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DEVELOPMENT ECONOMICS, ECONOMIC HISTORY, LABOUR ECONOMICS AND PUBLIC ECONOMICS



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Abstract

We study horizontal between-group cultural transmission using a unique historical setting, which combines exogenous group exposure with no control over how and whether the representatives of different groups interact. Stalin's ethnic deportations during WWII moved over 2 million people, the majority of whom were ethnic Germans and Chechens, from the Western parts of the USSR to Central Asia and Siberia. As a result, the native population in the destination locations was exposed to groups with drastically different gender norms, depending on the group composition of the deportees. We estimate the effect of this exposure relying on the fact that within subnational regions the local population was fairly homogeneous, and the deportation destinations were determined by local demand for manual labor, orthogonal to the identity or skills of deportees. Combining historical archival data with contemporary surveys, we document that both the norms of gender equality and of gender discrimination were diffused to the local population exposed to deportee groups with these norms, manifesting itself in changes of attitudes and behavior.

JEL Classification: N/A

Keywords: Horizontal cultural transmission, Gender norms, Deportations, Stalin

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Diffusion of Gender Norms: Evidence from Stalin's Ethnic Deportations*

Alexandra Jarotschkin[†]and Ekaterina Zhuravskaya[‡]

This draft: June 2019

Abstract

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1 INTRODUCTION

The last two decades mark the emergence of a consensus in social sciences that culture is an important driver of human behavior, distinct from environment, institutions, or genes (Richerson and Boyd, 2006; Spolaore and Wacziarg, 2013; Alesina and Giuliano, 2015); and that cultural traits get transferred both "vertically" across generations and "horizontally" across groups (Richerson and Boyd, 2006; Bisin and Verdier, 2010). There is a large and growing body of empirical research in economics documenting cultural persistence and cultural barriers to social learning (e.g., Bisin and Verdier, 2010; Spolaore and Wacziarg, 2009). Yet, economic research on the horizontal transmission of cultural traits between groups is rather scarce, in contrast to vast anthropological evidence (Henrich, 2017). Whether exposure to a group with different cultural norms leads to cultural diffusion is, however, an open question: people may reject alien cultures, when exposed, and increase identification with their own culture (Grosfeld, Rodnyansky and Zhuravskaya, 2013; Sakalli, 2018).

Well-identified studies of interactions between different groups use quasi-natural experiments to ensure exogenous sources of variation in exposure. Such experiments assign people of different cultural backgrounds randomly to the same locations, for example, children to classes, students to dorms, migrants to social housing, and soldiers to regiments.¹ Typically, however, in such controlled experiments, the interactions between representatives of different groups are also regulated (e.g., students and soldiers are often assigned common tasks). In contrast, in real life, people choose freely with whom they interact. Thus, even when groups co-exist in close proximity, people may self-segregate and avoid interactions with representatives of other groups. There are many examples of spontaneously-created ghettos both in history and throughout the world, such as Jewish ghettos in medieval or 19th-century Europe, African American neighborhoods in contemporary US cities, immigrant neighborhoods in contemporary European cities. To study cultural diffusion, one needs to combine an experimental setting of cultural exposure with having no control over interactions between individuals. Stalin's ethnic deportations during WWII had both of these features. We use these deportations as a historical experiment to study how gender norms, a cultural trait that differed sharply across deported groups, diffused from deportees to the native population at the destination localities through social learning and imitation.

2.16 million people, the entire population of 16 different ethnic groups, including

¹Most of such studies focus on testing the contact hypothesis (Allport, 1954) by examining the effect of group exposure on inter-group prejudice and discrimination (Boisjoly et al., 2006; Carrell, Hoekstra and West, 2015; Finseraas and Kotsadam, 2017; Scacco and Warren, 2018; Burns, Corno and Ferrara, 2019; Rao, 2019) or test how diversity affects the provision of a common good (e.g., Algan, Hémet and Laitin, 2016), but only a few, such as Burns, Corno and Ferrara (2019) and Rao (2019), also find imitation of behavior across groups.

men, women, and children, were deported from the Western parts of the USSR to Siberia and Central Asia between 1939 and 1944. The sole reason for their deportation was that some representatives of their ethnicity were suspected by Soviet authorities of (potential or actual) collaboration with the Nazis against the Soviets during WWII. The largest group of ethnic deportees were Soviet Germans: over 1 million were deported. The vast majority of German deportees traditionally were Protestant Christians. The second largest group of ethnic deportees were Chechens and Ingush: over 450 thousand of them were deported. They practiced Islam as traditional religion. The next two most numerous ethnic deportations were of Crimean Tatars and Turk-Meshketians, who were also Muslim. Germans and Chechens constituted over 70% of all ethnic deportees and together with Crimean Tatars and Turk-Meshketians – 84%.²

The two biggest deportee groups differed along many dimensions, but the preexisting difference in gender norms between these groups was arguably the sharpest and most well documented. This was also the case for all deported Protestants compared to all deported Sunni Muslims. Both anthropological evidence at the time of the deportations and systematic evidence from a pre-deportation census (presented below) indicate that Soviet Germans had more progressive attitudes toward the role of women in the family and in the society than both Muslim deportees and the local population in the destination locations. In contrast, the most regressive gender norms were widespread among the largest Muslim group of deportees, Chechens.

Ethnic deportees were brought to remote locations in the Eastern parts of USSR, far from the WWII front. Unlike Gulag prisoners, they were not confined to camps and were not guarded. Deportees were free to interact with the local population: upon arrival they were supposed to find accommodation among the locals; they worked in the same places and sent their children to the same schools as locals. Deportees were not allowed to leave their destination localities and had to report regularly to the local police as a check of their physical presence in the destination locality. This restriction was lifted in 1956 during Khrushchev's Thaw for most deported ethnicities, including the largest Muslim group, Chechens and Ingush. In contrast, it was binding until the fall of the Soviet Union in 1991 for Soviet Germans and for the other two main Muslim groups, Crimean Tatars and Turk-Meskhetians, who constituted only about 8 percent of all ethnic deportees. The vast majority of deportees and their descendants left deportation locations once they were allowed.

We study whether gender norms among the present-day native local population in localities that served as destination locations of ethnic deportations depend on the

 $^{^2 \}rm Soviet$ Germans constituted 96.5% of all deported Protestants. Chechens constituted 60% and Crimean Tatars and Turk-Meshketians 35% of all deported Muslims. Ethnic groups with traditional religion other than Protestantism or Sunni Islam represented less than 13% of all ethnic deportees.

group composition of these deportations and therefore on gender norms of the deportees. The way the destination localities were determined allows us to overcome potential endogeneity problems. The region (the first-tier administrative division within Soviet Republics) was chosen by the central authority in Moscow, and this decision could be driven—among other things—by the cultural differences between the native population and the deportees, whereas within-region allocation of ethnic deportees across localities was guided by local needs for manual labor (the main occupation of ethnic deportees at destinations) at the time of the deportee arrival and was orthogonal to the skills, ethnic identity, or culture of deportees. In addition, the local native population of subnational regions was fairly homogeneous. Consistent with the historical narrative about the choice of destination locations, we document that the destinations of ethnic deportations, indeed, differed from the places that did not receive deportees in a number of important respects. For instance, they were closer to railroads, as deportees arrived to destination regions by rail, and closer to Gulag camp locations, as some massive construction projects required the work of Gulag prisoners, free workers, and deportees. However, within regions, the group composition of ethnic deportees among destination localities and, in particular, the relative shares of Protestant vs. Muslim deportees, are uncorrelated with observables, supporting our identification assumption.

We combine historical and contemporary data for our analysis. Data on the number of deportees of each ethnicity at each destination location come from the 1951 ethnic deportation census conducted by NKVD, *People's Commissariat for Internal Affairs*, and collected by Alain Blum from the Russian National Archives (GARF) in Moscow. As outcome variables, we use attitudinal questions on gender roles and on gender-specific behavior, such as education and entrepreneurship, from the 2016 wave of the Life in Transition Survey (LiTS). We focus on respondents from the five countries (Russia, Kazakhstan, Kyrgyzstan, Uzbekistan, and Tajikistan) that received ethnic deportees.³ We also have collected a number of geographical and historical characteristics for deportation destinations.

We compare attitudes and behavior of respondents belonging to local native ethnic groups between localities that hosted ethnic deportations comprised mostly of Muslims and localities that hosted deportations comprised mostly of Protestants within the same regions. In particular, the baseline sample includes the following respondents: in Russian localities, we focus on the Orthodox Christian ethnic Russian population and, in Central Asian localities, we focus on Muslim respondents of Central Asian origin (i.e., Kazakhs, Uzbeks, Kyrgyz, and Tajik) as well as Orthodox Christian Russians (because Russians populated Central Asia starting from its colonization in the 19th century).

 $^{^3 {\}rm Turkmenistan}$ is the only country that received ethnic deportations and is not in our sample because the LiTs survey did not cover it. Only 0.1% of all ethnic deportees were sent to Turkmenistan.

We show that respondents have more progressive attitudes toward the role of women in society and in the family if the ethnic deportees who lived in their locality were Protestants (equivalent to saying that they were Germans), compared to respondents from localities, in which the deportees were Muslims (primarily, Chechens). We also see that female entrepreneurship rates and male membership in women rights' associations is significantly higher in the vicinity of Protestant deportations compared to Muslim deportations. These results hold both when we consider deportations to Siberia, where the native population was arguably culturally closer to Germans than to Chechens, and when we consider deportations to Central Asia, where the local population was predominantly Muslim and arguably had a smaller cultural distance from Muslim deportee groups than from German deportees. Importantly, we also find that mothers of respondents from localities that were the destinations of Protestant deportations (compared to mothers of respondents from localities that were the destinations of Muslim deportations) have significantly higher educational attainment, but only starting with the cohort which was in school at the time of deportations. This evidence suggests that our results are not driven by unobserved heterogeneity between localities within regions.

We show that our results are not driven by either differential in-migration or outmigration using survey questions on the place of residence of respondents' ancestors before WWII. In particular, the results are robust to restricting the sample to respondents whose families lived in the same region before WWII as the respondent. We also present suggestive evidence that the probability of outmigration of local natives from the deportation region is not related to the composition of deportations in a way that could drive our results. Controlling for region fixed effects is crucial for identification. In addition, we ensure that the results are not driven by various potential confounding factors by controlling for a battery of geographic, climate, and historical variables, such as temperature, precipitation, distances to the closest railroad, Gulag camp site, past or present capital city, and evacuated enterprise, ruggedness, and the urban/rural/capital status of a location. We also control for respondents' demographics and socio-economic status. In all of our analyses, we correct standard errors for spatial correlation within a 150km radius, following Conley (1999).

