Kresy in a respondent's family tree is associated with higher levels of education. We ran regressions at the respondent level in Panel A, and at the ancestor level in Panel B; robust standard errors (in Panel B clustered at the level of respondents corresponding to each ancestor) are indicated in parentheses. Dependent variable in columns 1-6 is respondent's education in years; in column 7, dummy for secondary and, in column 8, dummy for higher education. [a] Controls include respondents' gender, age and age^2 interacted with birth-decade dummies, as well as indicators for respondents living in rural places and urban counties. Excluded category in columns (3) to (7) is ancestors from Central Poland.

Table 4: Main Results for Kresy Migrants from Rural vs. Urban Areas, and from Ukraine Only

Dependent variable: Years of education in 2016, at the respondent level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
"Ancestors from Kresy" includes:	All Kresy ancestors				Only Kresy ancestors from Ukraine			
Sample:	All	Ancestor urban	Ancestor rural	Anc. and resp. all urban	All	Ancestor urban	Ancestor rural	Anc. and resp. all urban
Ancestor from Kresy	0.497	0.637	0.429	0.559	0.440	0.588	0.345	0.449
	(0.092)	(0.160)	(0.109)	(0.172)	(0.110)	(0.182)	(0.131)	(0.197)
Baseline controls[a]	✓	✓	✓	✓	✓	✓	✓	✓
Ancestor controls[b]	✓	✓	✓	✓	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓	✓	✓	✓	✓
Mean Dep. Var.	13.04	13.64	12.84	13.87	12.98	13.52	12.80	13.73
R^2	0.29	0.31	0.33	0.31	0.29	0.32	0.34	0.34
Observations	11,548	2,950	8,598	2,417	10,237	2,568	7,669	2,080

Notes: This table uses data from our 2016 Ancestry Survey in the Western Territories, showing that the coefficient on Kresy ancestors is, if anything, larger for ancestors from urban areas. The results are also robust to using only the Ukrainian part of Kresy. In these sub-samples, expulsions were nearly universal, leaving essentially no scope for selection at the origin locations. We ran regressions at the ancestor level; standard errors are clustered by individual respondents.

[a] Baseline controls include respondents' gender, age and age^2 interacted with birth-decade dummies, and indicators for respondents living in rural locations and urban counties.

[b] Ancestor controls include indicators for ancestors from the Western Territories, from abroad, and from rural areas, as well as indicators for the ancestor generation. Reference category is ancestors from Central Poland.

Table 5: Attitudes Toward Education and Material Possessions

Dependent variable: Individual-level outcomes, as indicated in table

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep. Var.:	High aspiration for education of own children[a]		Main condition for success in life? Material goods		Freedom		% Assets not owned for nonfinancial reasons[b]	
Ancestor from Kresy	0.080	0.067	-0.076	-0.063	0.017	0.016	0.042	0.034
	(0.032)	(0.032)	(0.013)	(0.013)	(0.006)	(0.006)	(0.009)	(0.009)
Years of education		0.047		-0.015		0.001		0.011
		(0.004)		(0.001)		(0.001)		(0.001)
Baseline controls[c]	✓	✓	✓	✓	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓	✓	✓	✓	✓
Mean Dep. Var.	0.59	0.59	0.56	0.56	0.05	0.05	0.69	0.69
R-squared	0.26	0.29	0.11	0.12	0.05	0.05	0.18	0.19
Observations	3,800	3,800	22,050	22,050	21,586	21,586	28,019	28,019

Notes: This table shows that descendants of Kresy migrants have stronger preferences for the education of their children, value material goods less, value freedom more, and chose to own fewer assets (even if they could afford them). We ran regressions at the respondent level using data from the 2015 Diagnoza survey; standard errors are clustered at the household level.

[a] The Diagnoza survey asks respondents to rank their aspiration for education of their children on a scale from 1 to 5. The dependent variable is an indicator for the highest category. The sample is smaller because respondents do not answer this question if their children have already finished their education.

[b] The Diagnoza survey asks about the possession of 20 assets (e.g., apartment, vacation home, garden land plot, e-book reader, home theatre, boat). For each asset not owned, respondents are asked whether this is for financial reasons. The dependent variable in columns 7 and 8 is the number of assets not owned for nonfinancial reasons, divided by the number of all non-owned assets.

[c] Baseline controls include respondents' gender, age and age^2 interacted with birth-decade dummies, and indicators for rural places and urban counties.

Table 6: Other Potential Channels:
Congestion, Returns to Schooling, Out-Migration, Differential Fertility

Dep. Var.: as indicated in table header. Data from Diagnoza.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Analysis:	Congestion?	Return to schooling?		Out-migration?		Fertility?	
Dep. Var.:	Years of education	log(HH income)		Intend to go abroad		Share of children in HH	
Sample:	WT	All	WT	All	All	All	# children ≥ 1
Ancestor from Kresy	0.732	0.080	0.037	-0.001	0.007	-0.004	0.004
	(0.089)	(0.040)	(0.047)	(0.006)	(0.010)	(0.005)	(0.008)
Sh autochthons (std) × Kresy	0.137						
	(0.092)						
Years education (std)		0.179	0.210		0.002		
		(0.010)	(0.021)		(0.003)		
Years edu (std) × Kresy		-0.039	0.003		-0.008		
		(0.025)	(0.033)		(0.008)		
Baseline controls[a]	✓	✓	✓	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓	✓	✓	✓
Mean Dep. Var.	11.83	8.45	8.40	0.06	0.09	0.11	0.32
R-squared	0.27	0.22	0.21	0.06	0.07	0.19	0.23
Observations	7,055	18,262	4,422	22,090	14,026	28,122	9,184

Notes: This table examines four alternative mechanisms that may explain the education advantage of people with Kresy ancestors: congestion due to the presence of autochthons (column 1); differential returns to education (columns 2 and 3); differential out-migration (columns 4 and 5); and differential fertility (columns 6 and 7). None of these appear to confound the coefficient on Kresy. We ran regressions at the level of respondents in the Diagnoza survey; standard errors are clustered by county.

[a] Controls include respondents' gender, age and age^2 interacted with birth-decade dummies, and indicators for rural places and urban counties.

Online Appendix

Forced Migration and Human Capital Accumulation: Evidence from Post-WWII Population Transfers

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I Background

I.A Forced Kresy Migrants just before Leaving Kresy and Upon Arrival to WT

Figures A.1 and A.2 presented below exhibit images of forced Kresy migrants right before leaving Kresy and right after arriving to the Western Territories. The online exhibition of the Polish History Museum devoted to forced migrants provides the following testimony as a caption to the image in the first figure: *"And so it happened that ... the marshall came: 'Leave' — 'But where should I go?'— 'To Poland.' And I say: 'I am in Poland.' And he says: 'This is not Poland anymore.' "*[1]

Figure A.1: Forced Kresy Migrants before their Departure from Kresy, Hłyboka (Ukraine), 1946.

Source: The collection of Polish History Museum.

[1]Edward Jaremko (cited by S. Ciesielski, *Exit. Kresy Wschodnie—Ziemie Zachodnie*), online exhibit https://artsandculture.google.com/exhibit/mwLihxsZye49Lw?hl=pl (Accessed on May 17, 2018).

Figure A.2: Forced Migrants from Kresy with their Belongings Arriving to Bielawa, former Langenbielau (a locality in the Western Territories), 1946.

Source: Figure 29 in Zaremba (2012).

I.B Promotional Poster for Voluntary Migrants from Central Poland to the Western Territories

Figure A.3 displays a typical example of posters that were used by the authorities in Central Poland to entice voluntary migration to the Western Territories.

Figure A.3: Advertising to Attract Migrants from Central Poland to the Western Territories

Note: The poster's title reads "The land is waiting." The text below the picture reads: "The State Repatriation Office is assigning farms in Opole and Lower Silesia. The regional inspectorates [offices] will provide all necessary information."

I.C Location of the post-WWII Border between Poland and the Soviet Union

The Kresy border (i.e., the post-WWII Eastern border of Poland) was established roughly along the so-called Curzon line after many discussions between Stalin and the Allies. Named after British Foreign Secretary Lord Curzon, the Curzon line was proposed as the new border between Poland and the Soviet Union during the 1920 Polish-Soviet conflict, but at the time the actual border of inter-war Poland was drawn about 250km further East. At the end of World War II, the Curzon line gained renewed prominence. It is important to note that 7 different versions of the Curzon line were discussed. They coincided in the central third, where the border follows former administrative boundaries of the Russian Empire (see also Cienciala, Lebedeva, and Materski, 2008). Figure A.4 portrays the Congress of Poland in yellow, the rest of the Russian Empire in green, the Kresy border (final Curzon line) in black. We highlight the part of the Kresy border that coincided with the subnational administrative division within the Russian empire in the past. As can be seen from the map, only about one third of the Kresy border coincided with administrative divisions of the Russian Empire. In this area (and not anywhere else), the border is natural—it was drawn along the

Bug River. Apart from this partial coincidence, the Curzon line did not coincide with any former frontiers.

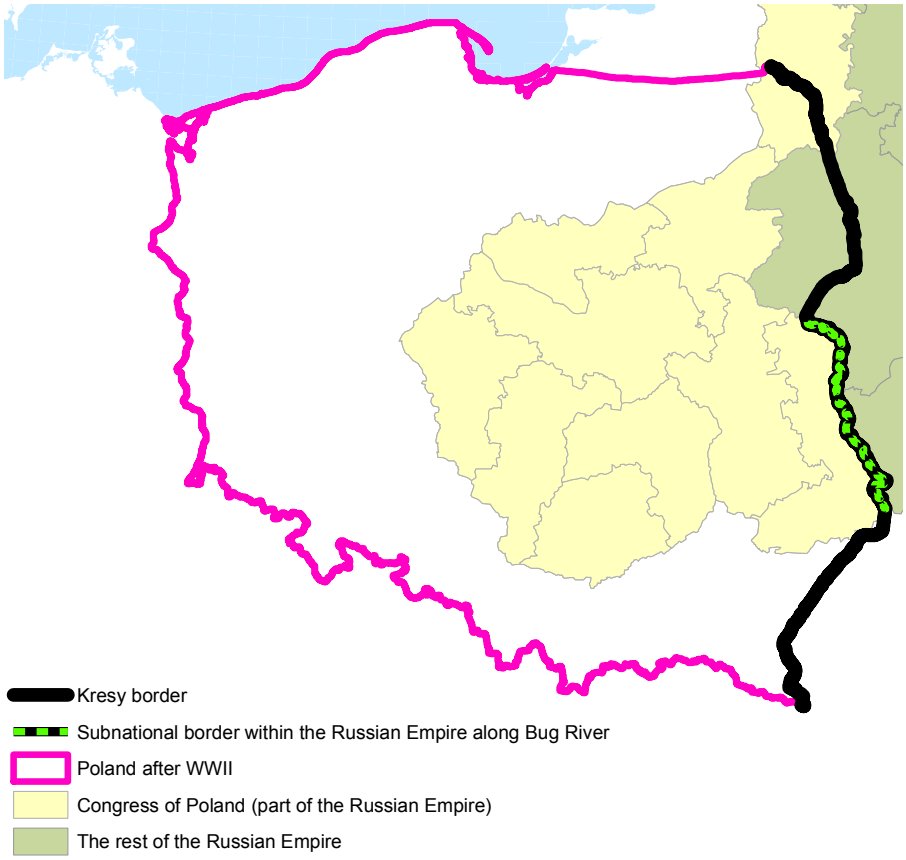


Figure A.4: Kresy border and former subnational administrative division of the Russian Empire

Note: Authors' own map overlaying modern-day Poland with the administrative boundaries of the Congress of Poland (yellow) and the rest of the Russian Empire.

As mentioned above, there were seven different versions of the new Eastern Polish border that were discussed during the Tehran Conference. See Figure A.5 presented below. In particular, the seven different versions coincide in the middle section just described. However, the different proposed frontiers differed from each other both to the North and to the South of this middle section (where there are no natural boundaries). In these two areas (contested during the Tehran conference), the actual Kresy border cuts through the regions of Bialostockie (in the North) and Lwowskie (in the South). In a robustness check reported below (see Appendix V.D) we focus on the contested areas in the northern and southern part of the different variants of the Curzon line.

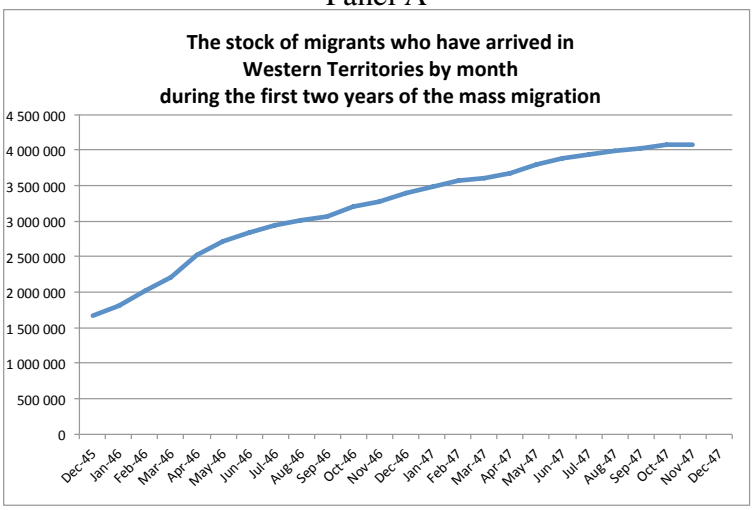
Figure A.5: Different versions of Curzon line discussed at the Tehran Conference

Note: This map is shows different variants of the Curzon line and is reproduced here under Wikimedia Commons terms. Source: https://en.wikipedia.org/wiki/File:Linie_A-F_ang.png.

I.D The Timing of Mass Migrations from Kresy and Central Poland

Figure A.6 illustrates that forced migrants from Kresy and voluntary migrants from Central Poland arrived in the Western Territories (WT) at the same time. Panel A shows data on the stock of migrants who had arrived in WT by month, during the first two years of mass migration. The data start in December 1945 and show that by then, 1.5m migrants had moved into WT. That stock continued to grow steadily, reaching more than 4m migrants by the end of 1947. Panel B displays the share of Kresy migrants in that stock over time, separately for urban and rural destinations. Kresy migrants accounted for 40-50% of all migrants throughout this two-year window, in both urban and rural destinations. This suggests that Kresy migrants and 're-settlers' from CP (the official label used by the Polish authorities) arrived in parallel throughout the whole period. Thus, a potential concern that CP migrants moved into WT more quickly, generating a potential congestion effect for Kresy migrants, is not warranted.

Panel A



Panel B

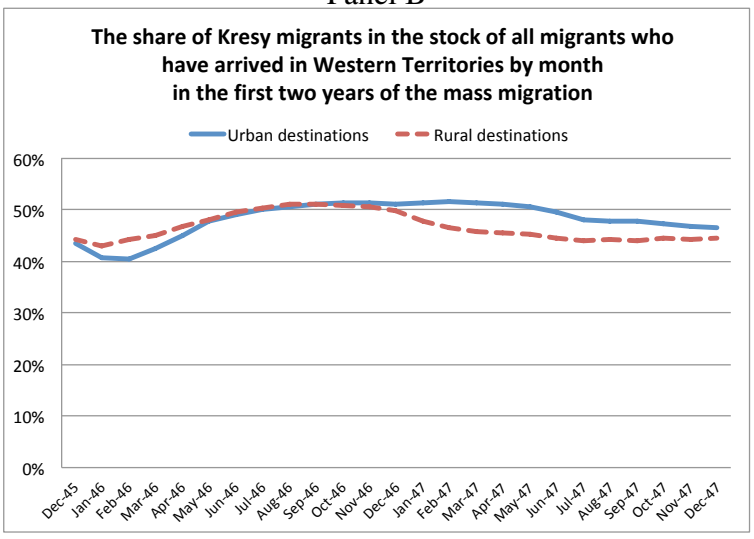


Figure A.6: The Timing of Arrival of Migrants to the Western Territories

Note: The registry of migrants accounts for re-settlers from Central Poland and forced migrants from Kresy. The data are from the Ministry of Recovered Territories (1948).

I.E Places of origin of ancestors

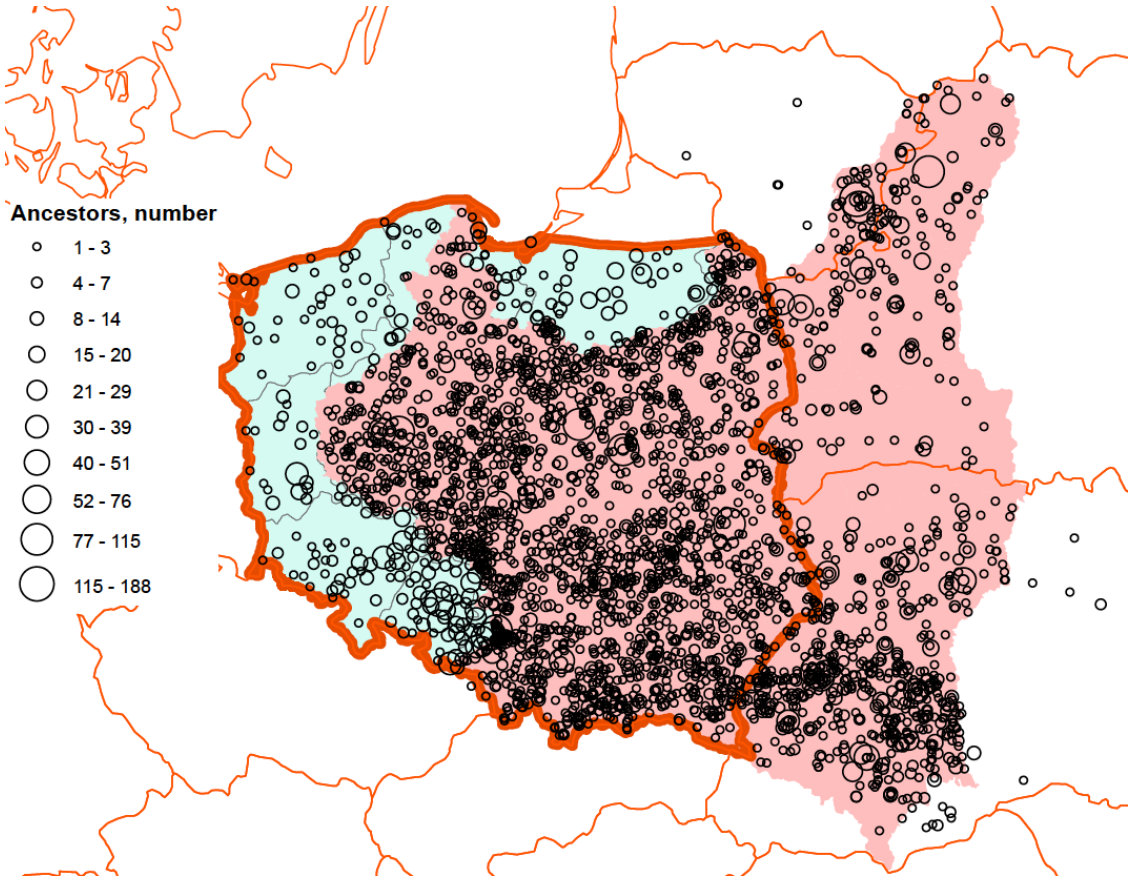


Figure A.7: Origin of Ancestors in our Ancestry Survey.

Note: The figure displays the origin of ancestors in our Ancestry Survey. The different dot sizes indicate the number of ancestors from each respective location. The different areas on the map are described in the note to Figure 1 in the paper: In the East, the former Eastern Polish territories (Kresy); in the West, the Western Territories, and in the center, Central Poland.

II Summary Statistics

Tables A.1 and A.2 present summary statistics for the main explanatory and dependent variables. Table A.1 below presents summary statistics for the variables we use to measure education in both surveys. Note that in our Ancestry Survey, there is no question on the years of education (see also footnote 22 in this appendix). We infer this information from the answer to the questions about educational degrees. We consider four categories: primary education, incomplete secondary education, completed secondary education, and higher education. Information necessary to construct these variables is present in both Diagnoza and our Ancestry Survey. We impute the years of education in the Ancestry Survey by using the average years of education for each of the four education categories in Diagnoza, rounded to the nearest integer. In Panel B, we use sample weights

to account for the oversampling of individuals with Kresy ancestry in our Ancestry Survey (see footnote 14 in the paper for further discussion on sample weights).[2]

Table A.1: Summary Statistics for Education Variables

	Obs	Mean	Std. Dev.	Min	Max
			Panel A: Diagnoza		
Education years	28,341	11.910	3.256	0	28
Secondary education	28,343	0.495	0.500	0	1
Higher education	28,343	0.201	0.401	0	1
Panel B: Ancestry Survey (Western Territories): Respondent level					
Education years	3,716	12.430	3.316	7	17
Secondary education	3,716	0.467	0.499	0	1
Higher education	3,716	0.221	0.415	0	1

Notes: The table shows summary statistics for education variables in Diagnoza 2015 and our Ancestry Survey 2016. Panel B uses weights to account for the oversampling of respondents with Kresy ancestry in our Ancestry Survey (see Section III.B. in the paper).

Table A.2 describes variables that capture the origin of ancestors in both surveys. In the Diagnoza Survey, 11.4% of respondents have at least one ancestor from Kresy (Panel A). Panels B and C show that in the Diagnoza Survey, the share of respondents with Kresy origin is higher in the Western Territories (27.3%) than in Central Poland (6.0%)—as one should expect, given that most forced migrants resettled in WT. In our Ancestry Survey (Panel D), which covers respondents in Western Territories, 30.8% of respondents have at least one ancestor from Kresy in the generation in their family with the youngest adults in 1939. The mean share of ancestors from Kresy is 23.6%. The share from the Western Territories is 18.7%, from Central Poland 57.7%, and from abroad 1.4%.[3] The mean share of ancestors from rural areas is 75.7%. Finally, Panel E in Table A.2 summarizes data from our Ancestry Survey at the ancestor level. About 23% of the ancestors are from the parent generation, 54.7% from the grandparent generation, and 22.5% from the great-grandparent generation.

[2]The unweighted sample means are 12.7 years of education, 0.515 for secondary education, and 0.233 for higher education. These are somewhat higher than the representative (weighted) sample means because respondents with Kresy ancestors (who have higher education on average) are overrepresented.

[3]Panel D uses weights to account for the oversampling of respondents with Kresy ancestry in our Ancestry Survey (see Section III.B. and footnote 14 in the paper). The unweighted share of ancestors from Kresy is 36.7%.

Table A.2: Summary Statistics for Variables Describing the Origin of Ancestors

	Obs	Mean	Std. Dev.	Min	Max
Panel A: Diagnoza: All of Poland					
(Any) Ancestor from Kresy	28,379	0.114	0.317	0	1
Panel B: Diagnoza: Western Territories					
(Any) Ancestor from Kresy	7,128	0.273	0.446	0	1
Panel C: Diagnoza: Central Poland					
(Any) Ancestor from Kresy	21,251	0.060	0.237	0	1
Panel D: Ancestry Survey (Western Territories): Respondent level					
(Any) Ancestor from Kresy	3,716	0.308	0.462	0	1
Share of ancestors from Kresy	3,716	0.236	0.384	0	1
Share of ancestors from CP	3,716	0.577	0.448	0	1
Share of ancestors from WT	3,716	0.187	0.362	0	1
Share of ancestors from abroad	3,712	0.014	0.084	0	1
Share of ancestors from rural areas	3,671	0.754	0.376	0	1
Panel E: Ancestry Survey (Western Territories): Ancestor level					
Ancestor from Kresy	11,928	0.324	0.468	0	1
Ancestor from CP	11,928	0.516	0.500	0	1
Ancestor from WT	11,928	0.160	0.367	0	1
Ancestor from rural area	11,548	0.745	0.436	0	1
Ancestor female	11,928	0.497	0.382	0	1
Parent	11,928	0.229	0.420	0	1
Grandparent	11,928	0.547	0.498	0	1
Great-grandparent	11,928	0.225	0.417	0	1

Notes: The table shows summary statistics for ancestry variables in Diagnoza from 2015 and our Ancestry Survey from 2016. Panel D uses weights to account for the oversampling of respondents with Kresy ancestry in our Ancestry Survey (see Section III.B. in the paper). Ancestors from abroad in Panel D are those who lived outside of Poland in 1939 (in countries other than the USSR). In both surveys, we consider the samples of individuals with nonmissing information about Kresy origin. For Diagnoza, we further restrict the sample to respondents with nonmissing information about educational attainment, which is known for all respondents in the Ancestry Survey.

III Migration Flows Implied by Survey Data vs. Historical Census

III.A Diagnoza Survey vs. 1950 Census

While we have no way to confirm the accuracy of ancestors' location provided by *individual* respondents, we can benchmark the survey responses against the information on post-WWII migration given by the 1950 Polish census. The Diagnoza Survey and the 1950 Census cover all of the Polish post-WWII territory. The data in the 1950 Census is available at the regional level, providing information on where respondents lived in 1939 and in 1950. This allows us to construct migration flows. We begin with migrants from Kresy (i.e. migrants who indicated "USSR" as their place of residence in 1939). Figure A.8 compares the results of the Diagnoza survey with the 1950 Census. The left panel displays the share of people (in each region) in 1950 who had lived in Kresy in 1939, plotted against the share of respondents with ancestors from Kresy in the 2015 Diagnoza Survey. The historical and contemporaneous shares line up very well for most regions.[4]

For population in the Western Territories, the 1950 Census provides information at the more disaggregated level of counties. We can thus compute the share of Kresy migrants in each WT county in 1950. We use this information to repeat the consistency check on the Diagnoza data in the right panel of Figure A.8. The fit in this county-level exercise is bound to be less precise for two reasons. First, the post-1950 mobility across county boundaries is higher than across regional boundaries. Second, in the Diagnoza Survey, the number of respondents in some counties is quite small, so that measuring the share of respondents with Kresy origin becomes noisier. Despite these caveats, the right panel of Figure A.8 shows a tight relationship.

III.B Ancestry Survey vs. 1950 Census

Figure A.9 repeats the above exercise using our 2016 Ancestry Survey in combination with the 1950 Census. Recall that our Ancestry Survey was conducted only in the Western Territories. Correspondingly, we use the available county-level data from the 1950 Census for WT. Our Ancestry Survey asks about origin locations of all ancestors, including those ancestors who came to WT from CP (and not only from Kresy, as in Diagnoza). The 1950 Census, in turn, provides information on overall 16 origin areas (i.e., areas of residence in 1939). These include Kresy, the Western Territories, and 14 regions in CP. We thus compute, for each county in WT, the share of migrants from each of these 16 origin areas in 1950. We then map the origin location data from the Ancestry Survey to the same 16 origin areas. The left panel of Figure A.9 plots the county-level origin shares from the 1950 Census against those from our Ancestry Survey. The right panel restricts attention to migrants from Kresy, plotting the share of people of Kresy origin by county from our Ancestry Survey against the same share from the 1950 Census. Both panels show a strong positive relationship between the data in the two data sources, supporting the reliability of our Ancestry Survey. In sum, the benchmarking exercises make us confident that respondents in the Diagnoza Survey and in the Ancestry Survey gave reasonable answers to the questions about their ancestral places of origin.

[4]There are a few exceptions. For instance, Warszawa (Warsaw) is considerably below the regression line. This means that, while in 1950 few people of Kresy origin lived there because the majority moved straight to the Western Territories, in 2015 the share of Warsaw survey respondents with Kresy ancestors is considerably larger. This is likely driven by the capital city's attraction of educated people—among them the descendants of Kresy migrants.

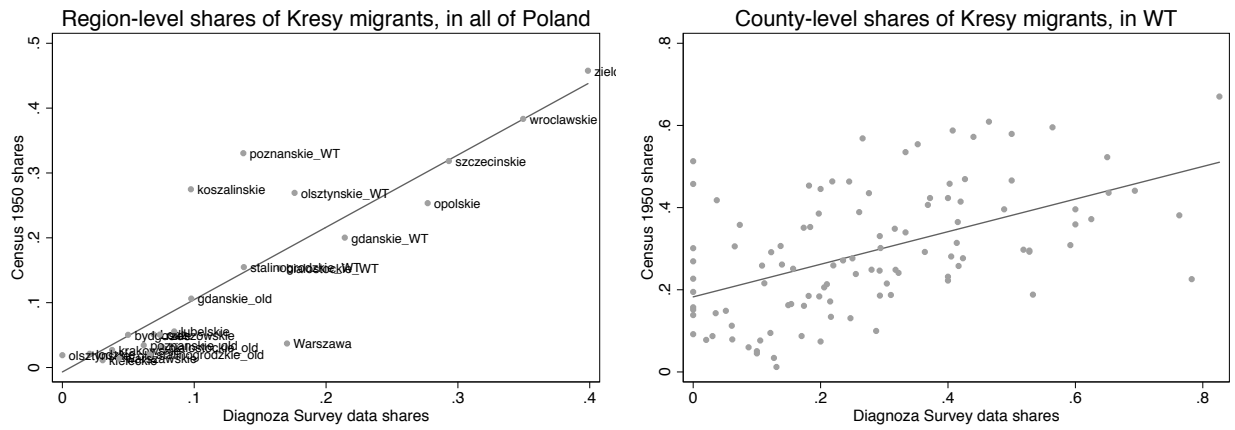


Figure A.8: Data Quality Check of Diagnoza Survey

Note: The left panel plots the regional share of migrants from Kresy territories in the 1950 Census (y-axis) against the Kresy migrant share from the 2015 Diagnoza data. The variation is at the regional level. Data are available for 24 regions, covering all of Poland (with separate observations for the parts of regions that were split by the border of the Western Territories). The regression coefficient is 1.00 with a standard error of 0.057 and R^2 of 0.73. The right panel of the figure plots the county-level share of migrants from Kresy territories in the 1950 Census (y-axis) against the Kresy migrant share from the 2015 Diagnoza data. These more detailed data are available for 107 counties in the Western Territories of Poland. The regression coefficient is 0.39 with a standard error of 0.071 and R^2 of 0.26.

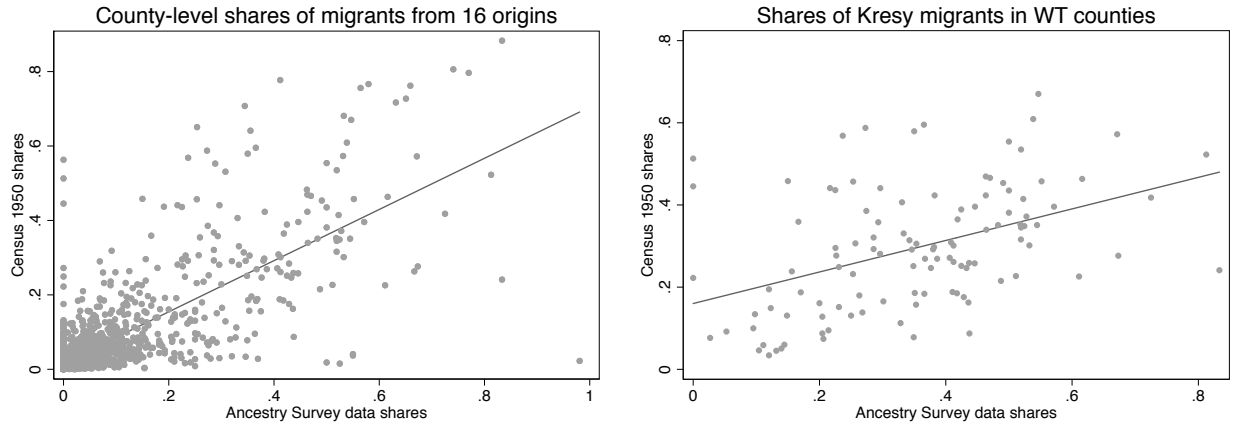


Figure A.9: Data Quality Check of our Ancestry Survey—WT Only

Note: The left panel plots the county-level share of migrants from 16 origin territories in the 1950 Census (y-axis) against the migrant share from the 2016 Ancestry Survey. The 16 origin territories include Kresy, WT, and 14 regions in CP. The regression coefficient is 0.69 with a standard error of 0.04 and R^2 of 0.59. The right panel repeats this exercise, but using only migrants from Kresy. The regression coefficient is 0.38 with a standard error of 0.09 and R^2 of 0.19.

IV Main Results: Additional Detail and Robustness

In this section, we present additional results, complementing those in Section IV. in the paper.

IV.A Additional Results from the Diagnoza Survey

Figure 3 plots the coefficient on *Kresy* for different birth cohorts. We begin with the oldest cohort in the Diagnoza Survey—those born before 1930. The education level of Kresy respondents is *lower* than that of other Poles in this cohort, albeit this difference is not statistically significant. This echoes the 1921 census data shown in Figure 2 above. The pre-1930 cohort was 16 or older in 1945 and thus would already have finished their secondary education (if they had any). In addition, within this cohort, respondents with Kresy ancestors are likely to be Kresy migrants themselves. Thus, Kresy migrants did not have higher education at the time when they were displaced. Thus, neither pre-existing differences nor selection at the time of deportations drive our results. In contrast, already among the 1930 birth cohort (i.e., school-age children in 1945), respondents with Kresy origin have significantly higher level of education than other Poles.[5] For later birth cohorts, the coefficient on Kresy declines somewhat but remains highly statistically significant. This makes sense in the context of our hypothesis that forced migration led to a shift in preferences towards education: The intergenerational transmission of preferences is not one-to-one, even when taking into account local peer effects and assortative mating of parents (c.f. Dohmen, Falk, Huffman, and Sunde, 2012).

Table A.3 presents the regression results underlying Figure 3 in Panel A. Column 1 includes only individuals born before 1930— the oldest respondents in the Diagnoza Survey. For years of schooling in this cohort, we find a small negative (and insignificant) coefficient on Kresy ancestry. The same is true for higher education in Panel C. Panel B shows a very small and insignificant positive coefficient on Kresy ancestry for secondary education. Thus, in the cohort that was old enough to have finished secondary education, the proportion with a secondary degree is very similar for individuals expelled from Kresy and other Poles. This implies that our results are unlikely to be driven by pre-existing educational differences or by selection of educated migrants from Kresy.

Columns 2-8 in Table A.3 focus on younger cohorts, i.e., those that had not finished schooling by 1945 or had not even been born. The coefficient on Kresy ancestry is highly significant throughout and relatively stable, but somewhat larger for older cohorts. This, together with the fact that the mean of education is higher for younger cohorts, suggests that the *relative* effect of Kresy origin is stronger for older cohorts. This is confirmed by Figure A.10, which uses ln(years of education) as the dependent variable, so that coefficients reflect semi-elasticities that can be directly compared across cohorts (in contrast to the level coefficients shown in Figure 3 in the paper).[6]

[5] Historical accounts suggests that the supply of schools was well organized as early as 1946, even in the Western Territories. There was a great effort to ensure good educational opportunities (free and obligatory for the primary schools). The first schools in WT were established relying on the initiative of individual teachers. Very quickly, however, the communist authorities created special institutions to develop a unified educational system in WT and in CP (Online PWN Encyclopedia, accessed 28 March 2018).

[6] Note that column 8 in Table A.3 as well as the last bar in Figure A.10—for the 1990s birth cohort—exclude respondents who were still students.

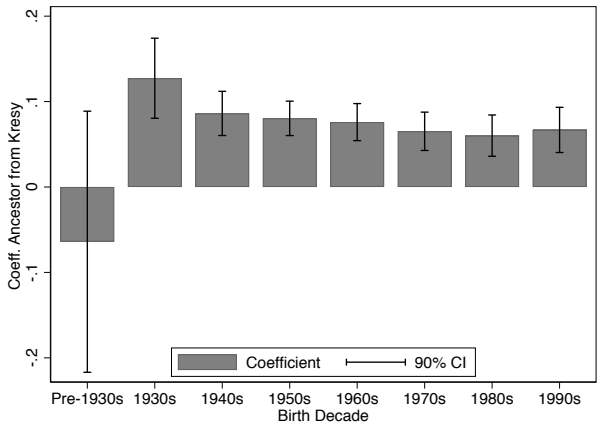


Figure A.10: Ancestors from Kresy and Education, by Birth Cohort

Note: The figure complements Figure 3 in the paper, using ln(years of education) as the dependent variable, so that the resulting coefficients (semi-elasticities) can be directly compared across the different birth cohorts.