The magnitude of the effects is large. For example, if we compare two respondents today, who live in the same region, but in different localities, which were the destinations of ethnic deportations (of an average size), such that one locality had only Protestant deportees and the other – only Muslim deportees, we find that those female respondents who live next to the site of Muslim deportations are 19 percentage points more likely to agree with the statement: "A woman should do most of the household chores even if the husband is unemployed" and 12 percentage points more likely to

agree that "it is better for everyone involved if the man earns the money in the family" than the those female respondents, who live next to the site of only Protestant deportations. For male respondents, these differences are even larger: 23 and 18 percentage points, respectively. Women, who today live in locations of Protestant deportations, are 16 percentage points more likely to have tried to open their own business than their counterparts from locations of Muslim deportations. We find no difference in entrepreneurship rates among men in these locations, suggesting that social norms rather than the environment drive these differences. We also find a 7.6 percentage point difference in the tertiary education attainment among women young enough to attend school after the deportees had arrived between sites of only-Protestant and only-Muslim ethnic deportations.

Our paper relates to several strands of economics literature. By providing evidence on the between-group diffusion of a cultural trait, namely, gender norms, we make a contribution to the literature on cultural transmission (Bisin and Verdier, 2010; Spolaore and Wacziarg, 2013; Alesina and Giuliano, 2015).

Our analysis is also related to the literatures on peer effects in education (surveyed in Epple and Romano, 2011; Sacerdote, 2011, 2014) and on social contact (e.g., Angrist, 1995; Boisjoly et al., 2006; Carrell, Hoekstra and West, 2015; Algan, Hémet and Laitin, 2016; Chetty, Hendren and Katz, 2016; Finseraas and Kotsadam, 2017; Scacco and Warren, 2018; Burns, Corno and Ferrara, 2019; Rao, 2019), both of which use (quasi-)experimental settings to estimate the effect of exposure of groups with different attributes on a variety of outcomes, including inter-group prejudice and educational performance. In contrast to our study, these papers do not consider cultural traits as outcomes. Algan et al. (2018) document a convergence in the political views of students who formed friendships as a result of being randomly allocated into classes during a university initiation program. A key difference between our analysis and any estimates of the effects of random allocation of students to classes is in the extent to which interactions between students are encouraged and regulated, whereas this was not the case for ethnic deportees and the native population in our setting.

We also contribute to a growing literature on the determinants of gender roles (e.g., Fernández, Fogli and Olivetti, 2004; Becker and Woessmann, 2008; Fernandez and Fogli, 2009; Alesina, Giuliano and Nunn, 2013; Hiller, 2014; Giuliano, 2017; Lippmann, Georgieff and Senik, forthcoming). Our paper is the first one to document horizontal between-group transmission of gender norms.⁴

⁴We also contribute to the literature on the consequences of Stalin's punitive policies. For instance, Toews and Vezina (2019) and Kapelko and Markevich (2014) study the long term effects of Gulag camps. Levkin (2016) studies the effect of Stalin's ethnic deportations on distrust in central authority. He compares places that were the destinations of ethnic deportations with places that were not destinations of ethnic deportations. In contrast, we explore a plausibly more exogenous variation in

The paper proceeds as follows. Section 2 reviews the historical details about how the destinations of ethnic deportations were determined and presents an analysis of the differences in gender norms between the deportee groups and the local population at destinations. Section 3 discusses the data sources. Section 4 describes the empirical strategy and discusses the identification assumptions. Section 5 reports the results. In Section 6, we conduct several heterogeneity exercises to understand potential mechanisms. Section 7 concludes.

2 Historical Background

2.1 Ethnic deportations during WWII

The timing of deportations. Ethnic deportations were decided by decrees issued by Soviet authorities. The official goal of the ethnic deportations was the purge of "anti-Soviet, alien, and suspicious elements" as stated by Lavrentiy Beria, the head of NKVD at that time (Polian, 2004, p. 139). Ethnic deportations took place in three waves. First, in 1939-1941, some deportations took place from the annexed territories in Poland, the Baltics, and Romania, with the goal of suppressing local resistance against the Soviet occupation, following the Ribbentrop-Molotov Pact. The second wave took place in 1941-1942, after the Nazis and Soviets became enemies. The deportations of this wave were called "preventive," i.e., they claimed to prevent the deported groups from collaborating with the Nazis. The largest deported groups during these years were Soviet Germans and Greeks. The third wave took place in 1943-1944 and was so-called "retributive," i.e., it was punishment for the actions of a few individuals, who actually collaborated with the Nazis, from these groups. It included Chechens and Ingush from Northern Caucasus and Crimean Tatars. The deportations happened very rapidly so that, in many cases, there were only a few days between the decree against a certain ethnic group and their actual deportation. There was no selection at the origin: practically all representatives of the groups destined for deportation were actually deported. People who tried to resist were shot (Nekrich, 1978 and Polian, 2004, pp. 147, 151).

The destination locations. For each ethnic deportation, NKVD in Moscow issued a directive listing the regions of destination (i.e., the *oblasts*, the first administrative division within Soviet Republics) together with quotas of deportees assigned to each region. Typically deportees were transported to the train stations on horse-drawn carriages or trucks and then by rail to the main train station of the destination region.

the ethnic composition of deportations focusing only on those places that were the destinations of ethnic deportations. Becker et al. (2018) estimate the effect of forced migration on the educational attainment of descendants of forced migrants.

Historians describe that the localities, where deportees ended up within the assigned region, were decided only upon arrival (Koustova, 2015; Blum and Koustova, 2018a,b). The local authorities, such as the heads of the *sovkhoz* and *kolkhoz*, the state-owned and collective farms, and the administration of local state-owned enterprises came to the main regional town to choose deportee families for their locality within the region. Families, for the most part, were left intact. The representatives of local administrations primarily were interested in getting young and healthy adults capable of carrying out manual labor, in what had some resemblance to a slave market. Other characteristics of deportees, unrelated to their vigor, such as ethnicity, religion or cultural background, did not play a role in their allocation to their final destinations within the assigned regions. In addition, within regions, the local native population was fairly homogeneous.

Figures 1 in the main text and A1 and A2 in the online appendix present maps of the destinations of ethnic deportations and their composition. Table A1 in the online appendix presents the total number of ethnic deportees by religion, ethnic group, and Soviet Republic of destination in 1951.⁵

Life at destination. The deportees constituted a new category of Soviet subjects, so-called Special Settlers (*spetsposelentsy*), who had a status "somewhere between being a citizen and a prisoner" (Blum, 2015). Once in the places of their destination, deportees were given work, usually on the same sites as the native local population. Depending on the number of arriving deportees, they were either supposed to find accommodation to rent from the locals or to build their own (temporary) shacks. They were not allowed to leave from the assigned settlement and had to report frequently (as often as every three days) to the local branch of the NKVD apparatus as a check of their physical presence. Attempts to flee were severely punished (Zemskov, 2003).

Yet, in sharp contrast to Gulag camp prisoners, deportees were not guarded and were not put behind bars. They were free to move in the vicinity of their assigned settlements and could interact freely with the local population. As entire families (men, women, and children) were deported, deportee children were sent to local schools together with the children of local natives.

The return. Different groups of ethnic deportees were allowed to leave the deportation destinations at different points in time between 1957 (as a result of Khrushchev's Thaw) and 1991 (as a result of the fall of the Soviet Union). The timing of the lifting

⁵These numbers are a poor indication of how many people were deported from their homelands, as the death toll during the journey to the destination places and shortly after arriving to the destinations was very high (Polian, 2004). There is also no account of how many children were born to deportees at the destination. In contrast, these data are better suited to analyze exposure of the local native population to deportees as by the end of the war, the mortality rates among deportees have declined. Note that the data exclude deportations to the Altai region, for which data are unavailable.

of these restrictions on mobility and the terms of the pardon varied among the three broad categories of Protestant and Muslim deportees. Karachais and Balkars were fully rehabilitated (at least formally) by Khrushchev. Chechens, Ingush and Kalmyks were also rehabilitated during Khrushchev's Thaw with respect to their civil rights and administrative status, but their pre-deportation homelands were only partially restored (Polian, 2004, p. 197). Both of these groups returned after they were allowed to. In contrast, Germans, Crimean Tatars, and Turk-Meskhetians, even though acquitted of the "crime" charges (as late as 1964), they were not fully "pardoned" and their predeportation homelands were not returned to them. While the duty to report to the local security apparatus every third day was lifted for this third group of deportees in the 1960s, they had a continued obligation to report their presence in the deportation destinations once a year. A number of key restrictions on these deportees remained intact until the early 1990s (Polian, 2004; Blum and Koustova, 2018a). Almost all Germans, Crimean Tatars, and Turk-Meskhetians left their deportation settlements when the Soviet Union disintegrated. Germans moved to Germany (as they were given German passports), Turk-Meshketians moved to Georgia, Azerbaijan, Turkey, and Russia, whereas Crimean Tatars moved mostly back to Crimea (Polian, 2004).

2.2 Gender norms among deportees and the native population

At the time of ethnic deportations, there were no quantitative studies of gender norms of ethnic or religious groups. However, there is abundant anecdotal evidence from that period collected by Soviet anthropologists. We summarize their findings in this subsection and present systematic quantitative evidence about the differences in gender norms between deportee groups and local native populations at deportation destinations before deportations took place. We also show that even today deported groups differ in their cultural norms. All pieces of evidence strongly suggest two things. First, gender norms were substantially less egalitarian among Chechens and Ingush deportees than among Soviet Germans; the same is true about the comparison between all Muslim and all Protestant deportees. Second, in terms of gender norms, the local populations at the deportation destinations, i.e., Russians in Siberia and the local native Muslim population of Central Asian Soviet Republics, were in between Muslim and Protestant deportees.

Official Soviet policy. Gender equality was the official policy of USSR. It was proclaimed as part of the Soviet ideology, including in the sphere of education, work, and family. Polygamy, child marriage, and wearing the veil were forbidden throughout the USSR. Campaigns for "the liquidation of illiteracy" (*Likbez*) of the 1920s and 30s targeted equally men and women, and boys and girls had the same schooling obligations

(e.g., Clark, 1995).

Atheism was proclaimed as one of the ideological goals of the revolution. Initially, the Soviet state allowed some religious freedom for Muslims in contrast to Orthodox Christians and Protestants (as they were not able to cope with resistance on several fronts), but this policy was overturned in 1927. At this point all religious expressions were officially forbidden until 1941, and the brutal anti-religious campaigns of 1930s cracked down on all religious denominations (Pospielovsky, 1988).