Table A.3: Kresy Ancestors and Education—Across Cohorts

Dependent variable: Individual-level education, as indicated in each panel

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Birth Decade:	pre-1930	1930s	1940s	1950s	1960s	1970s	1980s	1990s
Age in 1945:	16+	6-15	<5	-	-	-	-	-
Age in 2015:	86+	76-85	66-75	56-65	46-55	36-45	26-35	16-25
Panel A: Dep. Var.: Years of education								
Ancestor from Kresy	-0.607	1.334	0.927	0.947	1.017	0.890	0.855	0.772
	(0.811)	(0.278)	(0.179)	(0.154)	(0.172)	(0.186)	(0.196)	(0.196)
Mean Dep. Var.	7.61	9.44	10.50	11.57	12.27	13.07	13.95	12.61
R-squared	0.67	0.44	0.30	0.23	0.23	0.29	0.27	0.37
Observations	519	2,083	3,360	5,405	4,434	4,152	3,837	2,016
Panel B: Dep. Var.: Secondary education dummy								
Ancestor from Kresy	0.046	0.165	0.143	0.136	0.145	0.093	0.080	0.132
	(0.092)	(0.035)	(0.028)	(0.024)	(0.027)	(0.026)	(0.024)	(0.041)
Mean Dep. Var.	0.20	0.35	0.40	0.43	0.47	0.58	0.75	0.62
R-squared	0.59	0.42	0.28	0.23	0.22	0.26	0.22	0.32
Observations	523	2,085	3,361	5,402	4,435	4,150	3,840	2,018
Panel C: Dep. Var.: Higher education dummy								
Ancestor from Kresy	-0.069	0.112	0.090	0.106	0.139	0.121	0.060	0.070
	(0.075)	(0.032)	(0.025)	(0.022)	(0.025)	(0.028)	(0.031)	(0.036)
Mean Dep. Var.	0.06	0.13	0.15	0.15	0.18	0.29	0.42	0.15
R-squared	0.51	0.27	0.18	0.16	0.21	0.26	0.27	0.32
Observations	523	2,085	3,361	5,402	4,435	4,150	3,840	2,018
Respondent county FE	✓	✓	✓	✓	✓	✓	✓	✓
Controls‡	✓	✓	✓	✓	✓	✓	✓	✓

Notes: The table shows that the results from Table 2 hold across different age cohorts. Regressions are run at the respondent level using data from the 2015 Diagnoza Survey; standard errors are clustered at the household level. The 1990 cohort in column 8 excludes respondents who were still students at the time of the survey.

‡ Controls include respondents' gender, age and age^2 interacted with birth-decade dummies, as well as indicators for rural places and urban counties.

In Table A.4, we verify that higher education of descendants of Kresy migrants translates into better labor market outcomes. Column 1 shows that respondents with ancestors from Kresy have about 10% higher household incomes. Column 2 suggests that the higher income is at least partially driven by higher education—once we control for education, the coefficient on Kresy becomes smaller and only remains marginally statistically significant. Columns 3-4 show that people with Kresy ancestors are more likely to have white collar occupations; at the same time, they are less likely to be unemployed (columns 5-6). These results remain statistically significant even after we control for education, but the coefficients on Kresy origin become smaller in magnitude.

Table A.4: Labor Market Outcomes

Dep. var.: Individual labor market outcomes, as indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	ln(HH income)		White collar job		Unemployed	
Ancestor from Kresy	0.119	0.068	0.102	0.036	-0.022	-0.015
	(0.039)	(0.039)	(0.014)	(0.012)	(0.007)	(0.007)
Years of education		0.059		0.074		-0.009
		(0.003)		(0.001)		(0.001)
Baseline controls‡	✓	✓	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓	✓	✓
Mean Dep. Var.	8.45	8.45	0.46	0.46	0.08	0.08
R-squared	0.20	0.22	0.27	0.41	0.05	0.06
Observations	18,298	18,262	13,516	13,504	18,897	18,859

Notes: The table shows that descendants of Kresy migrants have more favorable labor market outcomes. Regressions are run at the respondent level using data from the 2015 Diagnoza Survey; standard errors are clustered at the household level.

‡ Baseline Controls include respondents' gender, age and age^2 interacted with birth-decade dummies, as well as indicators for rural places and urban counties.

IV.B Additional Results from the Ancestry Survey

Weighted Regressions

Table A.5 replicates Panel A of Table 3 from the paper, using respondent-level weights that account for the oversampling of respondents with Kresy ancestors (as described in Section III.B.). Both the coefficients and their precision are very similar to those in Table 3 (Panel A) in the paper.

Table A.5: Ancestry Survey Results (Respondent Level): Weighted

Dependent variable: as indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep. Var.:			Years of education				Secondary	Higher
Notes on sample:					rural	urban		
Ancestor from Kresy	0.883	0.969						
	(0.118)	(0.106)						
Share of ancestors, Kresy			0.804	0.725	0.677	0.773	0.110	0.066
			(0.137)	(0.144)	(0.242)	(0.168)	(0.021)	(0.017)
Share of ancestors, WT			-1.006	-0.993	-0.570	-1.274	-0.162	-0.130
			(0.189)	(0.194)	(0.319)	(0.250)	(0.031)	(0.023)
Share of ancestors, abroad			-1.104	-0.600	-3.448	-0.227	-0.035	0.012
			(0.825)	(0.640)	(1.545)	(0.873)	(0.108)	(0.094)
Share of ancestors, rural			-0.472	-0.545	-0.466	-0.506	-0.059	-0.035
			(0.160)	(0.156)	(0.359)	(0.177)	(0.024)	(0.019)
Baseline controls‡		✓	✓	✓	✓	✓	✓	✓
Respondent county FE		✓	✓		✓	✓	✓	✓
Respondent municipality FE				✓				
Mean Dep. Var.	12.43	12.43	12.45	12.45	11.40	12.96	0.47	0.22
R^2	0.02	0.29	0.30	0.39	0.33	0.28	0.21	0.22
Observations	3,716	3,716	3,668	3,668	1,110	2,558	3,668	3,668

Notes: The table replicates Panel A of Table 3 in the paper, using weights that account for the oversampling of respondents with Kresy ancestors (as described in Section III.B.). Regressions are run at the respondent level; robust standard errors indicated in parenthesis. ‡ Controls include respondents' gender, age and age^2 interacted with birth-decade dummies, as well as indicators for respondents living in rural places and urban counties. Excluded category in columns (3) to (6) is the share of ancestors from CP.

(Potential) Effect of Kresy Ancestor Majority

In Table A.6, we ask whether the share of ancestors from Kresy matters above and beyond having any ancestor from Kresy. We include both the dummy for any ancestor from Kresy, together with an additional indicator variable that takes on value one if the majority of a respondent's ancestors (in the 1939 adult generation) are from Kresy.[7] The results show that having a majority of ancestors from Kresy does not add an additional education premium to having 'any ancestor' from Kresy.

[7]We use an indicator for ancestor share from Kresy $\geq$50% (rather than the share itself) to allow for possible nonlinear effects in the share of Kresy ancestors.

This suggests that Kresy ancestry is very salient within families. For example, even one ancestor from Kresy may dominate family conversations about the importance of education.

Table A.6: (Potential) Role of Majority of Kresy Ancestors: Ancestry Survey Results

Dependent variable: Years of Education

	(1)	(2)	(3)
Ancestor from Kresy	1.068	0.957	1.021
	(0.221)	(0.224)	(0.240)
Share of Kresy ancestors $\geq$ 50%	-0.172	-0.057	-0.141
	(0.225)	(0.228)	(0.246)
Baseline controls‡	✓	✓	✓
Generation controls‡		✓	✓
Respondent county FE	✓	✓	
Respondent municipality FE			✓
Mean Dep. Var.	12.70	12.70	12.70
R^2	0.27	0.27	0.35
Observations	3,716	3,716	3,716

Notes: The table uses data from our 2016 Ancestry Survey in the Western Territories, showing that having at least one ancestor from Kresy is important. Having 50% or more of ancestors from Kresy does not differentially affect respondents' education. Regressions are run at the respondent level; robust standard errors indicated in parenthesis. ‡ Controls include respondents' gender, age and age^2 interacted with birth-decade dummies, as well as indicators for respondents living in rural places and urban counties. Generation controls are indicator variables for whether respondent reports about self (very old respondents), or parental generation (reference category), grandparents' generation or great-grandparents' generation.

Results by Generation of Ancestors

Regressions at the ancestor level raise two potential concerns: first, the number of observations entering ancestor-level regressions vary across generations. Older respondents reporting about their parents contribute fewer ancestors to the ancestor-level regressions than younger respondents who report about up to eight great-grandparents, leading to potential (re-)weighting issues. At the same time, we saw in Table 2 that the Kresy education effect varies across cohorts. Both issues can be addressed at once by taking a generational perspective for ancestor-level regressions in Table A.7. Column 1 repeats our baseline specification for the Ancestry Survey—column 3 of Table 3 in the paper, across all generations combined. Column 2 restricts the sample to (older) respondents who report about Kresy origin of their parents (their location of residence in 1939). Column 3 uses only (middle-aged) respondents who report about Kresy origin of their grandparents. Column 4 restricts the sample to (young) respondents who report about Kresy origin of their great-grandparents. Effects are somewhat larger for the parent generation, i.e., where respondents were influenced by the experience of their own parents. This is consistent with the pattern in Table 3, where the Kresy ancestry effect was strongest for older cohorts who experienced expulsion first-hand or via their own parents.

Table A.7: Ancestry Survey Results (Respondent Level): By Generation of Ancestors

Dependent variable: Years of Education

	(1)	(2)	(3)	(4)
Notes on sample:	All	Parent	Grandparent	Great-grandparent
Share of ancestors, Kresy	0.917	1.058	0.772	0.792
	(0.121)	(0.192)	(0.182)	(0.352)
Baseline controls‡	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓
Mean Dep. Var.	12.70	11.79	13.02	14.10
R^2	0.26	0.30	0.24	0.47
Observations	3,716	1,384	1,869	501

Notes: The table uses data from our 2016 Ancestry Survey in the Western Territories, showing that the share of ancestors from Kresy in a respondent's family tree is associated with higher levels of education. Results are strongest for (older) respondents whose parents were forced to migrate from Kresy. Regressions are run at the respondent level; robust standard errors indicated in parenthesis.

‡ Baseline controls include respondents' gender, age and age^2 interacted with birth-decade dummies, as well as indicators for respondents living in rural places and urban counties.

IV.C Comparing Coefficients at the Respondent vs. Ancestor Level in the Ancestry Survey

In Section IV.B., we presented results of regressions estimated at both the respondent and at the ancestor level. In what follows, we discuss to what extent the coefficients from these two approaches are comparable. We begin by explaining an important difference intuitively, and then turn to Monte-Carlo simulations to derive more general statements.

To fix ideas, we begin by comparing the simplest respondent-level and ancestor-level regressions, both with a dummy for 'any ancestor from Kresy': column 2 in Table 3 and column 1 in Table 3. The coefficients are 0.91 and 0.64, respectively. We argue that at least part of this difference can be explained by a mixed composition of the 'control group' in the ancestor-level regressions: Suppose that in families with mixed ancestors (some from Kresy, some not), Kresy ancestors dominate discussions about education. This is supported by the evidence in Table A.6 above – suggesting that even one ancestor from Kresy is sufficient to lead to an extra year of schooling of descendants (i.e., respondents). Also, remember that education outcomes are only observed at the respondent level. Now suppose a respondent's mother is from Kresy while her father is from CP. Because one ancestor from Kresy is sufficient to create the full Kresy effect, the respondent will have an extra year of schooling. If we run an ancestor-level regression for this respondent, there will be two observations, one for her mother ('treated'—from Kresy), one for her father ('control'—not from Kresy). The outcome for both will be one extra year of schooling. This example illustrates that the 'control' group will be contaminated if the respondent's family also contains a 'treated' ancestor. An obvious remedy is to restrict the 'control' group to those cases where *none* of the ancestors of a respondent was from Kresy, that is, to exclude all mixed family cases from the control group. Fortunately, our data contains a large group of respondents without any ancestor from Kresy (1,997 respondents with 6,551 corresponding ancestors from CP and other non-Kresy regions). Table A.8 presents our results. When all ancestors are from Kresy,

the education effect is 0.85 more years of education—very similar to the results at the respondent level in Table 3. When we run regressions by generation of the respondents, they are strongest for the parent generation with a Kresy education effect of 1.08 additional years of schooling. For the grandparent and great-grandparent generation, the education coefficients are 0.69 and 0.82, respectively, again quite similar to those in respondent-level regressions.

Table A.8: Ancestry Survey Results: Control Group are Respondents with 'Uniform' Ancestry

Dependent variable: Years of Education

	(1)	(2)	(3)	(4)
Notes on sample:	All	Parent	Grandparent	Great-grandparent
Ancestor from Kresy	0.845	1.083	0.694	0.823
	(0.104)	(0.183)	(0.145)	(0.260)
Baseline controls‡	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓
Mean Dep. Var.	12.87	11.72	12.98	13.93
R^2	0.27	0.29	0.22	0.49
Observations	10,418	2,614	5,592	2,212

Notes: The table uses data from our 2016 Ancestry Survey in the Western Territories, and restricts the sample to respondents where all ancestors or no ancestors at all are from Kresy. Results are strongest for (older) respondents whose parents were forced to migrate from Kresy. Regressions are run at the respondent level; robust standard errors indicated in parenthesis.

‡ Baseline controls include respondents' gender, age and age^2 interacted with birth-decade dummies, as well as indicators for respondents living in rural places and urban counties.

Econometrically, the respondent-level and ancestor-level regressions are not equivalent. The following Monte Carlo simulations, while also comparing the point estimates, mainly serve to address what can be learned in terms of the level of significance of the respondent-level and ancestor-level regressions.

We will refer to the following two equations:

$$\text{Respondent-level: } Y_i = \beta\ Kresy_i + \phi'\ \mathbf{X}_i + \eta_{Locality_{(i)}} + \varepsilon_i, \tag{A.1}$$

$$\text{Ancestor-level: } Y_i = \gamma Kresy_{a_{(i)}} + \psi' \mathbf{A}_{a(i)} + \phi' \mathbf{X}_i + \eta_{Locality_{(i)}} + \varepsilon_{a_{(i)}} \tag{A.2}$$

Note that, in line with our specifications (1) and (2) in the paper, in the first equation above, $Kresy_i$ is respondent i's *share* of ancestors from Kresy; and in the second equation, $Kresy_{a_{(i)}}$ is a *dummy* that equals one if ancestor a of respondent i came from Kresy. In addition, we cluster the error term in the second equation at the respondent level.

The Monte Carlo Simulations yield the following results: as discussed before, the estimated parameters β and γ, in general, are not equal; yet, importantly, the statistical inference, i.e., the significance of these parameter estimates, is similar.

First, we find that the parameters β and γ are equal only in the case when dummies for Kresy origin of different ancestors of the same respondent are perfectly correlated for all respondents. Formally, this means that for each respondent i, the indicators for Kresy origin of all ancestors

of this respondent i in the generation of the youngest adults before the war are the same (i.e., $Kresy_{m_{(i)}} = Kresy_{f_{(i)}}$, where m and f are ancestors drawn at random from the full set of ancestors of respondent i in the considered generation, and this holds for all i).[8] Put differently, ancestor-level regressions yield the same coefficient as respondent-level regressions if all ancestors of a given respondent are 'treated' (from Kresy) or 'control' (not from Kresy), as shown in Table A.8.

More generally, the parameter γ depends on the correlation between the indicators of Kresy origin of ancestors of the same respondent. The lower the correlation, the lower is γ (however, it is bounded below). If that correlation is zero, the parameter γ of the ancestor-level regressions is equal to the effect of the share of ancestors with Kresy origin of the respondent-level regressions (β), divided by the average number of ancestors per respondent (N), i.e., $\gamma = \beta/N$. More formally, the condition for equality of γ and β is that indicator variables for Kresy origin of any ancestor $a_{(i)}$ are i.i.d.

The parameter γ is within the interval $[\beta/N; \beta]$ as long as the correlation between indicator variables of Kresy origin of different ancestors of the same respondent is nonnegative (i.e., if one ancestor drawn at random from the pool of all ancestors of all respondents has a Kresy origin, the other ancestor drawn at random from the set of ancestors of the same respondent is more likely to also be of Kresy origin than an ancestor drawn at random from the whole pool of all ancestors of all respondents).

In reality, the origins are positively correlated across ancestors of the same respondent, but this correlation is strictly below one, which means that we should expect smaller point estimates in the ancestor level regressions than in the respondent level regressions. In particular, the correlation between the dummies indicating the Kresy origin of spouses (e.g., of the mother and father or of the paternal grandmother and paternal grandfather of the same respondent) is over 90%. The correlation between dummies for Kresy origin of grandparents from the mother's and father's side, e.g., of the fathers of the parents of the respondent, is over 30%; and the correlation between the origins of the most distant ancestors, i.e. different great-grandparents, is 7%.

Second, the Monte Carlo simulations show that the level of statistical significance is similar between the respondent-level regressions and the ancestor-level regressions, when we cluster error terms at the respondent level. The level of significance is comparable irrespective of the level of correlation between the origins of different ancestors of the same respondent. Namely, when γ is below β, the standard errors are also proportionally smaller in the ancestor-level estimation, and therefore, statistical inference is similar.

Third, both of these facts are true not only for the estimation of the direct effects of Kresy ancestry (γ vs β), but also for the heterogeneity in the effects. In particular, when we consider an interaction term between the Kresy ancestor variables (share or dummy in the respondent-level and ancestor-level regression, respectively) and a characteristic of the place of origin of respondents ancestors (which is averaged across ancestors in the respondent-level regressions), we find that the statistical inference is similar in both cases. This is particularly important because in Section V.A. of the main text, we show that the interactions between the characteristics of the origin locations

[8] If the considered generation of ancestors is parents, m and f are simply mother and father; if grandparents, these are two grandparents randomly drawn from the pool of all grandparents of the respondent i, etc.

and the dummy for Kresy origin of the respondent's ancestor are statistically insignificant.

To sum up, our Monte Carlo simulations show that t-statistics for the coefficients in the ancestor-level regressions and the corresponding t-statistics in the respondent-level regressions are very similar, suggesting that our statistical inference is correct.

IV.D Confirming the Main Results in LiTS

Below, we use the Life in Transition Survey (LiTS) from the European Bank for Reconstruction and Development (2016) to shed light on the role of war experience and risk aversion. We show that our main results also hold with LiTS data. An important drawback of LiTS, and the reason why we do not use it in the main text, is its relatively small sample size compared to Diagnoza and our Ancestry Survey. The LiTS sample, although nationally representative, includes fewer than 1,500 respondents in Poland (as opposed to 30,000 respondents in Diagnoza and more than 4,000 in the Western Territories alone in our Ancestry Survey). The LiTS survey also asks about the country and region of origin of the respondents' maternal and paternal families in 1939, and whether they came from a rural or urban area.[9] Of the 1,418 self-identified ethnic Poles among the 1,500 people sampled in Poland, 1,412 remembered the precise location of both their father's and mother's family in 1939. This allows us to create a dummy variable for Kresy ancestry of respondents, in the same way as in the Diagnoza Survey. LiTS also contains similar socio-demographic controls as Diagnoza or the Ancestry Survey.

To check whether our main results hold in LiTS, we need information on education. LiTS contains one question on education, which asks about the highest education level completed (from no education to a Masters degree or PhD). We use this to generate years of schooling as well as indicators for secondary and higher education using the same mapping as in Diagnoza.[10] Table A.9 shows that our main result—the effect of Kresy origin on education—holds also in the LiTS sample, despite the notably smaller sample size. Controlling for our usual individual-level controls, for urban or rural family origin, for urban residence, and for region fixed effects, descendants of Kresy migrants have on average 0.81 extra years of schooling.[11] They are 15 percentage points more likely to finish secondary education, and 13.9 percentage points more likely to graduate from college. These estimates are slightly larger, but on par with those obtained with the Diagnoza data.[12]

[9] These questions were added to LiTS 2016 based on our proposal.

[10] We consider that respondents who have completed primary education have seven years of education, those who have completed lower secondary education have ten, those who have completed (upper) secondary education have twelve, those who have completed post-secondary non-tertiary education have fourteen, and those who have completed tertiary education have seventeen years of education.

[11] Given the substantially smaller LiTS sample size, we cannot run regressions with county fixed effects, only region fixed effects.

[12] The corresponding estimates in Diagnoza with the same set of controls and with region fixed effects (instead of county fixed effects as in column 2 of Table 2) are 0.85 extra years of schooling, and 12.2 and 9.1 percentage points higher likelihood to complete secondary or higher education, respectively.

Table A.9: Confirming the Main Education Results in LiTS

Dependent variable: as indicated in table header

	(1) Years of education	(2) Secondary education	(3) Higher education
Ancestor from Kresy	0.808	0.150	0.139
	(0.326)	(0.037)	(0.039)
Baseline controls‡	✓	✓	✓
Region FE	✓	✓	✓
Mean Dep. Var.	12.85	0.31	0.25
R^2	0.25	0.20	0.18
Observations	1,412	1,412	1,412

Notes: The table shows that the Kresy education effect also holds in the Life in Transition Survey (LiTS). Sample of respondents in Poland. Robust standard errors clustered at the Primary Sampling Unit indicated in parenthesis (70 clusters).

‡ Controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for WT, rural/urban residence, and rural/urban origin of mother and father.

IV.E Set of questions asked about every ancestor in the generation of youngest adults in the family in August 1939 in the Ancestry Survey

Q0. Please tell us if anybody from your family—more precisely, you, your parents, your grandparents, your great grandparents, or your great great grandparents lived permanently in Kresy in August 1939, just before WWII.

1/ Yes
2/ No

INTRODUCTION: We would like to ask you about your roots. We are interested in the generation in your family which is the closest to you by age and which was already adult just before the Second World War. We will ask where your ancestors from this generation lived before the war.

Q1. Please, tell us who in your family was adult (was more than 18 years old) in August 1939, just before the WWII?

a/ Were you adult?
(if yes, in the following questions the respondent is asked about him/herself)
b/ at least one of your parents was adult?
(if yes, the following questions are about each of the following ancestors: mother and father)
c/ at least one of your grandparents was adult?
(if yes, the following questions are about each of the following ancestors: maternal grandmother, maternal grandfather, paternal grandmother, and paternal grandfather)
d/ at least one of your great grandparents was adult?
(if yes, the following questions are about each of the following ancestors: mother and father of maternal grandmother, maternal grandfather, paternal grandmother, and paternal grandfather)

The following questions are about each of the ancestors in the respective generation of the youngest adults in the family before WWII (the questions are repeated and the answers are recorded for each ancestor separately):

INTRODUCTION: Now, we would like to know, in as detailed way as possible, where each of the members of this generation lived just before the WWII.

As your ancestors could live within the previous or current Polish borders, to remind you I will show you the map on which these borders before the war and after the war are showed. The green and red colours represent Poland before the WWII, and red and yellow colours represent Poland after the WWII.

Before we ask the next question we would like to remind you that: When we speak about Eastern Kresy we mean the territories which before the WWII belonged to the Second Polish Republic and since the end of the war have belonged to the USSR and today belong to Ukraine, Belarus or Lithuania. When we speak about Central Poland we mean the lands that belong to Poland now and belonged to Poland before WWII. When we speak about Western and Northern Territories (that used to be called Recovered Territories) we mean lands that belonged to Germany before WWII and became part of Poland after the WWII. We will refer to these lands as WT.

A1. Where did your ANCESTOR live permanently in August 1939? Did he/she live:
In the Second Polish Republic:
1/ in Kresy
2/ in Central Poland
Outside the Second Polish Republic:
3/ in Western Territories
4/ in another place in the Third Reich or in another country
5/ in a Free City of Gdansk
6/ Does not concern—was not born yet
7/ Difficult to say
8/ Refuse to answer

A2. Was the locality where your ANCESTOR lived:
1/ rural
2/ urban
7/ Difficult to say
8/ Refuse to answer

A3. Do you know the name of this locality?
1/ Yes
2/ No
8/ Refuse to answer

A4. What was the name of the locality?

A5. Do you know to which county (powiat before the war) belonged this locality?
1/ Yes
2/ No
8/ Refuse to answer

A6. What was the name of this county (powiat)?

A7. Do you know what was the closest city next to the locality, where this ANCESTOR lived in August 1939?
1/ Yes
2/ No
8/ Refuse to answer

A8. What was the name of this city?

A9. Do you know in which region (wojewodztwo before the war) was this locality located?
1/ Yes
2/ No
8/ Refuse to answer

A10. What was the name of this region?

A11. On the territory of which country is this locality today?
1/ Belarus
2/ Ukraine
3/ Lithuania
7/ Difficult to say
8/ Refuse to answer

A12. Did your ANCESTOR move to Western Territories?
1/ Yes
2/ No
7/ Difficult to say
8/ Refuse to answer

A13. Do you think your ANCESTOR was forced to move to Western Territories? By forced we mean the pressure exercised by the Soviet or Polish authorities.
1/ Yes
2/ No
7/ Difficult to say
8/ Refuse to answer

V Border Analysis: Additional Empirical Results

In this section, we present additional evidence in support of our main result.

V.A Arbitrariness of the Kresy Border

This subsection complements our discussion in Section II.A. of the paper about the arbitrariness of the Kresy border and the Kresy border analysis presented in the results section. Figures A.11 and A.12 examine geo-climatic and agricultural characteristics of counties in a 150 km corridor around the Kresy border. There is no discontinuity at the Kresy border in any geo-climatic characteristic, such as mean temperature, precipitation, altitude, or terrain ruggedness. The same is true for the suitability for various major crops (barley, wheat, potato, and sunflower).

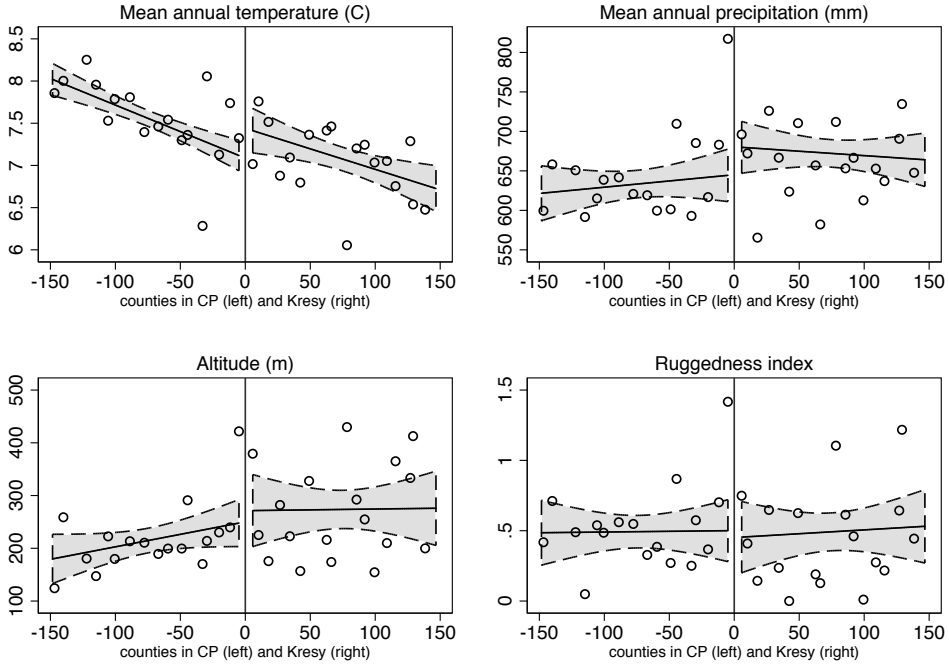


Figure A.11: Kresy Border Sample: Geo-climatic Characteristics

Note: The figure shows that there is no discontinuity around the border between Kresy and Central Poland in terms of geo-climatic characteristics. The figure uses data from FAO, averaged at the county level. Dots correspond to data aggregated into 8 km (5 miles) bins for visualization, while the lines are based on all underlying observations, with the shaded area representing 90% confidence intervals.

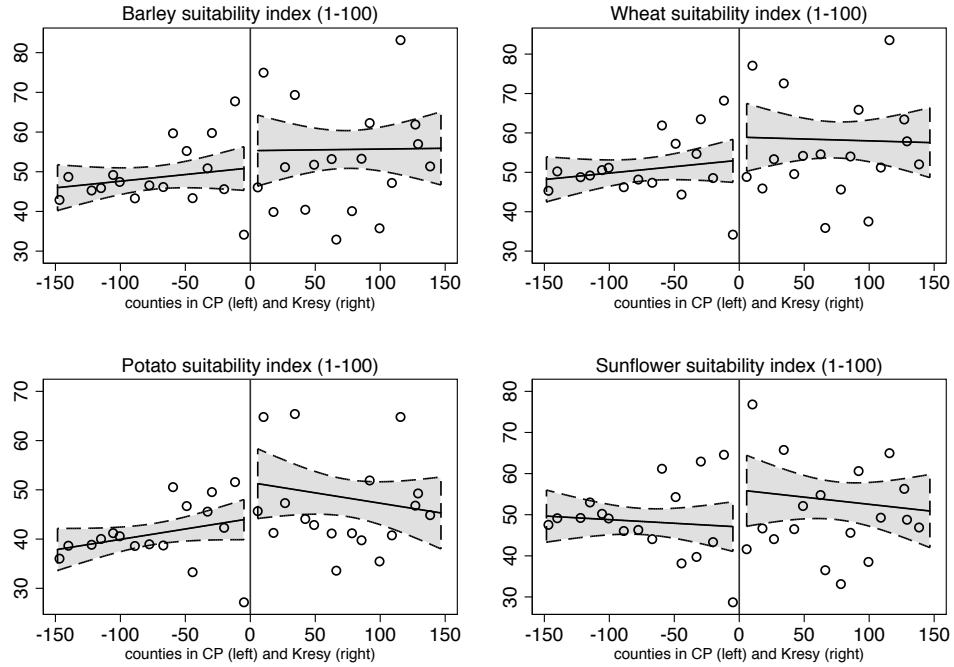


Figure A.12: Kresy Border Sample: Crop Suitability

Note: The figure shows that there is no discontinuity around the border between Kresy and Central Poland in terms of soil suitability. The figure uses data from FAO, averaged at the county level. Dots correspond to data aggregated into 8 km (5 miles) bins for visualization, while the lines are based on all underlying observations, with the shaded area representing 90% confidence intervals.

V.B Border Analysis in the Diagnoza Survey—Additional Results

Table A.10 complements our border analysis in Section IV.B. in the paper. Note first that in the Kresy border sample, the means of the dependent variables are very similar to the overall sample means in Diagnoza (see Table 2, column 1 in the paper). This renders the results directly comparable. Column 1 in Table A.10 includes our baseline controls; column 2 adds a quadratic polynomial in latitude and longitude to capture unobservables that may vary around the Kresy border (Dell, 2010).[13] In both specifications, we find positive and significant coefficients for Kresy ancestors that are somewhat larger than those in the main sample (Table 2 in the paper). One reason for the difference could be that we now use only those Kresy-origin respondents who also remember the locations where their ancestors lived in 1939. This may be a subsample with particularly vivid memories of the forced migration experience, augmenting the long-run effects on education. In column 3 of Table A.10 we restrict the sample to 100 km around the Kresy border. Results remain very similar. Finally, in columns 4 and 5 we present our results for secondary and higher education, respectively. Again, we confirm the main results from Table 2.

Table A.10: Border Sample from the Diagnoza Survey

Dependent variable: as indicated in column header

	(1)	(2)	(3)	(4)	(5)
Dep. Var.:	Years of education			Secondary	Higher
Notes on sample:	$< 150km$	$< 150km$	$< 100km$	$< 150km$	$< 150km$
Ancestor from Kresy	1.155	1.416	1.256	0.147	0.154
	(0.152)	(0.255)	(0.312)	(0.038)	(0.033)
Baseline controls‡	✓	✓	✓	✓	✓
RD polynomial#		✓	✓	✓	✓
Mean Dep. Var.	12.02	12.02	11.92	0.51	0.22
Observations	8,760	8,760	5,258	8,761	8,761

Notes: The table uses data from our 2015 Diagnoza Survey, using only ancestors from within the indicated distance from the Kresy border. These include i) individuals with ancestors from Kresy who lived within less than 150 km (100 km) to the east of the border, and ii) individuals without Kresy ancestors who live (today) within 150 km (100 km) to the west of the border. Regressions are run at the respondent level; robust standard errors (clustered at the household) level in parenthesis.

‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for WT, rural places and urban counties.

\# Quadratic polynomial in latitude and longitude of i) ancestors' location of origin to the east of the Kresy border, ii) respondent's location (today) to the west of the border.

[13] Following the argument in Gelman and Imbens (2014) that cubic and higher-order polynomials can yield misleading estimates, we use a second order polynomial. Note that we do not include respondent location fixed effects, because these would absorb the variation in distance to the west of the Kresy border. This is because we use today's location of respondents from CP (i.e., those within 150 km to the west of the Kresy border) as a proxy for their ancestors' place of living. We address this issue below in Table A.11 by using data from our Ancestry Survey, which includes many respondents whose ancestors lived in CP close to the Kresy border, but who themselves live scattered throughout the Western Territories today.

V.C Border Analysis in our Ancestry Survey—Additional Results

The results shown in this subsection complement our Ancestry Survey border analysis from Section IV.B. in the paper. Figure A.13 illustrates the border sample based on our Ancestry Survey data. It shows the locations of origin places for those ancestors who came from within 150 kilometers of the Kresy border.

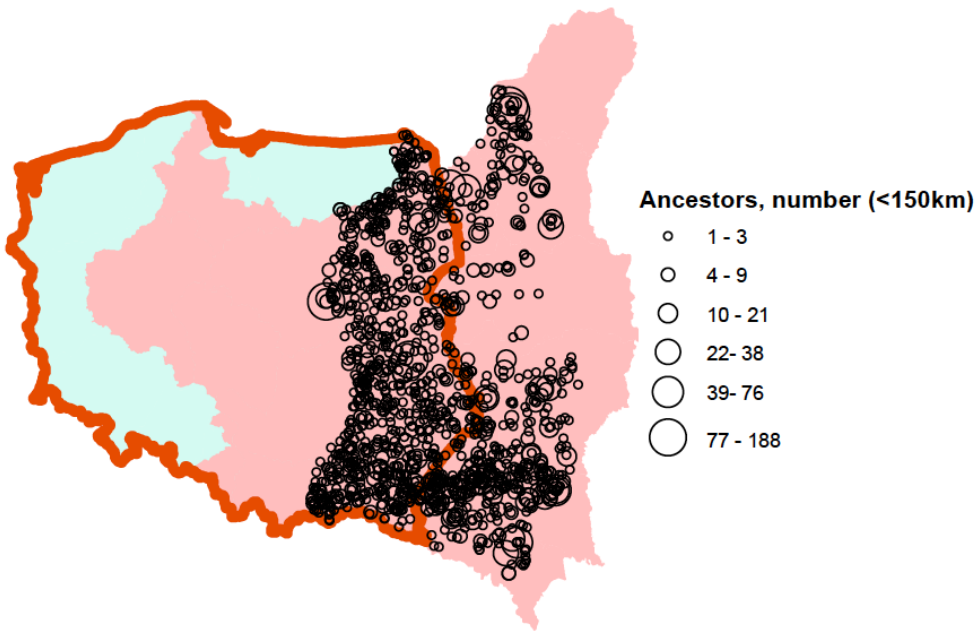


Figure A.13: Origin of Ancestors in our Ancestry Survey.

Note: The figure displays the origin of ancestors in the border sample of our Ancestry Survey—within 150km of the Kresy border. The different dot sizes indicate the number of ancestors from each respective location. The different areas on the map are described in the note to Figure 1 in the paper: In the East, the former Eastern Polish territories (Kresy); in the West, the Western Territories, and in the center, Central Poland.

Table A.11 complements the graphical evidence from Figure 4 in the paper. The table presents the results of our most demanding specifications: We identify the effect of ancestors' origin for individuals living within the same county (columns 1 and 2) or even within the same municipality (columns 3 to 6) whose ancestors originate from localities close to the Kresy border. In columns 2-6 we use a spatial RDD that controls for a quadratic polynomial in latitude and longitude of the ancestor's origin. Note that the results are run at the ancestor level, because the border discontinuity refers to ancestor locations. We estimate several specifications to illustrate the robustness of the main result displayed in Figure 4 in the paper. In columns 1 to 4 of Table A.11, we use years of education as outcome variable and show that the results are robust to using samples within 150

and 100 km from the Kresy border. In columns 5 and 6, we report the results for secondary and higher education, respectively. Results of all specifications are consistently strong and of similar magnitude as our main results for the Ancestry Survey in Table 3 in the paper.