The goals proclaimed by Soviet ideology, however, were not perfectly enforced everywhere. The differences in gender inequality as well as in resistance to forced secularization were stark among different local native population groups of the USSR.

Anthropological and historical evidence. Female veiling, polygamy, and arranged marriages of female children were common practices among the Muslim population in the North Caucasus and in Central Asia before the revolution. In contrast, such practices were practically absent among non-Muslim population of USSR, particularly, among Russians and Soviet Germans. The official campaigns of female emancipation were opposed by the population in both North Caucasus and Central Asia. Following the patriarchal practices, proclaimed illegal by the Soviet state, was considered an act of resistance to Russian-Soviet colonizers (Northrop, 2004).⁶ However, historians argue that deported from North Caucasus Muslim groups, and particularly, Chechens and Ingush, resisted Soviet policies of female emancipation and secularization more than the local Muslim population at the deportation destinations in Central Asia. The act of being deported reinforced beliefs and practices that the Soviet state tried to eradicate. Ro'i (2000) documents that "Chechen adults were 'believers,' some of them to the point of fanaticism, and there was evidence that both Chechens and Ingush were far more religiously observant than most of the indigenous inhabitants in their areas of 're-settlement'." Ethnic deportees from the North Caucasus observed Ramadan more strictly and celebrated Muslim festivals more actively compared to the local native population (Ro'i, 2000, p. 408). Adherence to Sufism increased among the Chechen and Ingush population during the time of deportations "possibly to demonstrate protest against deportation and to ensure group solidarity" (Ro'i, 2000, p. 407).⁷

Anthropologists report that polygamy remained common among the Chechens and Ingush population, with men having up to five wives, both during the time of deportations (in 1950s and 60s) and after, these groups were allowed to leave the deportation

 $^{^{6}\}mathrm{Nekrich}$ (1978) reports sixty-nine acts of violent resistance to the Communist party in 1931 and 1933.

⁷Religious Muslim sects among the Chechen-Ingush population were even politically very powerful. Ro'i (2000) reports that among the more than 200 religious Muslim sects, some were powerful enough to reject *kolkhoz* directors nominated by the local communist party administration (*raikom*) and appoint their own nominees (p. 407). Everyday disputes were often resolved in accordance with Sharia law.

destinations (Ro'i, 2000, p. 539). Child marriages among the Chechen-Ingush population precluded girls from going to school: "In one village, out of seventy-five girls who should have been in school in the fourth to the seventh grade, only four attended school" (Ro'i, 2000, p. 541).

On the other end of the spectrum of gender norms among deportees' populations were the Protestants. Over 95 percent of them were Soviet Germans, the descendants of Germans, who immigrated to Russia in the late 18th century and settled mostly in the Volga region on the invitation of Catherine the Great.⁸ In the Russian empire, Germans enjoyed substantial freedoms. Their culture and religion were tolerated; they were exempt from military service and serfdom (Miller, 1987). According to 1897 Imperial Census, 81% of Volga Germans were Protestants. Historians point out that schools for girls for Volga Germans date back as early as the 18th century (Wiens, 1997; Dietz, 2005).

After the revolution, Germans gained a special autonomous status in the USSR; and in 1924. this status was upgraded to create the Volga German Autonomous Soviet Socialist Republic. Soviet Germans considered themselves carriers of the culture of their ancestors and tried to preserve their religion, mother tongue, and folklore traditions, which also meant that gender equality and the level of female education were exemplary among this group.

In contrast to other groups discussed above, Russians (including those living in Siberia) adhered to Soviet policies, including those on female emancipation and education, without much resistance after the end of the Civil War. Before the revolution, gender inequality and discrimination was widespread among Russians, particularly in rural areas (and Russia was predominantly rural before the Stalin's industrialization). For example, according to the 1897 Russian empire census, in rural areas female literacy rate was only 8% as compared to 30% male literacy. The first two decades of Soviet rule marked great progress in educating Russian women. By 1939, literacy rates among women in the Russian Soviet Federative Socialist Republic (RSFSR) reached 54% in rural areas and 73% in urban areas (the corresponding figures for male literacy were 70% and 81%, respectively).

Evidence from the 1897 Russian empire census.

In the 1897 Russian Imperial Census, literacy rates are available by gender, native language, province, and rural/urban status. Using these data, we can compare literacy rates among men and women of different religious and linguistic groups to shed light on their gender norms before the deportations took place. We start by comparing literacy rates of men and women in 1897 for the two largest subsequently-deported ethnic

⁸Most Germans came to the Russian empire from the war-ravaged regions of Hesse and Palatinate.

groups – Germans and Chechens – with the groups that constituted the local native populations at the destinations of deportations – Russians (in Siberia) and Central Asians (in Central Asia). Panel A of Figure 2 presents this comparison separately separately in rural areas, where most of the population lived, and in urban areas. We find that, both in rural and urban areas, Germans in 1897, on average, were more literate compared to Russians, Chechens, and Central Asians. In addition, the difference in literacy between men and women was much smaller among Germans than among the other three considered groups. Chechens and Central Asians had comparable literacy levels for both genders in 1897. Russians of both genders were substantially more literate than Chechen or Central Asian, but the absolute difference in literacy between Russian men and women was not much smaller for Russians than for the two considered Muslim groups. As we mentioned above, this had changed during the first two decades of the Soviet rule, when the "liquidation of illiteracy" campaigns were organized throughout the Soviet Union, as these campaigns saw less resistance in Russia than in North Caucasus. Table A2 in the online appendix shows that these differences in gender norms between groups in 1897 are statistically significant.⁹

To sum up, in 1897, Germans had the highest literacy rate and the lowest gender gap in literacy among the four considered groups.

Evidence from the 2016 Life in Transition survey.

To highlight the differences in contemporary gender norms among the same religious groups, we use the 2016 wave of the Life in Transition survey (LiTS), which contains a list of questions that can be used to measure gender norms. We use this dataset as the source of outcome variables for the main analysis of the paper and describe it in detail below in section 3. In particular, respondents were asked if they strongly agree, agree, disagree, or strongly disagree with the following statements regarding the relative roles of men and women in the family and in society: "A woman should do most of the household chores even if the husband is unemployed", "It is better for everyone involved if the man earns the money", and "Men make better political leaders than women do". In Panel B of Figure 2, we present the differences in answers to these questions among respondents of the survey, who self-declare to be Protestant or Muslim. For all these questions, there is a sharp and statistically significant difference in average responses, suggesting more regressive gender norms among Muslim compared to Protestant respondents of LiTS today. Table A3 in the online shows that these differences are statistically significant controlling for set of sociodemografic factors.

⁹Figure A3 in the online appendix demonstrates that the gender gap in literacy was not mere function of the level of education: the gender gap, on average, did not close with literacy level. This suggests that gender norms explain the difference between Germans and other groups in the men-women differences in literacy.

3 Data

In this section, we describe all datasets used in the analysis and present the spatial variation in the data that we rely on in the main analysis.

3.1 Data sources and variable definitions

Life in Transition Survey. Our outcome variables come from the Life in Transition Survey (LiTS) conducted by the European Bank for Reconstruction and Development and the World Bank in the fall of 2015 and the spring of 2016.¹⁰ The survey covered 34 countries in the former transition region, i.e., Eastern and Central Europe and Central Asia. We focus on five countries included in LiTs that were the destinations of ethnic deportations during WWII: Russia, Kazakhstan, Uzbekistan, Kyrgyzstan, and Tajikistan. About 1500 households were sampled at random from 75 primary sampling units (PSUs) in each of these countries, and household member were chosen at random to answer a broad set of questions about their attitudes towards gender equality, trust in institutions, democracy, and transition, as well as socio-demographic characteristics.

Our main focus is on the questions about attitudes towards women, which we summarized in Panel B of Figure 2. These questions were asked in the 2016 wave of LiTS for the first time. In particular, we look at the following questions: (a) "A woman should do most of the household chores even if the husband is unemployed. Do you agree?"; (b) "It is better for everyone if the man earns the money and the woman takes care of home. Do you agree?"; (c) "Men make better political leaders than women do. Do you agree?". The response options were on a 4-point-Likert scale. To measure gender attitudes, we code "strongly disagree" and "disagree" as 1, and "strongly agree" and "agree" as 0, so that higher values mean more progressive attitudes. As there was no response option "neither agree, nor disagree," our coding encompasses all response options. We also aggregate these three dummies into a single measure by calculating their first principal component, in which all factor loadings turned out to be positive.

To test whether self-reported attitudes translate into behavior, we construct the following behavioral characteristics to measure gender norms: dummies indicating whether female respondents tried to start a business, whether respondents of both genders take part in a women's rights advocacy association, whether respondents' aspirations of higher education for their daughters are not lower than for their sons, and whether respondents' mothers obtained tertiary education. The educational attainment of respondent's mothers is an important variable which allows us to test for pre-treatment differences by focusing on cohorts of respondents' mothers who had

¹⁰The description of the survey, its methodology, and summary statistics can be found at: https: //www.ebrd.com/publications/life-in-transition-iii (accessed on April 22, 2019).

finished compulsory schooling before deportees arrived. We predict the birth year of mothers of respondents using respondent's age and aggregate data on the average age of women at the time of birth of each of their children by women's birth cohorts in the USSR. These data come from The Human Fertility Collection (HFC).¹¹

Ethnic deportations. We use a novel dataset on the destinations of ethnic deportations collected by Alain Blum from the Russian National Archives (GARF) in Moscow. These data represent a 1951 snapshot of the entire surviving deportee population to that date at destination locations originally recorded by NKVD. It contains exact locations and the numbers of deportees by ethnic group. In addition, this dataset contains information on non-ethnic deportees: *kulaks*, "bandits," and "anti-Soviet elements." Figure A1 in the online appendix shows the exact destinations of ethnic and non-ethnic deportations. Figure A2 zooms into the area with the most sizable ethnic deportations (as can be seen from Figure 1) and shows the size and religious composition of ethnic deportations. This map also presents the boundaries of Soviet regions, since in our analysis we rely on within-region variation in the composition of ethnic deportations. We match the deportation destinations to 1131 Soviet districts (*rayons*, an analogue of a municipality in the USSR). Soviet districts constitute the spatial unit of our analysis. At the bottom of Table A1, we present the number of districts with ethnic deportations by Soviet republic.