Table A.11: Education in the Western Territories: Ancestors Originating Near Kresy Border

Dependent variable: as indicated in column header

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.:	Years of education				Secondary	Higher
Notes on sample:	$< 150km$	$< 150km$	$< 150km$	$< 100km$	$< 150km$	$< 150km$
Ancestor from Kresy	0.876	0.698	0.925	1.416	0.112	0.112
	(0.188)	(0.350)	(0.382)	(0.507)	(0.057)	(0.053)
Baseline controls‡	✓	✓	✓	✓	✓	✓
Ancestor controls†		✓	✓	✓	✓	✓
RD polynomial#		✓	✓	✓	✓	✓
Respondent county FE	✓	✓				
Respondent municipality FE			✓	✓	✓	✓
Mean Dep. Var.	12.70	12.72	12.72	12.66	0.54	0.24
R^2	0.30	0.31	0.44	0.54	0.42	0.37
Observations	3,380	3,291	3,291	1,949	3,291	3,291

Notes: The table uses data from our 2016 Ancestry Survey in the Western Territories, using only ancestors from within the indicated distance from the Kresy border. Regressions are run at the ancestor level; robust standard errors clustered at the respondent level indicated in parenthesis. All columns control for a quadratic polynomial in latitude and longitude of ancestors' location of origin.

‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for rural places and urban counties.

† Ancestor controls include indicators for ancestors from WT and from abroad, as well as indicators for the ancestor generation. Excluded category is ancestors from Central Poland.

V.D Ancestors from Contested Kresy Border Areas

In what follows, we present our most restrictive border analysis. We restrict the border sample to the contested areas in the northern and southern part of the different variants of the Curzon line, described in the Appendix I.C (see in particular Figure A.5). We keep all observations on ancestors from counties where the majority of the county area is within the envelope formed by the most extreme proposed variants of the Curzon line. By definition that excludes the central part of the border, where all proposed variants coincided, i.e., where the location of the border was uncontested. Put differently, we only use ancestors who—even if they knew about plans to redraw the Polish borders—could not possibly tell which part of Poland they would be assigned to.

Figure A.14 illustrates the location of ancestors in the contested border sample. Table A.12 presents the corresponding results. First, column 1 shows that there are no pre-existing differences in education: pre-WWII literacy rates of Roman Catholics (i.e., Poles) are very similar in locations of ancestors on both sides of the (future) Kresy border.[14] Next, columns 2 presents the main result:

[14]In addition, within the contested border sample the share of Poles (measured by Roman Catholics or Polish speakers in 1931) was also balanced on the two sides of the Kresy border: Using the two variables (with county-level 1931 census data assigned to the location of ancestors) on the left-hand-side in the same specification as column 1 yields small and insignificant coefficients (-0.038 for the share of Roman Catholics and -0.075 for the share of Polish

education in 2016 is substantially higher for descendants of Kresy ancestors. This holds also in column 3, where we add ancestor controls.

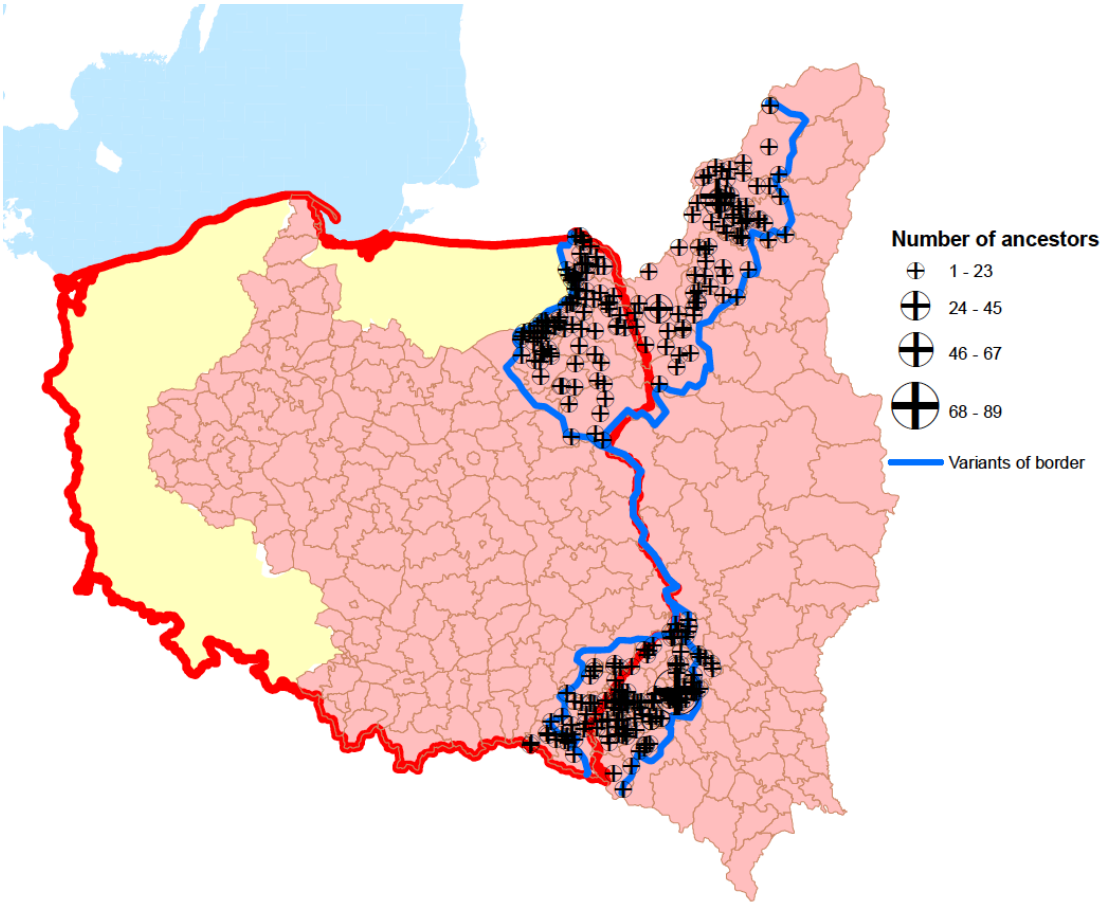


Figure A.14: Contested Border Sample: Origin Locations of Ancestors

Note: This map shows the locations of ancestors who lived in counties whose midpoint was located within the contested areas of the Curzon line, as described in Appendix I.C.

speakers with standard errors of 0.078 and 0.051, respectively). This helps to address the concern that our results may be driven by Poles being one of many ethnicities in Kresy, i.e., that the share of Poles in Kresy was lower than in Central Poland. We further discuss this issue below and present interaction results in columns 1-5 of Table A.13.

Table A.12: Subsample of Ancestors from Contested Kresy Border Areas

Dependent variable: as indicated in column header

Dep. Var.:	(1) Literacy Rate 1921	(2) Years of schooling	(3) Years of schooling
Ancestor from Kresy	-0.008	0.942	0.850
	(0.034)	(0.473)	(0.489)
Baseline controls‡	✓	✓	✓
Ancestor controls†			✓
Respondent county FE	✓	✓	✓
Mean Dep. Var.	0.65	12.46	12.47
R^2	0.46	0.44	0.46
Observations	1,070	1,078	1,058

Notes: The table uses data from our 2016 Ancestry Survey in the Western Territories, using only ancestors from counties located within the contested area of the Kresy border, as shown in Figure A.14. Regressions are run at the ancestor level. Standard errors are clustered at the respondent level.

‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for rural places and urban counties.

† Ancestor controls include indicators for ancestors from WT and from abroad, as well as indicators for the ancestor generation. Excluded category is ancestors from Central Poland.

VI Threats to Identification: Additional Results

In this appendix, we provide detailed results that complement Section V. in the paper.

VI.A Characteristics at Origin Locations: Potential Heterogeneous Effects

Could different characteristics of migrants' origin locations affect our results? We analyze this possibility in Tables A.13 and A.14, testing for possible differential effects of Kresy origin depending on characteristics at the ancestors' place of origin. In particular, we run regressions at the ancestor level, in which we include interactions between the dummy for Kresy ancestry and (standardized) county-level characteristics of the place of origin of the respective ancestor, controlling also for the characteristics at the place of origin.[15] In Table A.14, we also include interactions of climatic characteristics at the *destination* location.

Table A.13 examines the heterogeneity with respect to various measures of diversity at the origin location. In particular, we consider the following pre-WWII county level variables: the share of Roman Catholics, the share of Polish speakers, the share of Ukrainian speakers, the share of Russian speakers, the total literacy rate and the literacy rate among Roman Catholics, as well as the urbanization rate. We find no differential effects of Kresy origin on years of education with respect to any of these characteristics—the interaction coefficients are quantitatively small and statistically insignificant throughout. The same is true for Table A.14, where we consider heterogeneity with respect to land suitability for wheat (which was the main crop in pre-WWII Kresy), mean temperature, the precipitation-evatranspiration ratio, and ruggedness of the origin locations, both at the ancestor origin and destination (respondent location). The evidence in Tables A.13 and A.14 suggests that the effect of Kresy origin is driven by forced migration itself, rather than by the characteristics of the origin of Kresy migrants.

Note, in particular, the results in columns 1-5 in Table A.13. These explore whether the composition of the population at the origin location affects our main result. This is a potential concern, given that Kresy was a multi-ethnicity area. We find that our main result does not vary with the share of Poles (measured either as Roman Catholics or Polish speakers), Ukrainians, or Russians at the ancestors' origin locations: The interaction between Kresy and each of these shares is small, negative, and insignificant.[16] Overall, the results in columns 2-5 suggest that Kresy being a multi-ethnicity area does not drive our results.

[15] Since we use interaction terms with county-of-origin characteristics, we use two-way clustering both at the respondent i level and at the level of ancestors' county of origin.

[16] In column 3 we allow for potential nonlinearities by using an indicator for above-median share of Polish speakers. Both the indicator itself and the interaction coefficient are statistically insignificant and positive. The positive signs mean that if anything, the education premium is larger where there were relatively more Poles. Thus, the fact that there were relatively *fewer* Poles in Kresy than in Central Poland works against our main result.

Table A.13: No Heterogeneous Effects with Respect to Ancestors' Origin Characteristics

Dependent variable: Years of education

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Ancestor from Kresy	0.536	0.538	0.502	0.568	0.463	0.509	0.568	0.497	0.500
	(0.130)	(0.140)	(0.164)	(0.105)	(0.105)	(0.108)	(0.097)	(0.103)	(0.097)
Share Rom. Cath., 1931 (std)	0.056								
	(0.114)								
Rom. Cath., 1931 (std) × Kresy	-0.056								
	(0.141)								
Share Polish speakers, 1931 (std)		0.038							
		(0.136)							
Polish speakers, 1931 (std) × Kresy		-0.022							
		(0.168)							
Share Polish speakers (1931) above median			0.029						
			(0.168)						
Share Polish speakers (1931) above median × Kresy			0.188						
			(0.235)						
Share Ukrainian speakers, 1931 (std)				-0.013					
				(0.125)					
Ukrainian speakers, 1931 (std) × Kresy				-0.060					
				(0.126)					
Share Russian speakers, 1931 (std)					0.192				
					(0.212)				
Russian speakers, 1931 (std) × Kresy					-0.160				
					(0.213)				
Literacy rate, 1931 (std)						-0.026			
						(0.081)			
Literacy rate, 1931 (std) × Kresy						0.055			
						(0.094)			
Urbanization rate, 1931 (std)							0.043		
							(0.061)		
Urbanization rate, 1931 (std) × Kresy							-0.088		
							(0.058)		
Literacy rate, 1921 (std)								0.001	
								(0.077)	
Literacy rate, 1921 (std) × Kresy								-0.001	
								(0.093)	
Literacy rate Rom. Cath., 1921 (std)									0.011
									(0.067)
Literacy rate Rom. Cath., 1921 (std) × Kresy									0.008
									(0.085)
Baseline controls‡	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ancestor controls†	✓	✓	✓	✓	✓	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mean Dep. Var.	13.14	13.14	13.14	13.14	13.14	13.14	13.15	13.14	13.14
R^2	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Observations	9,706	9,706	9,706	9,706	9,706	9,667	8,613	9,645	9,645

Notes: The table uses data from our Ancestry Survey. Regressions are run at the ancestor level. The table shows that the coefficient on Kresy ancestry does not vary significantly with average characteristics of the population at the place of origin. Standard errors clustered using two-way clustering by individual respondents and by county of origin. In a few cases, when ancestors of the respondents lived outside the Second Polish Republic, we impute the information on diversity of the places of origin in 1931 using the censuses of countries of origin of these ancestors. Whether we implement this imputation or not does not affect the results.

‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for rural places and urban counties.

† Ancestor controls include indicators for ancestors from WT and from abroad, as well as indicators for the ancestor generation. Excluded category is ancestors from Central Poland.

Table A.14: No Heterogeneous Effects w.r.t. Geographic Features at Ancestors' Origin

Dependent variable: Years of education

	(1)	(2)	(3)	(4)
Ancestor from Kresy	0.574	0.481	0.576	0.546
	(0.102)	(0.119)	(0.103)	(0.097)
Land suitability for wheat at origin (std)	-0.042			
	(0.081)			
Land suit. for wheat (std) × Kresy	0.020			
	(0.096)			
Annual temperature at origin (std)		0.048		
		(0.088)		
Annual temperature (std) × Kresy		-0.180		
		(0.116)		
Precip.-evatranspiration ratio at origin (std)			-0.021	
			(0.064)	
Precip.-evatranspiration ratio (std) × Kresy			-0.043	
			(0.099)	
Ruggedness at origin (std)				0.030
				(0.046)
Ruggedness (std) × Kresy				-0.070
				(0.082)
Baseline controls‡	✓	✓	✓	✓
Ancestor controls†	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓
Mean Dep. Var.	13.15	13.15	13.15	13.15
R^2	0.30	0.30	0.30	0.30
Observations	8,793	8,793	8,793	8,793

Notes: The table uses data from our Ancestry Survey. Regressions are run at the ancestor level. The table shows that the coefficient on Kresy ancestry does not vary systematically with geographic characteristics at the place of origin. Standard errors clustered using two-way clustering by individual respondents and by county of origin.
‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for rural places and urban counties.
† Ancestor controls include indicators for ancestors from WT and from abroad, as well as indicators for the ancestor generation. Excluded category is ancestors from Central Poland.

VI.B Differential War Exposure or Victimization—Using Data from LiTS

A potential concern for our analysis is that exposure to conflict during WWII was different for those living in the Kresy territories compared with those living in Central Poland. If this were the case, then our estimated treatment effect of 'uprootedness' could be confounded with the effect of a legacy of victimization during WWII. The existing literature finds that the effect of conflict on educational attainment is *negative* (for a review see Buvinic, Gupta, and Shemyakina, 2014). However, this finding is limited to directly-affected cohorts. In the case of Europe during WWII, Ichino and Winter-Ebmer (2004) examine the educational attainment of children born in 1920-1949. They find that the cohorts born in 1930-1939 (those who reached age 10 during or soon

after the war) who lived in countries heavily engaged in the conflict (e.g., Austria and Germany) completed less schooling compared to other cohorts in the same country or similar cohorts in countries that were not directly engaged in the conflict (e.g., Sweden and Switzerland). Ichino and Winter-Ebmer (2004) also find that the disruptive effects of conflict on education do not persist; only the cohort of schooling age during the conflict is affected. For other cohorts, no effect is found, even for individuals who were directly affected by the conflict by, for example, the death of a parent.

In this section, we show that ancestors in Kresy were exposed to somewhat higher violence during WWII. According to the findings in the previous literature, this should introduce a downward bias in the 'Kresy education effect' for those who were displaced when they were of school age. For later generations—the largest group of respondents in our surveys—we should expect no bias. Consistent with this prediction, based on the previous literature, we show that our results are robust to controlling for differences in exposure to violence during WWII.

Administrative data on war destruction exist only for the post-war Polish territory. Therefore, we are unable to draw on administrative sources to measure differential war experience (or destruction) on both sides of the Curzon Line. Also, neither of our two surveys (Diagnoza and our own Ancestry Survey) has information on war experience. However, the Life in Transition Survey 2016, which we introduced earlier in Appendix IV.D, has information about war experience combined with information about the origin of ancestors of the respondent. LiTS asks the following question on victimization during WWII: *"Were you, your parents or any of your grandparents physically injured, or were your parents or any of your grandparents killed during the Second World War?"* 35.3% of Polish respondents answered affirmatively.[17]

In Table A.15, we analyze the role of war time experience by the respondents' ancestors. We first show that Kresy ancestors are more likely to have been victimized during WWII (column 1). Yet, controlling for a family history of victimization does not affect our main result: We show in columns 2 and 3 that Kresy ancestry is still positively and significantly (at the 1% level) associated with educational attainment after controlling for family history of war victimization, irrespective of whether we consider a missing family history of victimization as non victimization (column 2) or truly missing (column 3). A family history of victimization in WWII itself is never significantly associated with educational attainment.[18] Overall, the findings using LiTS data suggest that our main results are not confounded by differential war exposure of forced migrants from Kresy.

VI.C Differences between Effects in the Western Territories and Central Poland

Table A.16 restricts the Diagnoza sample to respondents with Kresy ancestors. It compares their education in the Western Territories and in Central Poland. Odd columns in Table A.16 show the raw differences (after controlling for individual characteristics). Note that we cannot control for local fixed effects in these specifications because the table compares individuals with Kresy

[17] Around 10% answered that they did not know. Our results are unaffected whether we code these as missing or as not victimized.

[18] For brevity of exposition, we only report results for years of education, but the results are similar when we consider completion of secondary or higher education as dependent variables. Controlling for a family history of victimization in WWII, Kresy descendants are 14.1 and 12.9 percentage points more likely to complete secondary and higher education, respectively. Both coefficients are statistically significant at the 1% level and practically indistinguishable from the baseline LiTS estimates in columns 2 and 3 of Table A.9.

Table A.15: Robustness of Education Results in LiTS and WWII Victimization

Dependent variable: as indicated in column header

Dep. Var.:	(1) Family victimized during WII	(2) Years of schooling	(3) Years of schooling
Ancestor from Kresy	0.367	0.734	0.673
	(0.062)	(0.328)	(0.332)
Family killed or injured in WWII (missing = 0)		0.203	
		(0.183)	
Family killed or injured in WWII			0.174
			(0.180)
Baseline controls‡	✓	✓	✓
Region FE	✓	✓	✓
Mean Dep. Var.	0.35	12.85	12.80
R^2	0.16	0.25	0.26
Observations	1,412	1,412	1,265

Notes: The table uses data from the 2016 Life in Transition Survey sample. Sample of respondents in Poland. Robust standard errors clustered at the Primary Sampling Unit indicated in parenthesis (70 clusters).
‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for WT, rural/urban residence, and rural/urban origin of mother and father.

ancestors *across* regions. Thus, differences in local labor markets affect the results. To account for at least some of this variation, even columns include an indicator for individuals who live in the counties of Warsaw or Cracow—the main university centers in Poland. The results imply that controlling for these educational centers is important, as it reduces the difference between WT and CP. We find that—after accounting for Warsaw and Cracow—respondents with Kresy ancestors who live in the Western Territories have, on average, 0.44 fewer years of education and are 5.0 and 6.0 percentage points less likely to complete secondary and higher education, respectively, as compared to respondents with Kresy ancestors who live in Central Poland.[19] Thus, our Ancestry Survey results in the Western Territories—which show a significant education advantage of people with Kresy ancestors—are, if anything, underestimating the effect for Poland overall.

VI.D Selection of Voluntary Migrants? Differences in Literacy at Counties of Origin

Table A.17 compares the historical literacy rates in the counties of origin of ancestors from Kresy and from Central Poland, verifying that our main results hold in the subsample of ancestors for which information on historical (county-level) literacy rates is available. Regressions are run at the ancestor level, with secondary education as the contemporaneous measure for education in odd columns, and with historical literacy in even columns. Panel A uses literacy of Roman Catholics from the 1921 Polish Census that covered all of the Second Polish Republic; Panel B uses literacy of Poles in the Polish language from the 1897 Russian Empire Census, covering the Russian parti-

[19]Note that the counties Warsaw and Cracow are geographically smaller than commuting zones. When we account for larger areas—by using indicators for the Voivodeships of Mazowieckie and Lesser Poland (Małopolska), i.e., the areas around Warsaw and Cracow—the coefficients on WT become even smaller.

Table A.16: Education of Kresy Migrants in the Western Territories and Central Poland

Dependent variable: as indicated in column header

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.:	Years of education		Secondary education		Higher education	
Dummy for Western Territories	-0.714	-0.501	-0.071	-0.056	-0.089	-0.065
	(0.137)	(0.139)	(0.020)	(0.021)	(0.019)	(0.020)
Warsaw or Krakow		2.137		0.152		0.236
		(0.335)		(0.031)		(0.046)
Baseline controls‡	✓	✓	✓	✓	✓	✓
Mean Dep. Var.	12.77	12.77	0.62	0.62	0.29	0.29
R-squared	0.26	0.27	0.18	0.18	0.16	0.17
Observations	3,196	3,196	3,198	3,198	3,198	3,198

Notes: Regressions are run at the respondent level, restricting the sample to individuals with ancestors from Kresy in the Diagnoza Survey. Standard errors are clustered at the household level. 'Warsaw or Cracow' is an indicator that takes on value one for the counties of Warsaw and Cracow.

‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for rural places and urban counties.

tion of Poland, which after 1918 became a part of the SPR.[20] Column 1 replicates our main results in the subsamples for which the historical literacy data at the ancestors' origins are available: We find that in both samples, respondents with Kresy ancestors have significantly higher secondary education than respondents with ancestors from Central Poland who live in the same county today. Column 2 uses historical literacy rates as the dependent variable. The coefficient on the Kresy dummy in this regression shows the average difference in historical literacy rates between counties in Kresy and in Central Poland from which respondents' ancestors originated. Because we use respondent county fixed effects, we compare historical literacy rates at the origin of ancestors whose descendants today live in the same counties in WT. According to the results in column 2, Kresy ancestors came on average from locations with a 3 percentage point *lower* literacy rate. Columns 3-6 show that a similar pattern of 'reversal of education' holds when we restrict the sample to ancestors from rural origin locations or to those from urban origins.

[20]The number of observations in Panel B is lower because the Western part of Central Poland was part of the German Empire, and the southern-most part of Kresy and of Central Poland belonged to the Austro-Hungarian Empire. Note also that neither of these historical censuses cover the Western Territories (which belonged to Germany).

Table A.17: Education Today and Historically in Counties of Origin of Ancestors

Dependent variable: as indicated in table header

Dependent Variable:	(1) Secondary edu in 2016	(2) Historical literacy	(3) Secondary edu in 2016	(4) Historical literacy	(5) Secondary edu in 2016	(6) Historical literacy
Sample. Ancestor from:	Rural or Urban origin		Rural origin		Urban origin	
Panel A: Literacy from the 1921 Polish Census (Ancestors from Kresy and CP)						
Ancestor from Kresy	0.073	-0.030	0.060	-0.040	0.107	-0.002
	(0.015)	(0.017)	(0.018)	(0.020)	(0.025)	(0.024)
Ancestor from rural area	-0.068	-0.170				
	(0.017)	(0.013)				
Baseline controls‡	✓	✓	✓	✓	✓	✓
Ancestor controls†	✓	✓	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓	✓	✓
Mean Dep. Var.	0.57	0.62	0.54	0.58	0.66	0.75
R^2	0.22	0.37	0.24	0.11	0.27	0.21
Observations	9,645	9,645	7,161	7,161	2,484	2,484
Panel B: Literacy from the 1897 Russian Census (Ancestors from the former Russian Partition)						
Ancestor from Kresy	0.147	-0.031	0.142	-0.030	0.143	-0.031
	(0.030)	(0.014)	(0.034)	(0.014)	(0.066)	(0.015)
Ancestor from rural area	-0.035	0.002				
	(0.033)	(0.005)				
Baseline Controls‡	✓	✓	✓	✓	✓	✓
Ancestor Controls†	✓	✓	✓	✓	✓	✓
Respondent County FE	✓	✓	✓	✓	✓	✓
Mean Dep. Var.	0.58	0.16	0.57	0.16	0.63	0.15
R^2	0.34	0.31	0.34	0.34	0.64	0.57
Observations	2,177	2,177	1,744	1,744	433	433

Notes: The table shows that descendants of Kresy migrants have significantly higher rates of secondary education today (odd columns), while their ancestors came—on average—from counties with *lower* literacy (even columns): The coefficient on Kresy in even columns reflects the average difference in historical literacy rates between counties in Kresy and in Central Poland from which respondents' ancestors originated. Regressions are run at the ancestor level, using data from our Ancestry Survey. Standard errors clustered by individual respondents in odd columns and using two-way clustering by individual respondents and by county of origin in even columns.

‡ Baseline controls include respondents' gender, age and age^2 interacted with birth-decade dummies, as well as indicators for respondents living in rural locations and urban counties.

† Ancestor controls include indicators for ancestors from WT and from abroad, as well as indicators for the ancestor generation. Excluded category is ancestors from Central Poland.

VI.E Selection of Voluntary Migrants? Individual Differences

In what follows, we show that individual selection of voluntary migrants from CP is unlikely to affect our results. To implement this check, we focus on respondents whose ancestors moved from CP to WT. From our Ancestry Survey, we know their county of origin in CP. We also know the education level today in these origin counties, from respondents in the Diagnoza Survey.[21] Using the combined information, we construct the following variable for each respondent i:

$$\Delta Edu(i) = Edu^{WT}(i) - E\left[Edu^{CP}_{county}\left(a_{(i)}\right)\right] \tag{A.3}$$

where $Edu^{WT}(i)$ is today's education of respondent i living in WT, whose ancestors came from CP. The term $Edu^{CP}_{county}\left(a_{(i)}\right)$ denotes the average education today in the CP county of origin of ancestor a of respondent i. $E\left[\,\cdot\,\right]$ is the average education across origin counties of all ancestors of respondent i. Since we only look at descendants of migrants from CP, all these counties are in CP.

Table A.18 presents the results for the null hypothesis that $\Delta Edu(i) = 0$ for secondary education and for higher education.[22] Columns 1 and 2 show positive differences, i.e., that descendants of CP migrants who now live in WT have on average slightly *higher* education than their 'cousins' in their ancestors' origin counties in CP. This result could be driven by migration from rural areas in CP to cities in WT: Since education is higher in urban areas, destinations would tend to show higher education than origin locations.[23] To account for this possibility, we restrict the sample to individuals for whom *both* origin and destination locations were urban (columns 3 and 4) or rural (columns 5 and 6). In all cases, the differences are small and statistically insignificant. This suggests that the positive differences shown in columns 1 and 2 are in part driven by rural-to-urban migration.[24] Another possible explanation for the positive $\Delta Edu(i)$ in columns 1 and 2 is that CP migrants from rural areas who came to WT cities may have been positively selected. Ultimately, we cannot differentiate between selection among historical migrants and other potential mechanisms that may drive the observed (small) educational gap.[25] Nevertheless, the results from Table

[21] We only use Diagnoza respondents in CP without any ancestors from Kresy. Similarly, we restrict the subsample from our Ancestry Survey to those respondents who have only ancestors from CP.

[22] The definition of years of education is different across the two surveys. In Diagnoza, this variable is the self-reported number of years spent in educational institutions. In contrast, in our Ancestry Survey years of education are imputed using four educational categories. While years of education are comparable for different observations within each survey, they are not directly comparable between the two data sources. As $\Delta Edu(i)$ entails the comparison of values across the two surveys, we do not use years of education in this analysis.

[23] Note that this concern is specific to the analysis in Table A.18, which compares individuals *across* locations and therefore does not use location fixed effects. In contrast, all our main results hold with municipality fixed effects, which absorb (among many others) average differences across urban vs. rural areas. In addition, our main results hold in the rural and urban subsamples when we control at the same time for the rural origin of ancestors (see columns 4 and 5 in Table 3).

[24] In fact, if we restrict the sample to respondents in urban areas of WT with ancestors from rural CP areas, we—unsurprisingly—obtain significantly positive differences.

[25] For example, an alternative story is that migrants, even when not forced, revise upward the importance of human capital. This would be similar to the mechanism for forced migrants, but not as strong—thus placing voluntary migrants between stayers and forced migrants in terms of their education. Another possible explanation is related to labor market spillovers in Western Territories from educated descendants of Kresy migrants onto descendants of CP migrants. This would be consistent with spillovers as documented by Semrad (2015). Note also that, on average, education in CP and WT today is very similar. Consequently, it is unlikely that CP migrants merely benefitted from a

A.18 are relevant for interpreting the coefficient on Kresy origin in our Ancestry Survey regressions. They suggest that our control group—descendants of migrants from CP who now live in WT—are on average, if anything, somewhat *better* educated than their closest comparison groups. Thus, our Ancestry Survey results tend to *underestimate* the effect for Kresy origin in the Western Territories.

Table A.18: Education Difference Between Destination and Origin of Migrants from CP to WT

Dep. Var.: Difference in education, variable indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.:	Secondary education	Higher education	Secondary education	Higher education	Secondary education	Higher education
Sample:	Urban or rural		Urban origin & destination		Rural origin & destination	
$\Delta Edu(i)$	0.027	0.042	0.012	0.041	-0.028	-0.005
	(0.014)	(0.011)	(0.028)	(0.027)	(0.026)	(0.016)
Observations	1,391	1,391	323	323	347	347

Notes: The table combines data from our Ancestry Survey with Diagnoza data. The table provides the results from estimating equation (A.3). This addresses the possibility of individual selection of voluntary migrants from CP to WT (which would affect the composition of the control group in our Ancestry Survey results). The table shows that respondents in WT who are descendants of migrants from CP are, if anything, slightly *better* educated than a reasonable comparison group—people who still live in the places of their ancestors' origin in CP.

generally better education system in WT.

VII Additional Results on Mechanisms

We begin this section by looking more closely at our proposed mechanism to explain the Kresy education effect: a shift in preferences towards education as a portable asset, and away from physical assets, which we see as capturing the classical uprootedness hypothesis (Appendix VII.A). We then move on to discuss alternative mechanisms in Appendix VII.B, showing that they are unlikely to explain our results. We conclude by showing that recall bias by survey respondents does not confound our findings (Appendix VII.C).

VII.A Potential Reasons Underlying the Shift in Preferences towards Education

Our proposed mechanism to explain the Kresy education effect is a shift in preferences towards education as a portable asset, and away from physical assets, as a result of uprootedness. The evidence presented in Table 5 in the paper could have multiple reasons, which we alluded to in footnote 26 in the main text. While we cannot formally test the relative contribution of each possible explanation, this section discusses some evidence for or against five possible candidates.[26]

Perceived Risk of Repeated Forced Migration

Experiencing forced migration (or having a family history of forced migration) may affect the subjective probability that individuals attach to being forced to migrate again in the future. As a consequence, Kresy migrants would invest more in portable assets, i.e., human capital. In Section II.C., we gave anecdotal evidence for a higher degree of perceived uncertainty about the future status of the Western Territories by Kresy migrants. Along the same line of argument, descendants of Kresy migrants may (still) believe that property rights are less secure and thus own fewer physical assets, relative to their budget. While this interpretation is potentially at play for earlier generations of Kresy descendants, it is unlikely to drive results for younger cohorts: Property rights became more secure in the early 1990s, after the end of the Socialist era and the ratification of the final treaty regarding the Polish-German border (see footnote 11 in the main text). Yet, our results on education are stable for cohorts born around 1990 (see Figure 3 in the paper). Thus, our long-run results are more compatible with a persistent change in preferences for education, as opposed to a persistent change in beliefs about property rights.

Education as (Partial) 'Insurance' Against Negative Shocks

Did forced migration increase the subjective probability that negative events can happen? If this were the case, education might provide (partial) protection, complemented by savings/insurance holdings. In order to address this possibility, we explore the richness of the Diagnoza Survey, which provides data on financial investments and insurance. More specifically, we extracted all variables that are related to insurance and savings/financial investment. There are three types of variables: 1) whether respondents have savings and what kind; 2) data on the purpose of savings; 3) whether respondents have insurance. Note that Diagnoza respondents do not report monetary values, but the extensive margin.

Respondents with Kresy origin are more likely to hold savings and insurance, conditional on income and education (see Table A.19, first and last column).[27] Both are consistent with the

[26] We thank an anonymous referee for suggesting to look at these to provide a more nuanced discussion of our main finding.

[27] Note that savings information is provided by the household head and hence available for all (adult) household

idea that descendants of forced migrants have a preference for insurance against possible negative events. It is particularly instructive to look at the purpose of savings (conditional on holdings savings). According to Table A.19, respondents with Kresy origin are significantly less likely to save for every day consumer needs or for durable goods (columns 2 and 3), but significantly more likely to save in order to accumulate 'reserves for unexpected events' (column 4) and for 'security for the old age' (column 5). This suggests that descendants of forced migrants have a higher precautionary saving motive.[28] This can be due to two underlying reasons: 1) descendants of forced migrants may have a higher perceived likelihood that negative shocks will occur, with savings working as an 'insurance' mechanisms; 2) the perceived likelihood of shocks may be the same, but people with Kresy roots may be more risk averse. We discuss the latter in the next point.

Table A.19: Household Savings and Individual-Level Insurance in Diagnoza

Dependent variable: as indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)
	HH	Savings Motive (Conditional on Holding Savings)				Individual
	has savings	Everyday consumption	Durable consumption	Unexpected events	Old age	has insurance
Ancestor from Kresy	0.043	-0.057	-0.030	0.042	0.064	0.037
	(0.016)	(0.019)	(0.017)	(0.019)	(0.019)	(0.012)
Baseline controls‡	✓	✓	✓	✓	✓	✓
Education and HH income	✓	✓	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓	✓	✓
Mean Dep. Var.	0.44	0.40	0.22	0.63	0.29	0.58
Observations	27,357	17,719	17,712	17,736	17,712	21,259

Notes: The table shows differences in household savings and individual-level insurance in Diagnoza. Regressions are run at the respondent level using data from the 2015 Diagnoza Survey; standard errors are clustered at the household level. The last column stems from individual-level responses whereas the first columns are based on responses provided by the household head.

‡ Baseline controls include respondents' gender, age and age^2 interacted with birth-decade dummies, as well as indicators for rural places and urban counties.

Risk Aversion

Can forced migration affect people's risk preferences and, as a consequence, their educational choices? We can address this question using the Life in Transition Survey (LiTS) 2016 (see Appendix IV.D for a more detail on the LiTS data). LiTS asks respondents about their willingness to take risks on a scale from 1 to 10, where 1 means they are not willing to take risks at all, and 10 means they are very much willing to take risks.

members whereas insurance information comes from individual-level responses and has more missings as a result of nonresponse.

[28]There is no significant difference for any other purposes of savings: for example, to pay regular fees such as home payments, for purchase/renovation of house or apartment, or for medical treatments.

Column 1 in Table A.20 shows that Poles with Kresy origin in LiTS are somewhat less willing to take risks (but this difference is not statistically significant). If Kresy people have no differential degree of risk aversion (subject to the caveat of the smaller sample size of LiTS), the finding of their higher saving for unexpected events is consistent with a higher perception of the likelihood of risky events. We cautiously interpret this evidence as giving support to the hypothesis that for forced migrants, the possibility of bad events occurring in the future is more salient, so they hold more insurance and precautionary savings.

Columns 2-4 in Table A.20 show that controlling for risk aversion does not affect our main results: When including risk aversion as a control, respondents with an ancestor from Kresy have 0.86 additional years of education (compared with a baseline estimate in the LiTS survey of 0.81 years in Table A.9); they are 15.2 percentage points more likely to complete secondary education and 14.5 percentage points more likely to complete tertiary education (compared to baseline estimates of 15.0 and 13.9 percentage points, respectively, in Table A.9).