We perform a reality check on the deportations data using the 1970 Soviet census, available at the regional level. We compare the numbers of Protestant and Muslim ethnic deportees recorded in the 1951 deportation census with the number of people of the same ethnicities in the 1970 census by Soviet region. By 1970, the largest ethnic group among the Muslim ethnic deportees, Chechens and Ingush, had left the deportation locations, whereas the second and the third largest groups among the Muslim ethnic deportees, Crimean Tatars and Turk-Meshketians, as well as the largest Protestant group, Germans, remained at the deportation destination locations. There is a very strong and positive correlation between the numbers of people who belong to deported ethnicities (in logs) as recorded in the 1970 census and the Protestant and Muslim deportees as recorded by the 1951 NKVD deportee census (see Figure A4 in the online appendix). As one would expect, the slope for the Protestant deportee groups is very close to unity because Germans remained at destination locations until the dissolution of the USSR. In contrast, for the Muslim deportee groups, the slope is substantially below one because Chechens, the largest group among them, had already left.

Historical variables. In addition to province-level data, which we used in Figure

¹¹These data are available at https://www.fertilitydata.org/cgi-bin/country.php?code=rus (accessed on April 24, 2019).

2, data from the 1897 Russian empire Census were published at a more disaggregated county (*uezd*) level. We have digitized the following variables for all counties in the four Central Asian states, covered by LiTs data: population density, urbanization, religious composition, the shares of Russian and German minorities, the share of literate among women, the share of merchants and artisans among all working, the shares of working in agriculture, in industry, in services and trade, and the share of population employed in white collar jobs. We use these variables to check the balance before deportations in our main treatment variable. In addition, we have digitized the population density and urbanization for all counties covered by LiTs data in Russia, which allows us to use these variables as controls in the regression analysis.

To check for potential confounding factors, we use data on the locations of Gulag camps from the Political Repression Victims Database collected by the historical and human rights association *Memorial.*¹² Similarly, we also use data on the destination locations of Soviet enterprises evacuated to the East of USSR during WWII, collected by Markevich and Mikhailova (2013).

Geographical variables. We also collected a broad set of geographic characteristics for the places that used to be the destinations of ethnic deportations. We use them for balancing tests and some also as controls in regressions. The information about inland water areas and railroads comes from DIVA-GIS.¹³ The data on climate variable, temperature and precipitation, come from the Geography Department at the University of Delaware.¹⁴ The information on soil suitability for high and low inputs and a measure of ruggedness come from the FAO GAEZ dataset.¹⁵ We also collected information about the location of historical and present capital cities. Using digital maps, we calculate travel distances to water areas, to railways, to past and present capitals, to Gulag camps, and to the destination locations of enterprises evacuated during the war.

Summary statistics of all variables used in the analysis are described in Table A4 in the online appendix.

¹²The data are visualized here: http://old.memo.ru/history/nkvd/gulag/maps/ussri.htm (accessed on April 24, 2019) and the information about Memorial can be found here: https://www.memo.ru/en-us/memorial/ (accessed on April 24, 2019).

¹³http://www.diva-gis.org, accessed on April 24, 2019.

¹⁴http://climate.geog.udel.edu/~climate/html_pages/download.html, accessed on April 24, 2019.

¹⁵http://www.gaez.iiasa.ac.at, accessed on April 24, 2019.

3.2 Spatial variation in the composition of ethnic deportees at the destination locations

Panel B of Figure 1 in the main text and Figure A2 in the online appendix present the spatial variation in the religious composition of ethnic deportees at the destination locations. Both figures zoom into the area, which was the destination of the largest number of deportees. In Figure A1, we show all religious groups at every destination location; in Figure 1, we focus on the two biggest religious groups, which makes the map easier to read and show the share of Protestants among all Protestant and Muslim deportees by district. Thick lines on both figures present regional boundaries. It is evident from these maps that the largest differences in the composition of ethnic deportees were across regions; this is consistent with the historical narrative that the central authorities determined the destination region for all deportees. However, as shown on Figure 1, there is also a lot of residual variation in the composition of ethnic deportees across districts within regions. Our analysis uses this variation.

In order to merge deportation destinations to LiTs survey locations, we calculate the numbers of deportees by ethnic group who were deported to localities in the 30kilometer travel distance from each LiTs Primary Sampling Unit (PSU). We use roads and railroads to calculate travel distances. Out of the total 375 PSUs in the five considered countries, Russia, Kazakhstan, Uzbekistan, Kyrgyzstan, and Tajikistan, 233 PSUs had an ethnic deportation within a 30-kilometer travel distance. We use a 30km travel distance to match LiTs PSUs to deportation locations for two reasons. First, NKVD deportee census provides information on the distances from village settlements to the local NKVD office (*spetskommendatura*) and from the local NKVD office to the center of the district. The median distance is about 30 kilometers. Second, for a subset of deportations, we could determine their destination only at the level of a district, rather than the exact settlement, and 30km is the median radius of a district in our sample. As we report below, our results are robust to using alternative buffer thresholds with radii between 20 and 40 kilometers.

Figure A5 in the online appendix presents the distribution of the religious composition of deportees within 30-km distance from each of these 233 PSUs with ethnic deportations in vicinity. 56 of these PSUs are in Kazakhstan, 62 – in Kyrgyzstan, 59 – in Uzbekistan, 31 – in Tajikistan, and 25 are in Russia.

4 Empirical strategy, identification assumptions, and balancing tests

Our empirical strategy is straightforward: we compare the gender norms of respondents in PSUs that were historically exposed to mostly Protestant deportations to the gender norms of respondents in PSUs that were historically exposed to mostly Muslim deportations, controlling for region fixed effects and a variety of historical and geographical characteristics. The main identification assumption is that conditional on region fixed effects and the presence of deportation next to a PSU, the identity of the deportees (e.g., their religion, ethnicity, and, as a consequence, cultural characteristics) was orthogonal to any unobserved determinants of gender norms. This identification assumption is by definition untestable, as it concerns the unobservables. However, both the historical narrative and the balancing tests which we present below provide strong support.

4.1 Historical rational behind the identification assumption

As we described in the background section, between-region allocation of deportees to destinations was designed by the central authorities and could have been guided by the ideas the Soviet bureaucrats may have had about the potential results of mixing different ethnicities at destinations. However, historians argue that the within-region allocation of ethnic deportees across districts was determined by the need for manual labor at the time of arrival of each group of ethnic deportees to the main railway station of each destination region. Local administrations were looking for healthy and strong men and women as physical labor was the main occupation of ethnic deportees at destinations. Importantly, the local native population was rather homogeneous within destination regions before the deportations, making it implausible that representatives of different districts within regions had different preferences about which groups of deportees to accept in their localities.

4.2 Balancing tests

In Table 1, we present the results of three sets of regressions aimed to establish covariates of the main treatment variable. The first column presents covariates of the destination locations of ethnic deportations, the second and the third columns present the covariates of the share of Protestant deportees (mainly Germans) across locations which were the destinations of ethnic deportations. In particular, the second column presents the results of regressions across all such locations, and the third column across such locations that also happen to be LiTs PSUs and, therefore, are included in our sample in the main analysis. In Panel A of the table, the unit of analysis is a Soviet district. We consider the following climate and geographical characteristics: distance to the closest water area, railroad, Gulag, historical or current capital city, as well as ruggedness, soil suitability with low and high inputs, winter and summer months average precipitation and temperature. In addition, we look at whether the district was a destination location of evacuated industrial enterprises in 1941 and at population density and urbanization measured in 1897 at the level of counties of the Russian empire (which we merged to Soviet districts using digital maps). In column 1, we regress these variables one by one on the dummy indicating that the district was a destination of ethnic deportation and region fixed effects. The results clearly indicate that the location of deportation destinations was not random, as the majority of these geographic and historical variables are strongly correlated with the presence of deportations in the vicinity even within regions. The map presented in Figure A6 in the online appendix illustrates one of these correlations: it shows that deportation destinations were often very close to the railroad, as deportees were brought to deportation locations by rail. Columns 2 and 3, in contrast, show that there are few significant correlates of the share of Protestants among ethnic deportees across locations that were the destinations of ethnic deportations and that any of the significant correlations are not robust to the choice of the sample: all Soviet districts in Russia and Central Asia (column 2) or districts that were the destinations of ethnic deportations (column 3). In these regressions, we control for region fixed effects, the total number of ethnic deportees in the district and shares of the religious groups of ethnic deportees other than Protestant (the treatment variable) and Muslim (the comparison group).

In Panel B, we report the balancing tests with respect to pre-existing population characteristics from the Russian empire census of 1897 at the level of Russian empire counties, focusing on Central Asia (due to data availability reasons). In particular, we consider the shares of the local population of Muslim, Protestant, Orthodox Christian, and Catholic Christian religion, the shares of Germans and Russians (the two largest minorities in Central Asia), the share of literate females, the shares of merchants and artisans, the shares of those working in agriculture, those working in industry, those working in services and trade, and the share employed in white-collar jobs. The specifications are similar to those in Panel A, but we cannot control for region fixed effects, as there is not enough within-region variation at county level. Similar to the results of the balance in terms of geography and climate, we find that pre-existing socio-demographic characteristics and the occupational composition of those Russian empire counties that subsequently became the destinations of ethnic deportations are significantly different from those counties that did not. Yet, among those counties that did become the destinations of ethnic deportations, the composition of ethnic deportees is not correlated with the population characteristics measured in 1897.¹⁶

Overall, we conclude that our main treatment variable, the share of Protestants among Muslim and Protestant ethnic deportees, is largely balanced across a battery of geographical, historical and population characteristics, just as the historical narrative suggests.

4.3 Econometric specification

Our main outcomes are the responses of the Life in Transition respondents about their gender attitudes and behavior in the five countries that were the destinations of ethnic deportations. We aim at estimating the effect of the exposure of the local population to groups of ethnic deportees with drastically different gender norms. We estimate two alternative specifications. The first specification focuses on the historical number of Protestant and Muslim deportees (or the number of deportees from different ethnic groups) in the vicinity of the respondent's residence. In particular, on the sample of all localities (LiTs PSUs) in Russia and Central Asia, we estimate the following cross-sectional equation:

$$Y_{i} = \beta_{0} + \beta_{1} \log(Protestants_{l_{i}}) + \beta_{2} \log(Muslims_{l_{i}}) + \beta_{3} \mathbb{1} \{Deportation_{l_{i}}\} + \beta_{4} \log(Pop_Density_{l_{i}}) + \sigma' \mathbf{D}_{\mathbf{l_{i}}} + \gamma' \mathbf{X}_{\mathbf{l_{i}}} + \delta' \mathbf{C}_{\mathbf{i}} + \mu_{r_{l_{i}}} + \epsilon_{i},$$

$$(1)$$

where *i* indexes survey respondents and l_i indexes the locality (LiTs PSU), where respondent *i* lives. To ensure identification, we rely on within-region variation by controlling for the subnational region fixed effects (i.e, μ_{rl_i} , where index *r* denotes the Soviet region to which locality *l* belonged). To account for selection into the deportation destinations and focus on the effect of the composition of ethnic deportees, in all specifications we control for a dummy variable indicating whether there were any Protestant or Muslim deportees in the vicinity of the locality *l*, $\mathbb{1}{Deportation_{l_i}}$.

Y stands for the following outcome variables (which we already mentioned above): dummy variables indicating whether the respondent either "strongly disagrees" or "disagrees" with each of the following statements: (1) "A woman should do most of the household chores even if the husband is unemployed"; (2) "It is better for everyone if the man earns the money and the woman takes care of home"; (3) "Men make better political leaders than women do"; the first principal component of these three outcomes, in which all factor loadings turned out to be positive; a dummy variable indicating

¹⁶As reported in Table 1, we found few statistically significant correlations in columns 2 and 3. We have verified that the inclusion of any of these variables as controls in our main analysis does not affect the results. In addition, in the robustness section, below, all but one of these variables are not correlated with gender norms, and one is correlated in a way that could only bias our results against finding the effect that we find.

whether the respondent tried, successfully or not, to start a business; a dummy variable indicating whether the respondent is a member of a women rights association; and a dummy variable indicating whether the respondent reported the same or a higher level of aspiration for the education of respondent's daughter compared to their son.

The main explanatory variables in equation 1 are the log numbers of Protestant and Sunni Muslim deportees in the 30-kilometer travel-distance radius around the locality l, $\log(Protestants_{l_i})$ and $\log(Muslims_{l_i})$, respectively. In order to test whether the length of exposure matters, we also estimate a similar specification, in which instead of $\log(Muslims_{l_i})$ we include separately the log of the number of Chechen and Ingush deportees, who were rehabilitated in 1956 and were allowed to leave the deportation destinations in 1957, and the log of the number of Crimean Tatars and Turk-Meshketians, who were never "pardoned" and had to stay in their deportation locations until the dissolution of the USSR.

To compare locations, where the relative shares of deportees and the local population were similar, we control for population density in 1897 in the Russian empire county of the locality l, Pop Density_{li}.¹⁷ To have a clean comparison between Protestant and Muslim deportees, we control for the log numbers of ethnic deportees in the 30-kilometer travel-distance radius around the respondent's locality separately for each of the other religions (i.e., Orthodox Christians, Buddhists, Shia Muslims, and Catholics and Jews together, who we cannot disentangle because both Polish Catholics and Polish Jews were deported together). These controls are denoted by \mathbf{D} . We also control for the log number of non-ethnic deportees, dummies for urban locations and for capital cities, distances to the closest railroad, capital city, Gulag camp, and to the closest water area, ruggedness, summer and winter average temperatures and precipitation, and soil suitability with low- and high-input agriculture (\mathbf{X}) . At the respondent level, we control for age, education, log of income, and religious denomination (\mathbf{C}) . To account for spatial correlation in the error term, in all specifications we correct standard errors for spatial correlation within a 150km radius around the locality (Conley, 1999).

In addition, for the outcomes, where one could expect a symmetric opposite-sign effect of the Protestant and Muslim deportees, we estimate a specification, in which the main explanatory variable is the share of Protestants among all ethnic deportees in the 30-kilometer travel-distance radius around the locality l, $Protestant_Share_{l_i}$:

 $^{^{17}}$ We use the Russian empire census because we do not have data on the population density at the time of the deportations or at any point in time between deportations and the 1897 Russian empire census.

$$Y_{i} = \alpha_{0} + \alpha_{1} Protestant_Share_{l_{i}} + \alpha_{2} \log(Deportation_Size_{l_{i}}) + \alpha_{3} \log(Pop_Density_{l_{i}}) + \sigma' \mathbf{M}_{l_{i}} + \gamma' \mathbf{X}_{l_{i}} + \delta' \mathbf{C}_{i} + \mu_{r_{l_{i}}} + \epsilon_{i}.$$

$$(2)$$

For the share of Protestants among ethnic deportees to be defined, we estimate equation 2 on the sample of all localities (LiTs PSUs) with an ethnic deportation settlement in the vicinity.¹⁸ In this specification, we control for the log of the total number of ethnic deportees in the same buffer around the respondent (*Deportation_Size*) and for the shares of all other religious groups of deportees, other than Sunni Muslims, in the vicinity the respondent's locality (**M**). The inclusion of these controls ensures that the comparison group is the (Sunni) Muslims deportees. As in equation 1, we also control for pre-deportation population density and the same set of climate and geographical characteristics of the locality and socio-economic characteristics of the respondent, and we cluster error terms to correct for spatial correlation.

In the baseline regressions estimating equations 1 and 2, we restrict the sample to respondents who report to be Muslim Kazakhs, Uzbeks, Kyrgyz, Tajik and Orthodox Christian Russians. This is done to make sure that, if there are any descendants of deportees still in the locality, they are not in our sample.¹⁹ As many ethnic Russians settled in Central Asia during the colonization of Central Asia in the second half of the 19th century, in our sample, Russians are present in Kazakhstan, Kyrgyzstan and Uzbekistan in addition to Russia. We show that the results are robust to using the sample of respondents who belong to the ethnic majority in each of the countries: Kazakhs in Kazakhstan; Uzbeks in Uzbekistan, Kyrgyz in Kyrgyzstan, Tajik in Tajikistan, and Russians in Russia. We also present robustness of the results to restricting the sample to respondents whose ancestors lived in the same locations before WWII.

To examine how cultural distance between the deportees and the local population affects horizontal transmission of norms, we compare the results on sub-samples of Orthodox Christian Russians and Muslim Central Asians, estimated separately. Arguably, Russians were culturally closer to Soviet Germans than to Chechens. Germans lived in the Western parts of Russia since the 18th century and, as a rule, spoke good Russian in addition to German. In contrast, many Chechens did not speak Russian. Religious differences also suggest that Russians culturally were closer to Germans than to Chechens: Germans and Russians belonged to different Christian congregations, whereas Chechens were Muslims. Due to a common religion, the local native Mus-

¹⁸All PSUs with an ethnic deportation had at least some Muslim or Protestant deportees.

¹⁹It is worth noting that there were very few intermarriages between ethnic deportees and the local population in Central Asia due to racial animosity. Similarly, due to religious animosity, there were very few intermarriages between Chechens and Russians in Siberia. It is possible that there were some intermarriages between Russians and Soviet Germans. However, all relatives of German deportees were given German passports at the fall of USSR and therefore the vast majority of these mixed families left to Germany together with other German deportees in the early 1990s.

lim population of Central Asia was culturally closer to Muslim than to Protestant deportees.

We use data on the educational attainment of the mothers of respondents to test for pre-trends. Some of the mothers of the respondents were old enough to have completed compulsory schooling before WWII. We compare the effect of the composition of ethnic deportations on the rate of attainment of tertiary education for those mothers who had completed compulsory secondary education before the deportees arrived with the effect for those mothers who attended schools after the arrival of deportees.

5 The main result

Table 2 presents the main results for gender attitudes as an outcome. Panels A and B focus on the estimation of equations 1 and 2, respectively. Even columns show the results for female respondents and odd columns – for male respondents. The specification with the log numbers of deportees as the main explanatory variable (Panel A) yields significant positive coefficients on the log number of Protestant deportees in the vicinity of the respondent's locality for all outcomes and both genders. The coefficients on the log number of Muslim deportees are consistently negative (with the exception of one specification out of eight), but they are statistically significant only for one of the three attitudinal questions (namely, whether a woman should do most of the household chores) and for the aggregate measure of gender related attitudes the principal component of the three questions. In all regressions, the test for the equality of coefficients yields that exposure to Protestant and Muslim deportees had a different effect on the gender attitudes of the local population. Despite finding a statistically weaker effect of exposure to Muslim deportees, in most cases, one cannot reject the hypothesis that the magnitude of the effects of exposure to Protestant and Muslim deportees is similar in absolute value. P-values of these tests are presented at the bottom of Panel A; these tests yield a significantly higher effect of exposure to Protestants compared to Muslims in absolute value only in columns 5 and 7, i.e., for the aggregate measure of attitudes and for the belief that men make better political leaders in the female sub-sample. The results for the share of Protestants among deportees presented in Panel B are consistent with those for the levels: the coefficients on the share of Protestants among Protestant and Muslim ethnic deportees are consistently positive and, in most cases, statistically significant.

Table 3 considers behavioral outcomes. The structure of the table is the same as in Table 2. The most striking result is for (attempted) entrepreneurship among women (column 1). In localities with a higher number of Protestants among ethnic deportees, women today are significantly more likely to have tried themselves at entrepreneurship; whereas in localities with a higher number of Muslim deportees, the effect is reversed – women today are significantly less likely to have tried themselves at entrepreneurship. In sharp contract to the results for female respondents, we find no effect of the composition of ethnic deportations on entrepreneurship rates for male respondents (column 2). This is an important placebo test, as it suggests that the differences in the behavior of women that we document in column 1 are not driven by unobserved characteristics of the localities they live in. If the within-region composition of ethnic deportees had been correlated with unobserved factors that are more or less conducive to entrepreneurship, we would have found the same effect for men as for women. The absence of an association between the composition of ethnic deportees in a locality and male entrepreneurship rates confirms our identification assumption that the differences in the composition of ethnic deportees affect our outcomes through the differences in exposure to groups with different gender norms rather than differences in the environment.

We also find that an increase in the number of Protestant deportees is associated with significantly higher rates of membership in women's rights associations (as shown in columns 3 and 4 of Panel A of Table 3), whereas men have significantly lower aspirations for the education of their daughters compared to their sons in localities which historically were the destinations of a larger number of Muslim deportees (column 6 of Panel A). The other effects for these two outcomes are imprecisely estimated, but the differences in magnitude of the coefficients on Protestant and Muslim deportees is statistically significant in the sample of male respondents. In panel B, we show that the share of Protestants has a positive coefficient for all outcomes, with the exception of the placebo estimation for male entrepreneurship, and is statistically significant for female entrepreneurship (column 1) and membership in women's right advocacy associations among men (column 4).