Table A.20: Education and Risk-Aversion in the 2016 Life in Transition Survey (LiTS)

Dependent variable: as indicated in table header

	(1)	(2)	(3)	(4)
	Willingness to take risk (scale 1-10)	Years of education	Secondary education	Higher education
Ancestor from Kresy	-0.556	0.855	0.152	0.145
	(0.352)	(0.329)	(0.037)	(0.041)
Willingness to take risk (scale 1-10)		0.119	0.006	0.013
		(0.043)	(0.008)	(0.005)
Baseline controls‡	✓	✓	✓	✓
Region FE	✓	✓	✓	✓
Mean Dep. Var.	4.84	12.86	0.31	0.25
R^2	0.20	0.26	0.21	0.18
Observations	1,406	1,406	1,406	1,406

Notes: The table shows that respondents with Kresy ancestry are marginally less willing to take risk (column 1). The Kresy education effect is robust to controling for the willingness to take risk (columns 2-4). Sample of respondents in Poland. Robust standard errors indicated in parenthesis are clustered at the Primary Sampling Unit (70 clusters).
‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for WT, rural/urban residence, and rural/urban origin of mother and father.

Discount Factors

Could forced migration make people more patient and thus willing to invest more in education? None of the three surveys that we use has a direct measure of discount rates. A proxy used in some of the economics literature (e.g., Fersterer and Winter-Ebmer, 2003) is smoking behavior, which may reflect higher discount rates. Diagnoza has information on smoking. Table A.21 shows that respondents with Kresy origin are less likely to smoke (i.e., have lower discount rates). We find, however, that our main results are not affected when we control for smoking behaviour of respondents.

Table A.21: Education and Smoking (as a Proxy for Discount Rates) in Diagnoza

Dependent variable: as indicated in table header

	(1)	(2)	(3)	(4)
	Smoking (Yes=1)	Years of Education	Secondary Education	Higher Education
Ancestor from Kresy	-0.035	0.823	0.111	0.091
	(0.011)	(0.081)	(0.012)	(0.011)
Smoking		-0.712	-0.121	-0.105
		(0.046)	(0.008)	(0.006)
Baseline controls‡	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓
Mean Dep. Var.	0.23	11.98	0.51	0.21
Observations	22,100	22,070	22,063	22,063

Notes: The table shows that respondents with Kresy ancestry are less likely to smoke (column 1). The Kresy education effect is robust to controling for smoking (columns 2-4). The table uses data from Diagnoza. Standard errors clustered at the household level in parenthesis.
‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for rural places and urban counties.

Valuation of Education per se

Our results are consistent with a higher valuation of education per se. This channel is strongly supported by our results in Table 5, which showed that parents with ancestry from Kresy have higher 'aspiration for education of [their] own children,' even conditional on their own education.

Overall, we conclude that our results are likely driven by a combination of two factors: 1) an increase in the value of education and 2) an increase in the salience of potential negative events occurring in the future.

VII.B Alternative Mechanisms: Additional Results

Congestion—Polish Ancestry of Autochthons

Figure A.15 illustrates that the county-level share of autochthons in the 1950 Polish Census is highly correlated with the share of Polish speakers in the German Census of 1900. The 1900 German Empire Census was the last census in the German Empire that collected information on language spoken at home. Autochthons in the 1950 Polish Census are the people who had lived in the territories that Germany lost to Poland as a result of WWII and were not expelled, as they declared themselves to be Polish. Figure A.15 illustrates that autochthons are indeed largely people with ethnic Polish ancestry. They had German nationality in German censuses of the inter-war period, but were no longer separately identified in German statistics until the Polish Census of 1950 counted them as autochthons.

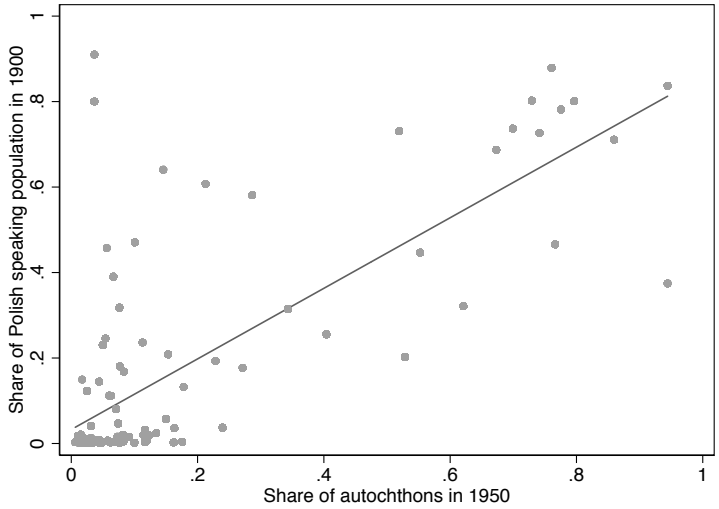


Figure A.15: Two Alternative Measures of the Share of Autochthons across WT Counties

Note: The figure plots the share of Polish speakers in the German Empire Census in 1900 against the share of autochthons in the 1950 Polish Census. The line shows a linear regression with coefficient of 0.83 and a standard error of 0.07; the R^2 is 0.57.

Out-Migration—Intention to Emigrate and Actual Emigration

Figure A.16 plots the self-declared intention to emigrate of Diagnoza respondents in 2015 (collapsed to the regional level) against the share of people who actually emigrated from the same regions according to the 2011 Polish Census. The latter data are available at the regional level. The high correlation shown in the figure suggests that the intention to emigrate measures something meaningful, as in previous years the same regions indeed saw larger realized emigration.[29] It supports the validity of the evidence presented in Table 6 in the paper, which shows that the intention to emigrate does not differ for those with Kresy ancestors.

[29] A linear regression yields a coefficient of 0.65 with a standard error of 0.18 and an R^2 of 0.53.

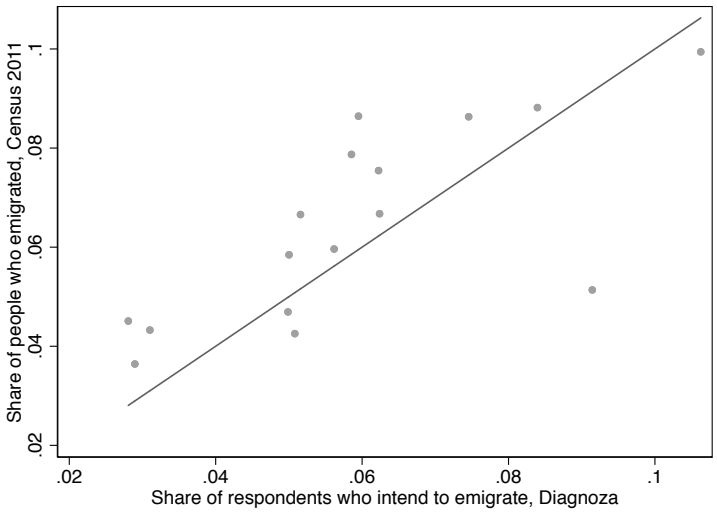


Figure A.16: Stated Intent to Emigrate vs. Emigration Rates

Note: The figure plots the share of respondents who intend to emigrate (Diagnoza 2015) against the share of people who emigrated (from the 2011 Polish Census) at the regional level. The figure also displays a 45-degree line.

Economic Development at Destination

The historical context discussed in Section II. renders a differential effect of economic development on migrants from Kresy unlikely: Opportunities in WT were open to both forced and voluntary migrants, and the Polish government did not treat different groups of migrants differently.

To test systematically whether economic development at destinations matters for our results, we collected data measuring three different aspects of economic development at destination locations: 1) the density of railways in 1946 (at the county level), 2) the intensity of war-time destruction, separately in rural and urban areas in 1945 (county level), and 3) industrial production per capita in 1954 (at the regional level).[30] We include interaction terms of these variables (standardized) with the dummy for Kresy origin. The results are presented below in Table A.22. First, we verify that across regions, historical development is related to education. Column 1 includes the measures of development in the set of covariates in our baseline regression with Diagnoza data. We do not include county fixed effects for now, so that the relationship between economic proxies and education can be estimated. Railway density in 1946 (Panel A) and industrial production in 1954 (Panel B) are both strongly positively related to education. We also find that the extent of war destruction in rural areas (Panel C) is negatively correlated with education levels in the long run.

[30]For railway density, we digitized the scan of a historical map of the Polish railway system in 1946 from WIG (2019). We then used this map to build a measure of railway density by county equal to the number of railway stations per square kilometer in 1946. For war destruction, we digitized administrative data by county on the extent of war-related destruction for rural and urban areas (GUS, 1967). For rural areas the variable reported by the authorities is the percent of rural buildings affected or destroyed (out of rural buildings available in 1939), and for urban areas, the variable is the percent of volume (in cubic meters) of real estate destroyed in WWII out or all available in 1939. For industrial production per capita in 1954 (at the regional level), we use the statistical yearbook (GUS, 1956).

The opposite holds for war destruction in urban areas (Panel D). Possible explanations are that economically more important cities (with higher skill demand today) were destroyed more during WWII and recovered their original importance after the war.[31] Importantly, none of these measures affect the relationship between Kresy origin and education. This is not surprising given that in our baseline specification, we control for the local environment at destinations by using county or municipality fixed effects.

In columns 2-5 of Table A.22, we include county fixed effects and focus on the *interaction* between Kresy origin and the level of development at destinations. We find no significant differential effect in any specification in the full sample (column 2). Also, the interaction terms are quantitatively small—at least an order of magnitude below the Kresy coefficient.[32] The same is true for Central Poland (column 3), with the exception of railway density. This is driven by Warsaw with its very dense railway network—the interaction coefficient becomes insignificant in column 4, where we exclude the capital. Finally, we confirm the results in column 5, where we only look at WT.

Overall, we do not find a tangible differential effect of the history of forced migration depending on the level of development at the destination location. It is thus unlikely that our findings are merely the result of being displaced from a relatively poor (Kresy) to a relatively rich place (WT). Note also that we observe a very similar Kresy effect in CP (which was also relatively poor) in column 3 and in WT (column 5). This further supports the view that our results hold independent of economic development at the destination. We are thus confident about the external validity in other contexts, e.g., where migrants are displaced into equally or even less developed areas.

[31] Davis and Weinstein (2002), Waldinger (2016) and others show that cities rebounce quickly after wars.

[32] Note that all proxies for development are standardized, allowing for a straightforward interpretation of the interaction coefficients: A one standard deviation change in the various development proxies is associated with only minor changes in the coefficient on Kresy ancestry.

Table A.22: Economic Development at Destination Locations

Dependent variable: Years of education

Sample:	(1) All Poland	(2) All Poland	(3) CP	(4) CP w/o Warsaw	(5) WT
Panel A: Density of railways stations by county (1946)					
Ancestor from Kresy	0.848	0.780	0.866	0.855	0.734
	(0.073)	(0.078)	(0.114)	(0.116)	(0.110)
Railway station density 1946 (std)	0.167				
	(0.033)				
Railway station density 1946 (std) X Kresy		0.094	0.175	0.135	-0.062
		(0.067)	(0.082)	(0.102)	(0.116)
Baseline controls‡	✓	✓	✓	✓	✓
Respondent county FE		✓	✓	✓	✓
Mean Dep. Var.	11.91	11.91	11.94	11.85	11.83
Observations	28,176	28,176	21,121	20,515	7,055
Panel B: Log industrial production per capita by region (1954)					
Ancestor from Kresy	0.864	0.810	0.932	0.884	0.709
	(0.073)	(0.075)	(0.111)	(0.118)	(0.104)
Log Industrial Production per capita 1954 (std)	0.044				
	(0.022)				
Log Industrial Production per capita 1954 (std) X Kresy		0.060	0.130	0.085	-0.013
		(0.075)	(0.097)	(0.103)	(0.121)
Baseline controls‡	✓	✓	✓	✓	✓
Respondent county FE		✓	✓	✓	✓
Mean Dep. Var.	11.91	11.91	11.94	11.85	11.83
Observations	28,176	28,176	21,121	20,515	7,055
Panel C: Percent of rural buildings damaged or destroyed during WWII by county (1945)					
Ancestor from Kresy	0.704	0.686	0.660	0.660	0.694
	(0.086)	(0.092)	(0.138)	(0.138)	(0.124)
% rural buildings damg'd or destr'd in WWII (std)	-0.061				
	(0.025)				
% rural buildings damg'd or destr'd in WWII (std) X Kresy		-0.037	-0.080	-0.080	-0.015
		(0.084)	(0.135)	(0.135)	(0.107)
Baseline controls‡	✓	✓	✓	✓	✓
Respondent county FE		✓	✓	✓	✓
Mean Dep. Var.	11.60	11.60	11.64	11.64	11.46
Observations	19,832	19,832	15,018	15,018	4,814
Panel D: Percent of urban real estate (in m^3) damaged or destroyed during WWII by county (1945)					
Ancestor from Kresy	0.768	0.743	0.765	0.765	0.723
	(0.078)	(0.080)	(0.125)	(0.125)	(0.104)
% urban real est. damg'd or destr'd in WWII (std)	0.126				
	(0.030)				
% urban real est. damg'd or destr'd in WWII (std) X Kresy		-0.019	0.138	0.138	-0.046
		(0.067)	(0.155)	(0.155)	(0.073)
Baseline controls‡	✓	✓	✓	✓	✓
Respondent county FE		✓	✓	✓	✓
Mean Dep. Var.	11.82	11.82	11.80	11.80	11.87
Observations	22,536	22,536	16,033	16,033	6,503

Notes: The table uses data from Diagnoza. Standard errors clustered at the household level in parenthesis.
‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for rural places and urban counties.

Moving as communities

Table A.23 investigates whether migrants from Kresy tended to move more (or less) together with people from their origin location, as compared to migrants from CP. We compute, for each municipality in WT, the number of ancestors in our Ancestry Survey who are from the same county of origin. We refer to this measure as the 'size of the local ancestor community.' This is likely to be a noisy measure, as it is based on a count within our survey alone. Note also that this number will mechanically tend to be larger in municipalities for which we have a higher number of ancestors in our sample. We thus control—for each municipality—for the total ancestors in the sample.

Table A.23 checks whether the size of local ancestor community is related to the Kresy origin of migrants, and whether our results are robust to controlling for this measure. Column 1 shows that there is no relationship between Kresy origin and the size of local ancestor communities. In other words, Kresy migrants are not more (or less) likely to live in municipalities with many migrants from the same origin. In column 2, we show that our main result from specification (2) also holds in the subsample for which we can construct the size of the local ancestor community.[33] In column 3, we use the size of the local ancestor community as a control, showing that the relationship between Kresy origin and educational attainment is essentially unchanged. Finally, columns 4 and 5 show that our results for secondary and higher education are also robust to controlling for the size of the local ancestor community. Overall, Table A.23 suggests that our results are unlikely to be driven by variation in the size of the local community of people with common origin.

Other Population Movements

Table A.24 investigates whether other population movements—of other minorities or of later waves of migration from Kresy—affect our results. As noted in Section II.B., Poles from Kresy were forced to resettle within the new Poland. On the other hand, Ukrainians, Belorussians, and Lithuanians had to leave Poland and resettle in the USSR. Gawryszewski (2005) gives the number of Ukrainians expelled from Poland during 1945 and 1946. Ukrainians were by far the largest group accounting for more than 90% of all those expelled from Poland (see Eberhardt, 2000, pp. 57-58). We compute the share of expelled Ukrainians in the total population by county (powiat).[34] There were only 20 counties from which people were forced to move to the USSR—all located in Central Poland. Column 1 in Table A.24 shows that our Diagnoza results are robust to excluding these counties from the sample. In column 2, we use the full sample and interact Kresy origin with the share of local population forced to move to the USSR. The coefficient on the interaction term is small and statistically insignificant.

Another potential concern is that our results might differ between the main wave of Kresy mi-

[33]The smaller sample is explained by two factors: First, to construct the size of the local ancestor community, we can only use data from our representative sample in the Ancestry Survey (see Section III.B. and in particular footnote 14 in the paper). We need to exclude the oversample of people with Kresy ancestors to avoid that the community size from Kresy is overestimated. Second, we only compute the size of the local ancestor community for migrants from Kresy and Central Poland. We exclude ancestors from WT because these are autochthons, while the focus here is on *migrant* communities. In addition, we exclude ancestors from abroad because the community variable is undefined for them.

[34]The source of these data is the provisional ("summary") 1946 Polish census (GUS, 1947). This census cannot be used to measure population movements from Kresy, because they were not completed by 1946. However, the 1946 census is the only source containing county-level information for groups that were expelled from Poland.

Table A.23: Size of Ancestor Communities in each Municipality: Ancestor-Level Data

Dependent variable: as indicated in column header

Dep. Var.:	(1) Size of local ancestor community#	(2) Years of education	(3)	(4) Secondary education	(5) Higher education
Ancestor from Kresy	-0.026	0.421	0.421	0.052	0.031
	(0.257)	(0.113)	(0.112)	(0.019)	(0.017)
Size of ancestor community#			-0.040	-0.008	-0.004
			(0.019)	(0.003)	(0.003)
Total ancestors in sample	0.011		-0.002	0.000	-0.000
	(0.001)		(0.001)	(0.000)	(0.000)
Baseline controls‡	✓	✓	✓	✓	✓
Ancestor controls†	✓	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓	✓
Mean Dep. Var.	2.52	13.12	13.12	0.57	0.28
R^2	0.25	0.31	0.31	0.23	0.25
Observations	7,093	7,093	7,093	7,093	7,093

Notes: The table uses data from our Ancestry Survey. Regressions are run at the ancestor level; robust standard errors clustered at the municipality level in parenthesis.
‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for rural places and urban counties.
† Ancestor controls include indicators for ancestors from WT and from abroad, as well as indicators for the ancestor generation. Excluded category is ancestors from Central Poland.
# This variable is constructed for each municipality in our Ancestry Survey sample. It measures the total number of ancestors who came from the same county of origin.

gration (until 1950) and the so-called second repatriation of Poles from the USSR in 1955-1959, when Poles still remaining in Kresy were forced to move. We generate the share of Kresy migrants who came during the second wave of migration among all Kresy migrants, at the level of region (voivodship), as reported in Hryciuk (2008, p.101).[35] This second and final wave of expulsion makes up only 10.6% of total migration from Kresy. In column 3, we interact this variable with the individual Kresy origin dummy and show that it is quantitatively small and statistically insignificant. Thus, the second wave of migration did not have a significantly different effect on education than the first (main) wave after WWII.