The magnitude of these effects is substantial. If we compare two localities within the same subnational region, such that one was historically exposed to an average-sized ethnic deportation comprised only of Protestants (i.e., mostly, Germans) and the other – only of Sunni Muslims (mostly, Chechens), the residents of the first locality today are 15 to 16 percentage points more likely to hold progressive, i.e., more egalitarian, gender attitudes than the residents of the second locality. (This can be seen from the magnitude of the coefficients on the share of Protestant deportees for the first principal component of all gender attitudes questions.) In addition, in the first locality, women are 14.6 percentage points more likely to have tried themselves at entrepreneurship. In practice, the standard deviation of the share of Protestants among ethnic deportees is 35%, which means that a one standard deviation difference in the composition of ethnic deportees is associated with a 5.1 percentage point difference in gender attitudes. These magnitudes are large relative to the average shares of the population holding progressive gender attitudes (19.9% among women and 17.6% among men). In addition, a one standard deviation difference in the composition of ethnic deportees is associated with a 4.4 percentage point difference in entrepreneurship rate among women (compared to the 11.1% mean value for this outcome.)

The magnitude of the intensive margin is illustrated by the results of the specification in levels: a 10% increase in the number of Protestant deportees in the vicinity of a locality leads to a 2.7 percentage point increase in the share of women with progressive gender attitudes and a 2.2 percentage point increase in the share of men with progressive gender attitudes today. It also leads to a 1.1 percentage point increase in the rate of (attempted) entrepreneurship among women. A 10% increase in the number of Muslim deportees leads to a decrease in female entrepreneurship rates by 1.5 percentage points.

In Table 4, we focus on the ethnic rather than the religious groups of deportees. In particular, we consider Chechens (and Ingush), i.e., Muslim deportees, who were allowed to leave deportation locations in the late 1950s, separately from Crimean Tatars and Turk-Meskhetians, Muslim deportees, who were never "pardoned" and remained at deportation locations until the fall of the USSR, and among all Protestant deportees, we single out ethnic Germans, who constituted 96.5% of all Protestant deportees. In this specification, in addition to all baseline controls, we also control for the log numbers of other Muslim and Protestant deportees (who were very few). We focus on the main outcome variables—the first principle component of progressive gender attitudes and entrepreneurship, for which, as we discussed before, we consider the female sample as the treatment sample and the male sample as a placebo. First, the results confirm that the estimated effects of exposure to German deportees are the same as the effects of exposure to all Protestants, which is not surprising as these groups were essentially the same. Second, we find a strong and significant effect of exposure to Chechen deportees for both of the main outcomes of interest (i.e., attitudes and female entrepreneurship). In contrast, the effect of exposure to Crimean Tatars and Turk-Meskhetians is statistically significant only for female entrepreneurship. For this outcome, the magnitude and statistical significance of the coefficients on the numbers of Chechen deportees and Crimean Tatar and Turk-Meskhetian deportees are the same (column 3). In contrast, for the attitudinal outcome, the effect of exposure to Crimean Tatars and Turk-Meskhetians is not statistically significant (columns 1 and 2). The magnitude of the coefficient on Crimean Tatars and Turk-Meskhetians is is the same as on Chechens in the sample of male respondents, and is also considerably smaller in the sample of female respondents. However, we cannot reject the null for the equality of the coefficients in either case. On the one hand, Chechen deportees were more numerous and, as we discussed in the background section, their gender norms at the time of the deportations were the most extreme. On the other hand, Chechen deportees stayed at the deportations locations for a shorter period of time than the other two Muslim groups. The similarity of the effect for the behavioral outcome and the inability to reject the equality of the coefficients for the attitudinal outcome leads us to conclude that these two countervailing effects cancel out. Thus, henceforth, we consider all Muslim deportees together.

The educational attainment of respondents' mothers is the only outcome variable for which we can measure differences both pre- and post-treatment. We predict the birth year of the mothers of respondents using respondent's age and the aggregate data on the average age of women at the time of first birth by women's birth cohorts in the USSR. Then, we compare the ultimate attainment of tertiary education by mothers of respondents, depending on the religious composition of deportees and the timing of the mothers' compulsory schooling. First, we group all respondents in two birthcohort groups: those with mothers old enough to have finished compulsory schooling before WWII and, therefore, before the arrival of the deportees, and those whose mothers went to school when the deportees arrived or afterwards. Second, we split the latter also into two groups: those respondents, whose mothers were of the age of compulsory schooling during WWII and, therefore, had partial exposure, and those respondents, whose mothers started schooling after the end of the war and, therefore, did all of their compulsory schooling after the deportees had arrived. Thus, in the latter group, mothers of respondents went to school with the children of deportees of German, Crimean Tatar, and Turk-Meshketian origins (as they have never been pardoned) and either together with Chechen and Ingush deportees or after they had left (as they were pardoned during Khrushchev's Thaw). Columns 1 and 2 of Table 5, present the results for these two classifications, respectively. Panels A and B of the table, as above, correspond to the specifications in levels and in shares. We find no effect of the composition of ethnic deportations in the vicinity of a locality on the education of those mothers who completed their compulsory schooling before the deportees arrived. In contrast, exposure to both Protestant deportees and Muslim deportees during the time of compulsory primary and secondary education had a significant effect on the probability of mothers of respondents to complete tertiary education. According to column 1, a 10% increase in the number of Protestant deportees in the vicinity of the locality led to a 0.6 percentage-point increase in the tertiary-education attainment of respondents' mothers, whereas a 10% increase in the number of Muslim deportees led to a 0.8 percentage-point decline in this outcome, but only for those mothers, who were at school during or after the deportations. Column 2 shows that the effects are

significant for full exposure only.²⁰

In Figures 3 in the main text and A7 in the online appendix, we compare the results by birth cohorts of respondents for the two outcomes: the mothers' tertiary education and the respondents' gender attitudes. Figure 3 focuses on the specification in shares and Figure A7 – in levels. The figures present the coefficients on the main treatment variables by groups of respondents. The first two groups on these graphs correspond to "before WWII" and "during WWII" mother's birth cohort groups presented in column 2 of Table 5. The other three groups represent an equal-sample split of the group "after WWII." The graphs for the mothers' education as the outcome (Panel A) illustrate the results presented in Table 5. The graphs of the gender attitudes as the outcome (Panel B) show that the effect of the composition of ethnic deportations on gender attitudes did not only go through its effect on the level of mothers education. There is a strong and significant effect of the share and the number of Protestant deportees on the gender norms of respondents both for those cohorts whose mothers have completed compulsory schooling before deportees arrived.²¹

5.1 Heterogeneity by cultural distance

5.1.1 The main outcomes

In Table 6, we test whether the cultural distance between deportees and the local population affects the effect of exposure. As we discussed in detail in the background section, the local population at the destination locations of ethnic deportations had two traditional religions: Russians are Orthodox Christians and native Central Asians are Sunni Muslim.²² To explore heterogeneity by cultural distance, we split the sample into Muslim respondents of Central Asian ethnicities (columns 1-3) and Orthodox Christian Russians (columns 4-6). If cultural distance plays a major role in horizontal cultural transmission, one should expect significant differences in the effects of exposure to

²⁰Note that in Table 5, we use a slightly more parsimonious specification compared to Tables 2 and 3: we omit controls for the education and income of the respondent as they can be a direct result of their mother's education. At the same time, we add controls for dummies indicating the birth-cohort groups, as our main explanatory variables are the interactions of these birth-cohort groups with Muslim and Protestant deportees. We also add controls for the gender of the respondent, as we pool together male and female respondents, when we consider their mothers. The sample is sufficiently large which allows us to restrict the sample to respondents who belong to the ethnic majority in each of the considered countries: Kazakhs in Kazakhstan; Uzbeks in Uzbekistan, Kyrgyz in Kyrgyzstan, Tajik in Tajikistan, and Russians in Russia. In the robustness section below, we show that the other main results are largely robust to this sample restriction, but the effect of Muslim deportees on attitudes is less precisely estimated in this sub-sample.

²¹The results presented in Tables 2 and 3 are fully robust to controlling for parents' education as we show in the robustness section below.

²²There is a sizable Shia minority concentrated in one region of Tajikistan, but LiTs data do not cover this region.

Muslim deportees for Muslim and Russian Orthodox locals, since in the subsample of Central Asians both locals and deportees share the same religion. Yet, we find very similar results in the two sub-samples for exposure to Muslim deportees, as can be seen from the comparison of the coefficients on Muslim deportees in the two sub-samples.

One could also argue that the local ethnic Russian population was culturally closer to German deportees than to the Muslim deportees from the Caucuses or Crimea. (As we mentioned before, German deportees spoke Russian fluently in addition to German, and most of them came from the Volga region, where their ancestors settled almost two centuries before the deportations. In addition, religious beliefs and practices differ substantially less between the two Christian religious denominations, Protestants and Russian Orthodox, than between Islam and Orthodox Christianity.) Similarly to the effect of exposure to Muslim deportees, we find that the magnitude of the coefficients on Protestant deportees are not substantially (or statistically) different between the two sub-samples. The precision of the estimates in the sub-sample of Russian respondents is substantially smaller than in the sub-sample of Central Asians. Yet, the difference in the magnitude of the standard errors could be attributed to a substantially smaller sample size in the sub-sample of Russian respondents. Thus, we cannot reject the hypothesis that there is little difference in the effects of exposure to Muslim or Protestant deportees on gender norms for Russian Orthodox vs. Muslim locals, despite the apparent differences in cultural distance. Not all attitudes are affected the same way by exposure to deportees depending on cultural distance, as we show in the next subsection.

5.1.2 Trust in own religion

One could argue that the effect of exposure to an alien religious group with a specific set of values and practices may affect attachment to one's religion. We can test this by estimating equation 1 with trust in religious institutions as the outcome variable on the sub-samples of Muslim and Orthodox Christian respondents. The LiTs question asks about a measure of trust in religious institutions. We make a reasonable assumption that each respondent answers with regard to his or her own traditional religion. Table 7 presents the results. Columns 1 to 3 present the results for Muslims and columns 4 to 6 for Orthodox Christian. Columns 1 and 4 pool respondents of both genders together and columns 2, 3, 5 and 6 present results separately for female and male respondents. We find that trust in religious institutions among Asian Muslim women is significantly lower in places historically exposed to a sizable Protestant deportation (column 2); and that trust in religious institutions among Russian Orthodox women is significantly lower in places historically exposed to a sizable Muslim deportation. At the same time, there is no significant effect on trust in religious institutions of the exposure of Muslim locals

to Muslim deportations and of Orthodox Christian locals to Protestant deportations. In addition, the effects for men are not statistically significant. One could hypothesis that gender (in)equality among ethnic deportees may have played a role in affecting attitudes of local women towards their own religion more because observing genderrelated behavior of the alien religious group could have been more salient for women than for men. However, the effect of deportees on trust in the respondent's religious institutions cannot be the mechanism behind our main effect because, as shown above, the effect on gender norms does not depend on the cultural distance between the local population and the deportees.²³

5.2 Discussion of the differences between the effects of exposure to Muslim vs. to Protestant deportees

Overall, we find robust evidence of a positive effect of exposure to Protestant deportees on gender norms for both behavioral outcomes (entrepreneurship among women and tertiary education among respondents' mothers) and attitudes. A negative effect of exposure to Muslim deportees on the main behavioral outcome is also strong and robust. However, the estimates of the effect of exposure to Muslim deportees on genderrelated attitudes are less robust and driven by exposure to one sub-group of Muslim deportees, namely, Chechens, despite the fact that the other two main sub-groups of Muslim deportees, Crimean Tatars and Turk-Meshketians, stayed in the deportation destinations much longer. What could potentially explain this asymmetry? One possibility is that the horizontal transmission of progressive gender norms from Protestants (i.e., Germans) was easier because promoting gender equality was a deliberate Soviet policy, and therefore, the adoption of such norms was less costly for the locals than the adoption of norms of gender discrimination. One could also argue that egalitarian norms are easier transmitted between groups than discriminatory norms because they are generally considered as more progressive. We cannot distinguish between these different explanations for why the effects of exposure to Muslim deportees on the selfexpression of gender-related attitudes are generally weaker than the effects of exposure to Protestant deportees. It is worth reiterating, however, that the effects on behavioral outcomes are equally strong.

We do not have data to pin down the exact mechanism at play. It is clear, however, that one can exclude inter-group marriages as the main mechanism behind the horizontal transmission of gender norms because there were too few inter-group marriages.

²³Note that there are very few respondents in LiTs who report a religion, different from the traditional religion of their ethnicity, and therefore, there is not enough data to study religious conversions. To have a clearly defined sample, as the baseline, we consider respondents who self-report that they belong to the traditional religion of their ethnicity.

Thus, informal interactions between the representatives of different groups must have led to the horizontal cultural transmission. In particular, the results about mothers' educational attainment point to the importance of contact at school as one of the places, where the norms were diffused.

6 Robustness and evidence on alternative explanations

6.1 Robustness

In the baseline estimation, we use the number of Protestant deportees in the 30kilometer travel distance vicinity of the LiTs PSUs as the main treatment variable. Figures A8 and A9 in the online appendix visualizes the results of the robustness exercise, in which we change the radius of the definition of the vicinity of a locality to calculate the numbers of deportees around LiTs PSUs. We plot the estimated coefficients along with their confidence intervals on the main variables of interest for the two main outcome variables with radii equal to travel distances of 10, 20, 30, 40 and 50 kilometers. In all other respects, the specifications are the same. We find the results are the strongest with 30-kilometer radius, but they are largely robust to using radii between 20 and 40 kilometers.

Tables A5 and A6 in the online appendix report the main results from the sample of respondents who are the ethnic majority in each country (i.e., Kazakhs in Kazakhstan; Uzbeks in Uzbekistan, Kyrgyz in Kyrgyzstan, Tajik in Tajikistan, and Russians in Russia). The results for the effect of exposure to Protestant deportees on all outcomes is robust, whereas the effect of exposure to Muslim deportees is robust only for female entrepreneurship and it is imprecisely estimated for the aggregate variable measuring gender-related attitudes (columns 7 and 8 of Table A5). Yet, the coefficients on the log number of Muslim deportees are consistently negative and marginally significant in a few cases.

Tables A7 and A8 in the online appendix establish robustness of the results to controlling for the education level of both parents of the respondent. The results are essentially identical to the baseline.

6.2 Differential in- and out-migration do not drive the results

In this subsection, we examine whether differential migration into or out of the deportation destinations may drive our results. We use the LiTs question about the place of residence of ancestors of respondents in 1939. The respondents were asked to provide the name of the country and the subnational region of the place of residence of their ancestors before WWII, which we have geo-referenced.

We start with limiting the sample to respondents who report that their ancestors in 1939 lived in the same subnational region as them. Table 8 replicates our main results in this sub-sample. As in the baseline sample, we find significant effects of Protestant deportees on both attitudes (measured as the first principal component of all measures) and behavior (measured by female entrepreneurship). We also find that exposure to Muslim deportees significantly negatively affected female entrepreneurship rates. The coefficients on Muslim deportees are not statistically significant for attitudes as the outcome. These results suggest that differential in-migration after WWII into the destination locations of ethnic deportations cannot be a driver of our results.

Second, we use information on the origin of respondent's ancestors to test for differential out-migration. In particular, one could argue that those locals whose norms disagreed the most with those of ethnic deportees were more likely to out-migrate into areas without deportees. If so, our results would be driven by selection rather than cultural diffusion. In order to shed light on this possibility, we consider the sample of all LiTs respondents in the 5 countries that were the destinations of ethnic deportations whose ancestors before WWII lived in the regions that during WWII became the destinations of ethnic deportations irrespective of where the respondents live now. Then, we construct a dummy for whether the respondent today lives in a different region from the region of their ancestors in 1939. We estimate a linear probability model that explains out-migration from a deportation-destination region depending on the composition of ethnic deportations in that region. It is important to note that we only know the place of origin of respondent's ancestors at the level of subnational region. and therefore in this analysis, in contrast to all other regressions, we cannot control for region fixed effects. As the destination region was determined by authorities in Moscow, between-region variation in the group composition of deportations could be correlated with regional characteristics, and therefore, the analysis that follows should be interpreted with caution. The unit of observation in this analysis is an ancestor. We consider all ancestors who lived before the war in the regions that became the destinations of ethnic deportations during the war (of which there are 8,367 ancestors). We regress a dummy for whether the respondent lives in a different region from the ancestor (i.e., out-migrated) on the log numbers of Protestant and Muslim deportees in the ancestor's region of origin. We control for the fixed effects of the country of origin of the ancestor and of the country of the destination of the respondent. We use two-way clusters by respondent and by the regions of ancestor origin. We also control for the number of LiTs PSUs in each of the region of origin of the ancestors and for whether the ancestor comes from the mother's or father's side of the respondent.

The first column of Table 9 presents the results. We find no effect of the size of Protestant deportations in a region and a significant positive effect of the size of a Muslim deportation in a region on the probability that people moved out of this subnational region between 1939 and 2016. If we interpret this evidence at face value, it suggests that the effects of Protestant deportations are not driven by selective outmigration whereas the effects of Muslim deportations may have, at least in part, been confounded by it. If the presence of Muslim deportees, indeed, triggered outmigration, one should expect outmigration to increase with the cultural distance between deportees and the local population. In particular, one should expect the effect of the presence of Muslim deportees to be bigger in Russia than in Central Asia, as Muslim deportees were more culturally distant from Russians than from Central Asians, as we discussed above. We test whether this is the case in column 2 of the Table. In particular, we add to the list of covariates the interaction terms between the number of Protestant and Muslim deportees with a dummy for whether the respondent's ancestor lived in Russia (rather than in Central Asia). The coefficients on these interactions are not statistically significant, suggesting that the positive effect of Muslim deportations on outmigration from the region is equally present in Russia and Central Asia. This evidence contradicts the hypothesis that there was an outmigration from the deportation regions driven by the influx of culturally-alien groups of deportees. As the variation in these regressions is at the regional level, it could easily be driven by omitted differences across regions. Thus, this evidence should be interpreted with caution. Overall, this analysis provides some suggestive evidence that, at least, the results for exposure to Protestant deportees are not driven by selective outmigration, but these results could be driven by unobserved cross-regional variation.

6.3 The correlation of gender norms with variables, for which there is no balance

As we have mentioned in footnote 16 above, few climate and pre-treatment population characteristics are not balanced across localities with different values of the share of Protestant deportees. In Table A9, we check whether these characteristics, for which we find a mis-balance, are correlated with the gender norms of respondents in our baseline sample. Out of seven variables like that, six are not correlated with gender attitudes and only one, i.e., a dummy for the presence of an evacuated enterprise in the vicinity, is significantly correlated with gender norms. However, the sign of this correlation is such that it should bias our results against finding evidence of the horizontal cultural transmission of gender norms.

7 Concluding Remarks

We use Stalin's ethnic deportations as a unique historical experiment, in which the close co-existence of different cultural groups was exogenously imposed in a real-world setting. Groups with drastically different gender norms were deported to locations in Siberia and Central Asia, in such a way that the variation in the group composition of deportees within subnational regions was unrelated to the characteristics of localities, to the structure of the local population, or to local gender norms. Relying on this variation, we find strong evidence of horizontal cultural transmission: both the norms of gender equality and of gender discrimination were adopted by the local population exposed to a deportee group with those norms. Even though the diffusion of norms of gender equality, supported by the official ideology in the USSR, was stronger, the discriminatory gender norms also diffused. The local population exogenously exposed to a group with more egalitarian gender norms exhibits both more progressive gender attitudes and higher rates of entrepreneurship and of attainment of tertiary education among women. The local population exogenously exposed to a group with discriminatory practices towards women exhibits lower rates of entrepreneurship and of attainment of tertiary education among women, but does not differ robustly from others in their self-expressions of gender attitudes. Horizontal cultural transmission occurred both for culturally more distant and culturally closer groups.

Importantly, no constraints were imposed at the deportation destinations on how and whether deportees could interact with the local population, which suggests that horizontal cultural transmission can occur even without any special encouragement. The formation of ghettos, when different groups exist in close proximity but do not interact, are not inevitable.

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Figure 1: Density and religious composition of ethnic deportations at destinations



Panel A: Density of ethnic deportees at destination

Panel B: The share of Protestants among all Protestant and Muslim deportees at destination



Note: The map in Panel A presents the destination locations of ethnic deportations. The intensity of color indicates density of ethnic deportees in a 2 decimal degree radius, estimated using a quartic (bi-weight) kernel function. The represented values are winsorized at the 99th percentile of the distribution. The legend shows values at 0, 30, 50, 70, and 99th percentiles. The map in Panel B zooms into the area which was the destination of most the sizable ethnic deportations and presents the district-level variation in the share of Protestants among all Protestant and Muslim deportees; this map also presents regional boundaries (in the analysis, we rely on the within-region variation). Figures A1 and A2 in the online appendix present the maps of the exact destinations of deportations and details about their size and group composition.





Panel B:

Contemporary differences in gender norms, 2016 LiTs Average response of all respondents of given religion



Note: The figure in Panel A presents the mean weighted literacy rate by gender and ethnicity across provinces in 1897, for urban and rural areas, separately. The mean is weighted by the number of people in the ethnic group in the province. The German and Chechen ethnicities make up the largest groups Protestants and Muslims deportees. Russians and Central Asians represent the main native populations at the deportation locations. The figure in Panel B presents the mean response to gender attitudes questions in LiTs 2016 wave between Protestants and Muslims. These group differences in gender norms as of 1897 and as of today are statistically significant and robust to including various control, as presented in Tables A2 and A3 in the online appendix.