VII.C Recall Bias: Missing Information about Ancestor Origin Locations

Table A.25 examines the role of missing information about ancestors in our 2016 Ancestry Survey in the Western Territories. We compute the share of ancestors with missing information as follows for each respondent: Let $N_a(i)$ be the number of ancestors for whom respondent i reported the location of origin. Remember that our Ancestry Survey asked for information about the generation

[35] As we discussed earlier, expulsions from Kresy in the immediate aftermath of WWII were nearly universal in urban areas and in the Ukrainian SSR, but not necessarily in rural areas. Kresy migrants in the second repatriation arrived mainly from these rural areas.

Table A.24: Further population movements: Diagnoza Data

Dependent variable: as indicated in column header

	(1)	(2)	(3)
Dep. Var.:	Years of education		
Sample:	Counties without expulsion of Ukrainians	All counties	
Ancestor from Kresy	0.839	0.823	0.819
	(0.077)	(0.075)	(0.074)
Share Ukrainians expelled (std) x Kresy		-0.052	
		(0.051)	
Share 1955-59 migrants among Kresy migrants (std) x Kresy			0.075
			(0.078)
Baseline controls‡	✓	✓	✓
Respondent county FE	✓	✓	✓
Mean Dep. Var.	11.96	11.91	11.91
Observations	26,306	28,176	28,028

Notes: The table uses data from Diagnoza. Standard errors clustered at the household level in parenthesis.
‡ Baseline controls include respondents' gender, age, age^2, dummies for six age groups, as well as indicators for rural places and urban counties.

of ancestors who were the youngest adults in the respondent's family in 1939. For this generation, let $N_{max}(i)$ denote the maximum possible number of ancestors (e.g., $N_{max}(i) = 4$ for the grandparent generation). Then, the share of i's ancestors for whom information is missing is given by $1 - N_a(i)/N_{max}(i)$.

Column 1 in Table A.25 shows that missing information on ancestors is unrelated to Kresy origin in our baseline Ancestry Survey regression (which is run at the respondent level—see column 2, Panel A, in Table 3 in the paper). More specifically, the excluded category in this regression is the share of ancestors from CP. Thus, the zero coefficient on the share of Kresy ancestors means that respondents with ancestors from Kresy are just as likely as those with ancestors from CP to remember their ancestors. This makes it unlikely that any of our results are confounded by missing information on ancestors. Note also that the mean of the dependent variable in column 1 is 0.09. That is, the share of ancestors with missing information is 9% among those respondents who report the location of at least one ancestor. (These respondents constitute 95% of the total Ancestry Survey sample, with the remaining 5% not reporting the locations of origin of any of their ancestors.) Finally, the coefficient on the share of ancestors from WT in column 1 is negative and significant, meaning that respondents are more likely to remember the location of their ancestors in WT. This is not surprising, given that our survey was conducted in WT.

In the remaining columns in Table A.25, we use our education measures as outcome variables. Column 2 shows that there is a significantly negative relationship between years of education and the share of missing ancestor information. This is what one would expect: More educated respondents tend to be better informed about their ancestors. Columns 3-5 replicate the specification from columns 3, 7, and 8 in Panel A of Table 3 in the paper, adding the share of missing ancestor

information as an additional control. The coefficients on the share of Kresy ancestors are literally unchanged. Thus, missing information about ancestor origin locations does not confound our results. This is also true when we use weights to accout for over-sampling of Kresy respondents, as can be seen in A.26.

Table A.25: Accounting for Missing Ancestor Information in the Ancestry Survey

Dependent variable: as indicated in column header

	(1)	(2)	(3)	(4)	(5)
Dep. Var.:	Share missing ancestor info†	Years of education		Secondary education	Higher education
Share of ancestors, Kresy	-0.004		0.746	0.104	0.053
	(0.008)		(0.125)	(0.020)	(0.017)
Share of ancestors, WT	-0.041		-1.025	-0.176	-0.134
	(0.014)		(0.179)	(0.029)	(0.023)
Share of ancestors, abroad	-0.098		-0.696	-0.020	-0.050
	(0.033)		(0.629)	(0.099)	(0.091)
Share of ancestors, rural	0.002		-0.834	-0.107	-0.071
	(0.008)		(0.135)	(0.021)	(0.019)
Share missing ancestor info†		-0.882	-0.969	-0.166	-0.125
		(0.243)	(0.244)	(0.043)	(0.036)
Baseline controls‡	✓	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓	✓
Mean Dep. Var.	0.09	12.72	12.72	0.52	0.23
R^2	0.22	0.25	0.28	0.21	0.20
Observations	3,661	3,661	3,661	3,661	3,661

Notes: The table examines the role of missing information about ancestors in our 2016 Ancestry Survey in the Western Territories. Columns 3-5 replicate the specification from columns 2, 5, and 6 in Panel A of Table 3 in the paper, adding the share of missing ancestor information as an additional control. Regressions are run at the respondent level; robust standard errors in parenthesis.

† For each respondent, the share of ancestors with missing information is computed specific to the generation of ancestors who were the youngest adults in the respondent's family in 1939. For example, if those were the grandparents, and the historical location for three out of four grandparent is known, then the share missing is 0.25.

‡ Baseline controls include respondents' gender, age and age^2 interacted with birth-decade dummies, as well as indicators for respondents living in rural locations and urban counties.

Table A.26: Accounting for Missing Ancestor Information in the Ancestry Survey - Using Sampling Weights

Dependent variable: as indicated in column header

	(1)	(2)	(3)	(4)	(5)
Dep. Var.:	Share missing ancestor info†	Years of education		Secondary education	Higher education
Share of ancestors, Kresy	0.002		0.810	0.111	0.067
	(0.010)		(0.137)	(0.021)	(0.017)
Share of ancestors, WT	-0.056		-1.052	-0.169	-0.136
	(0.016)		(0.189)	(0.031)	(0.023)
Share of ancestors, abroad	-0.105		-1.181	-0.048	0.002
	(0.040)		(0.835)	(0.109)	(0.096)
Share of ancestors, rural	0.003		-0.462	-0.058	-0.034
	(0.011)		(0.159)	(0.024)	(0.019)
Share missing ancestor info†		-0.606	-0.782	-0.129	-0.104
		(0.273)	(0.271)	(0.047)	(0.038)
Baseline controls‡	✓	✓	✓	✓	✓
Respondent county FE	✓	✓	✓	✓	✓
Mean Dep. Var.	0.12	12.45	12.45	0.47	0.22
R^2	0.22	0.28	0.30	0.21	0.22
Observations	3,661	3,661	3,661	3,661	3,661

Notes: The table examines the role of missing information about ancestors in our 2016 Ancestry Survey in the Western Territories. Columns 3-5 replicate the specification from columns 2, 5, and 6 in Panel A of Table 3 in the paper, adding the share of missing ancestor information as an additional control. Regressions are run at the respondent level; robust standard errors in parenthesis.

† For each respondent, the share of ancestors with missing information is computed specific to the generation of ancestors who were the youngest adults in the respondent's family in 1939. For example, if those were the grandparents, and the historical location for three out of four grandparent is known, then the share missing is 0.25.

‡ Baseline controls include respondents' gender, age and age^2 interacted with birth-decade dummies, as well as indicators for respondents living in rural locations and urban counties.

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Quick Guide to Identification and Mechanisms

The following is a brief guide to identification concerns as well as to potential mechanisms and potential alternative explanations behind the main result in the paper. We start with a table that summarizes identification concerns. After that, we present a table that summarizes historical and empirical evidence for the most likely mechanism behind our finding. We then present a further table that discusses our proposed mechanism, as well as alternative mechanisms, together with historical and empirical evidence that renders these alternative mechanisms unlikely.

Identification Concerns: 1. Pre-Existing Differences *People from Kresy may have had higher education or different preferences for education already before WWII, or characteristics of ancestral place of origin or differential experiences during WWII could have led to heterogeneous education responses to migration.*	
Type of evidence: **H**istorical/**E**mpirical	Description of Evidence
H: Section II.A.	Same access to education for Poles in Kresy and CP before WWII (it was the same country). Also, no discrimination against Poles in Kresy.
E: Figure 3 and column 1 in Table A.3	No difference in education for Kresy migrants among the pre-1930 cohort (that had finished schooling by the time of expulsions).
E: Figure 4 and Table A.10	RDD along the Kresy border (note that this border was arbitrarily drawn—see Section II.A. under heading "Arbitrariness of the Kresy border of 1945"). Diagnoza Survey: i) No difference in pre-WWII education along Kresy border. ii) Kresy descendants are more educated than descendants of inhabitants ("*stayers")* to the West of the Kresy border. The remaining possibility is that "stayers" were negatively selected. This is addressed by Figure 5 (see next point).
E: Figure 5 and Table A.11	RDD along the Kresy border. Ancestry Survey: Comparing individuals within municipalities in WT. Kresy descendants are more educated than descendants of *movers* from the area to the West of the Kresy border. In combination, Figures 4 and 5 make it unlikely that selection drove our results.*
E: Figure A.14 and Table A.12	Our main result holds even when restricting the sample to counties that fell into the contested area of the Kresy border and could thus have either become part of Poland or of the Soviet Union. See Appendix V.D.*
E: Tables A.13 & A.14	*Socio-Economic and Geographic Characteristics* Pre-existing differences at ancestral county of origin might lead to differential education benefits from being forcefully moved. Interaction terms of Kresy origin with county-level characteristics of ancestral place of origin are statistically not significant and have small coefficient sizes. That is, the Kresy education effect does not vary with location characteristics.
E: Table A.15	*Differential War Exposure or Victimization?* While Kresy ancestors were more likely to have been victimized during WWII, controlling for a family history of victimization does not affect our results.

* Note: This point holds unless one reverts to the following (unlikely) explanation—a mix between a story of pre-existing skills and selection: Outmigration from the area in CP to the West of the Kresy border could have been such that i) unskilled migrants moved to WT; ii) skilled migrants moved to other places in CP. Point i) would explain Figure 5. Also, if flow ii) was large, the stayers to the West of the Kresy border would be less educated, explaining Figure 4. Note that (in addition to the purely speculative presumption about skill-biased migration, which cannot be examined in the data and for which there is no historical evidence), this would require a larger outflow from the area to the West of the Kresy border to CP than to WT (only this would yield relatively less educated stayers). To check this, we use the 1950 Census and examine outmigration from Polish regions (*voivodeships*) next to the Kresy border (to its West) to other regions in CP and in WT. We find that the overall flow from the area to the West of the Kresy border to CP was 4.6%, while the outflow to WT was 14.7%. Thus, the overall flow from the area to the West of the Kresy border to CP was much *smaller* (less than one-third) than the flow to WT. Consequently, the alternative interpretation outlined at the beginning of this note is not compatible with the data.

Identification Concerns: 2. Selection *People from either Kresy or from other parts of the country differentially selected into specific locations or occupations.*	
Type of evidence: **H**istorical/**E**mpirical	Description of Evidence
H: Section II. **E**: Table 4	*Selection into migration from Kresy?* The historical narrative clearly speaks against selection out of Kresy: The vast majority of ethnic Poles in Kresy had no choice but to leave Kresy. This is particularly true for urban areas and for Ukraine. In Table 4, we confirm that our results hold equally in urban vs. rural areas and in the subset of the Ukrainian part of Kresy.
E: Tables 1, 2 & A.16	*Selection of Kresy migrants into WT vs. CP?* Three quarters of Kresy migrants moved to WT and one quarter to CP (Table 1). Did the most able Kresy migrants move to WT, explaining why Kresy migrants in WT are more educated? The answer is 'no:' Table 2 (columns 5 and 6) show that the coefficients on Kresy ancestry are, if anything, larger in CP than in WT. Table A.16 performs an additional check, showing that respondents with Kresy origin are somewhat *less* educated in WT than in CP. This confirms that, if anything, our results for WT are a lower bound on the effect of Kresy origin.
E: Tables A.17 and A.18	*Selection of voluntary migrants from CP to WT?* First, note that this type of selection would not affect our results for Poland overall (Table 2). We present two analyses, showing that both *regional* and *individual* selection of voluntary migrants is unlikely to affect our results within WT (i.e., from our Ancestry Survey). On regional selection, see Table A.17, and on individual selection, see Table A.18 and the corresponding description in the appendix text. For both, we find that if anything, the evidence points to *positive selection* of voluntary migrants from CP, which would imply *smaller* effects of Kresy origin.

Most Likely Mechanism: *Our empirical findings suggest that our main result is driven by a shift in preferences from investing in physical possessions towards investment in human capital, as a consequence of the loss of physical belongings during the expulsion ('uprootedness hypothesis').*	
Type of evidence: **H**istorical/**E**mpirical	Description of Evidence
H: Introduction	Memoirs written by Kresy migrants in WT in the 1950s suggest a *change* in preferences towards education in the aftermath of forced migration, for example: *"In Western Territories, there was a specific situation. People did not attach great importance to material wealth. ... In a new life situation, the cult of new values emerged, i.e., values that are indestructible, that cannot be lost, and that die with the man—the cult of knowledge, of skills, which can resist cataclysms."* This is also supported by interviews with descendants of forced migrants, e.g., with the former president Komorowski who stated: "*At home, nobody attached any importance to the material side, because everything that was valuable had been lost*."
H/E: Section II.C. / Additional evidence	We provide several quotes illustrating the change in preferences associated with forced migration in Section II.C. In addition, historical evidence collected by sociologist Irena Turnau suggests an immediate shift towards higher school enrolment among children of Kresy migrants after the expulsion. Turnau (1960, pp. 31-33) assembled data on schooling in Wroclaw assembled data on schooling in Wrocław (the former German Breslau) in 1948. She found that children of Kresy migrants were over-represented among secondary school students, and even more so among students in higher education.
E: Figure 3 and Table A.3	Cohort-specific empirical evidence shows that this immediate shift is also true for educational attainment: The education effect is not present for forced migrants who had completed schooling before they were forced to migrate; while it is present for children of forced migrants who had the chance to complete education after migration.
E: Table 5	Evidence from the large-scale Diagnoza Survey shows that descendants of forced migrants value material goods less, while having a stronger aspiration for education of their children. They also possess fewer physical assets, relative to the number of physical assets they can afford. These results hold even when controlling for the level of education of the individual respondents, suggesting that different *preferences* among Kresy descendants drive the results (as opposed to Kresy descendants' higher own education explaining their aspiration for their children's education).
E: Appendix VII.A	The shift in preferences in Table 5 could be founded on a number of underlying reasons: a shift in the subjective probability individuals attach to being forced to migrate in the future; an increase in the subjective probability that bad things may happen, so that education serves as insurance; a shift in the willingness to take risks; a shift in discount rates; and a shift in the valuation of education per se. We discuss those in Appendix VII.1. Overall, we conclude that our results are likely driven by a combination of two factors: 1) an increase in the value of education and 2) an increase in the salience of potential negative events occurring in the future.
Literature: Introduction	Our preferred interpretation of the results is consistent with a robust body of existing evidence that describes how individual preferences change in response to exposure to violence, natural disasters, or economic shocks. Recent evidence suggests that these effects persist in future generations. We cite over a dozen related publications.

Alternative Mechanisms (Part I)	
Type of evidence: **H**istorical/**E**mpirical	Description of Evidence
H: Section II.B.	*Differential access at destination*: The historical narrative is clear: in WT, there was equal access to education, land, houses, and productive assets for Poles from Kresy and CP. There was neither affirmative action for Kresy people nor discrimination against them.
E: Table 6	*Differential congestion*: Locations in WT with a higher share of autochthons might generate congestion that limits access to assets. However, Table 6 suggests that there is no differential effect of such potential congestion on education of Kresy migrants. Underlying this finding is the fact that Kresy migrants were not systematically resettled to areas in WT with more/fewer autochthons.
E: Figure A.6	*Differences in time of arrival in WT generating differences in access to assets*: Voluntary migrants from CP were closer to WT and might have grabbed the best opportunities before Kresy migrants arrived. This would be a story of congestion for Kresy migrants because of fast-moving CP migrants. However, Figure A.6 suggests that CP and Kresy migrants arrived into WT in parallel throughout.
E: various tables: location fixed effects	*Differential assignment to locations*: We routinely use county fixed effects or even municipality fixed effects, i.e., we compare survey respondents within the same location. If different groups of migrants were assigned differently to different locations, our within-location comparison removes such worry.
E: Tables 2 and A.18	*Differential assignment within locations*: Voluntary migrants may have been attracted by the promise that they would receive land, potentially making it more likely that they were given land and thus worked in agriculture within destination locations. This is unlikely, given that our results hold within the subsample of urban locations. In urban municipalities, the share of farmers among all occupations is smaller than 1%.
E: Table 6	*Differential returns to schooling*: Maybe Kresy migrants got different returns to schooling, giving them extra incentives to acquire more education? The answer is 'no.' We do not find evidence for different returns to schooling for descendants of Kresy migrants.

Alternative Mechanisms (Part II)	
Type of evidence: **H**istorical/**E**mpirical	Description of Evidence
E: Table 6	*Differential out-migration*: If uneducated people with Kresy origin (or educated people without Kresy origin) were more likely to leave Poland, then this could bias the coefficient on Kresy upwards. We find no differential rates of out-migration.
E: Table 6	*Differential fertility*: Kresy migrants may have chosen lower fertility to remain more flexible in an environment that they perceived as highly volatile. Fewer offspring could then have enabled higher investment in each child's human capital. This is not the case: Fertility is uncorrelated with Kresy origin.
E: Table A.22	*Economic Development at Destination Locations*: The ex-German territories were more developed than Kresy before WWII. Did Kresy migrants benefit differentially more from moving to 'better places'? We find no evidence for such a mechanism—the Kresy effect does not vary with development at destinations.
E: Table A.23	*Moving as Communities*: Kresy migrants might be more likely to have moved in groups from the same location of origin. If moving in groups was beneficial to their descendants' education, this may have reinforced the education effect. However, we do not find such effects.
E: Table A.24	*Other Population Movements*: Not only were Poles expelled from Kresy, but also Ukrainian and Belorussian minority groups were expelled from Poland to the USSR. Controlling for this does not affect our results.
E: Table A.25	*Recall Bias: Missing Information About Ancestor Origin Locations*: More educated respondents may have more information on the location of origin of their ancestors. However, i) the share of ancestors with missing information is uncorrelated with Kresy origin, and ii) controlling for this share does not affect our results.