Figure 3: The time-varying effect of the share of Protestant deportees on mothers' education and respondents attitudes

(a) Tertiary education of respondents' mothers, by predicted birth cohorts of mothers





Note: Panel A presents the effect of the share of Protestant deportees on the tertiary education of mothers of respondents by mother's predicted birth cohort. Panel B presents the effect of the share of Protestant deportees on the 1st principle component of progressive gender attitudes, by birth cohort of respondent. There is a one-to-one correspondence between birth cohorts of respondents and birth cohorts of the mothers. The coefficients and 90% confidence intervals displayed are from the OLS regressions described in the text. Individual and destination location controls are included. Standard errors are corrected for potential spatial correlation within a radius of 150km following Conley (1999). The two vertical lines on Panels A and B mark three groups of respondents mothers: 1) those with no exposure (i.e., respondents' mothers finished secondary school before deportations occurred); 2) possible exposure (i.e., mothers were about to finish secondary school at the time of deportations) and 3) full exposure (i.e., mother went to school after the deportations took place). Figure A7 in the online appendix, shows similar graphs for the time-varying effect of the size of Protestant and of Muslim deportations.

	(1)		(2)			(3)					
Deportat	ions dum	ımy	Share of Protestant deportees			Share of Protestant deportees					
All L	All LiTs PSUs			All districts with deportations			PSUs with deportations				
COEF	SE	Ν	COEF	SE	Ν	COEF	SE	Ν			
-0.325**	(0.137)	375	0.141	(0.203)	1,054	0.285	(0.257)	229			
-0.755***	(0.214)	375	0.197	(0.229)	1,054	0.323	(0.361)	229			
-0.393**	(0.178)	375	0.019	(0.198)	1,054	-0.057	(0.429)	229			
-0.250*	(0.137)	375	0.167**	(0.065)	1,048	-0.071	(0.371)	229			
8.884***	(2.985)	375	0.908	(1.385)	1,054	1.326	(3.622)	229			
-0.700***	(0.157)	375	-0.141	(0.188)	1,054	-0.445*	(0.263)	229			
-0.979***	(0.172)	375	-0.072	(0.164)	1,054	-0.165	(0.298)	229			
-0.111	(0.086)	375	-0.061	(0.039)	1,054	-0.062	(0.155)	229			
-0.089*	(0.053)	375	-0.065*	(0.037)	1,054	-0.032	(0.156)	229			
2.657***	(0.713)	375	-0.020	(0.251)	1,054	-1.822*	(0.993)	229			
2.422***	(0.610)	375	-0.481	(0.320)	1,054	-2.316**	(1.054)	229			
-0.660*	(0.362)	375	0.037	(0.315)	1,090	-0.282	(0.216)	229			
-0.122**	(0.055)	305	-0.047	(0.046)	1,060	0.042	(0.046)	192			
4.236**	(1.730)	375	-6.631	(5.689)	1,044	-8.533	(10.175)	229			
0.205***	(0.047)	375	-0.107*	(0.057)	1,044	-0.278	(0.193)	229			
	Image: Construction Coeff COEF -0.325*** -0.755**** -0.393*** -0.250* 8.884**** -0.700**** -0.979**** -0.111 -0.089* 2.657**** 2.422**** -0.660* -0.122*** -0.205*** 0.205****	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$			

Panel A. Balance across Soviet districts in Central Asia and Russia

Panel B. Balance across Russian empire counties in Central Asia

		(1)		(2)			(3)		
Main Explanatory Var.:	Deportat	tions dum	my	Share of Protestant deportees			Share of Protestant deportees		
Sample:	All counties			All counties with deportations			Countries with deport.&PSUs		
PLACEBO OUTCOME VAR	COEF	SE	Ν	COEF	SE	Ν	COEF	SE	Ν
Share of Muslims	0.074	(0.045)	44	-0.039	(0.164)	39	0.009	(0.118)	30
Share of Protestants	0.001	(0.002)	44	-0.007	(0.004)	39	-0.001	(0.003)	30
Share of Catholic Christians	-0.054**	(0.027)	44	0.063	(0.076)	39	0.030	(0.059)	30
Share of Orthodox Christians	-0.063	(0.043)	44	-0.004	(0.123)	39	-0.002	(0.112)	30
Share of Germans	0.001	(0.002)	44	-0.006	(0.004)	39	-0.002	(0.003)	30
Share of Russians	-0.066	(0.041)	44	0.034	(0.158)	39	-0.011	(0.113)	30
Share of literate females	-0.013**	(0.006)	44	0.021	(0.025)	39	-0.003	(0.008)	30
Share of merchants and artisans	0.009	(0.009)	44	-0.021	(0.021)	39	0.024	(0.024)	30
Share working in agriculture	-0.011*	(0.006)	44	0.022	(0.025)	39	-0.009	(0.023)	30
Share working in industry	-0.003	(0.003)	44	-0.010	(0.014)	39	-0.019	(0.013)	30
Share working in services/trade	-0.001	(0.000)	44	-0.002	(0.002)	39	-0.002	(0.002)	30
Share in white collar jobs	-0.000	(0.000)	44	-0.002***	(0.001)	39	-0.001	(0.001)	30

Note: *** p<0.01, ** p<0.05, * p<0.1. Standard errors are corrected for potential spatial correlation within a 150km radius following Conley (1999). Regressions with the share of Protestant deportees as the main explanatory variable control for shares of all other deportee groups (except for Sunni Muslims) and the log of the total size of deportations in all regressions in both panels. In addition, we control for distance to capital city, distance to the railroad, and summer and winter precipitation in all regressions involving non-geographical variables. In Panel A (where the Soviet district as the unit of analysis), we also control for region fixed effects, except when the outcome variable comes from 1897 census, i.e., for population density and the share living in cities, because for these variables there is less within-region variation.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		
	Chose t	o disagree or strong	y disagree (on 4-point Likert	scale) with t	he statement:	1st Principle Component			
	A woman most of th	A woman should always do most of the household chores the money in the family the money in the family most of the household chores the money in the family the money in the family the money do the money in the family the money is the money of the money in the family the money of the money is the money of the money in the family the money of t						ve attitudes l b/w 0 and 1		
Panel A. Specification 1, in levels. Sample: all localities.										
Protestant deportees (ln)	0.024***	0.017***	0.018**	0.020***	0.037***	0.024***	0.027***	0.022***		
	(0.005)	(0.006)	(0.009)	(0.006)	(0.009)	(0.004)	(0.005)	(0.003)		
Muslim deportees (ln)	-0.011*	-0.024***	-0.012	-0.009	-0.008	0.003	-0.010*	-0.011*		
	(0.007)	(0.008)	(0.007)	(0.008)	(0.007)	(0.009)	(0.006)	(0.006)		
Muslim or Protestant deportation	-0.060	0.126^{*}	-0.043	0.011	-0.062	-0.041	-0.063	0.029		
	(0.065)	(0.067)	(0.063)	(0.076)	(0.075)	(0.077)	(0.054)	(0.059)		
Observations	3,133	2,268	3,103	2,260	3,070	2,234	2,996	2,170		
R-squared	0.171	0.168	0.113	0.143	0.196	0.157	0.146	0.173		
<i>p</i> -value: β (Protest.) = β (Musl.)	0.00***	0.00***	0.007***	0.00***	0.00***	0.02**	0.00***	0.00***		
<i>p</i> -value: β (Protest.) = $-\beta$ (Musl.)	0.20	0.56	0.57	0.30	0.012**	0.009***	0.02**	0.20		
Mean of dependent var.	0.161	0.179	0.203	0.163	0.247	0.186	0.205	0.176		
SD of dependent var.	0.368	0.384	0.403	0.369	0.431	0.389	0.270	0.260		

 Table 2: Attitudes toward the role of women

Panel B. Specification 2	in shares.	Sample:	localities	with	ethnic	deportations.
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Share of Protestant deportees	0.146^{**} (0.061)	$\begin{array}{c} 0.240^{***} \\ (0.073) \end{array}$	$\begin{array}{c c} 0.111 \\ (0.081) \end{array}$	$\begin{array}{c} 0.074 \\ (0.088) \end{array}$	$\begin{array}{c} 0.208^{*} \\ (0.111) \end{array}$	0.099 (0.089)	$\begin{array}{c c} 0.158^{**} \\ (0.064) \end{array}$	0.149^{**} (0.061)
Observations R-squared	$2,002 \\ 0.186$	$1,436 \\ 0.173$	$1,990 \\ 0.123$	$1,430 \\ 0.180$	$1,961 \\ 0.177$	$1,409 \\ 0.154$	$1,936 \\ 0.171$	$1,380 \\ 0.207$
Mean of dependent var. SD of dependent var.	$0.148 \\ 0.355$	$0.163 \\ 0.370$	0.203 0.402	$0.161 \\ 0.368$	0.246 0.431	$0.208 \\ 0.406$	0.199 0.279	$0.176 \\ 0.268$
Region FE and controls Sample - gender	\checkmark Female	✓ Male	✓ Female	✓ Male	✓ Female	✓ Male	✓ Female	✓ Male

Note: *** p<0.01, ** p<0.05, * p<0.1. Panel A presents our main specification in levels. All regressions control for the size of all other deportee groups. Panel B presents the specification in shares. All regressions control for the share of all other deportee groups (excluding Sunni Muslims) and the total size of deportations. In both panels, the sample is restricted to all Asian Muslims or Russian Orthodox respondents, and in Panel B the sample is further restricted PSUs within 30km of a deportation. All regressions are conditional on religious group dummies and region fixed effects and on a set of individual controls (age, education and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). Standard errors are corrected for spatial correlation within a 150km radius following Conley (1999). The dependent variable in columns (7) and (8) is the first principal component of questions used in columns (1) to (6), normalized to a range between 0 and 1.

	(1)	(2)	(3)	(4)	(5)	(6)				
	Tried to busin	start a iess	Member rights a	of women's ssociation	Same or higher education aspirations for daughter vs son					
Panel A. Specification 1, in levels. Sample: all localities.										
Protestant deportees (ln)	0.011**	-0.003	0.006**	0.010***	0.002	-0.003				
	(0.004)	(0.003)	(0.003)	(0.004)	(0.005)	(0.004)				
Muslim deportees (ln)	-0.015***	0.002	-0.003	-0.005	-0.004	-0.014***				
	(0.004)	(0.006)	(0.005)	(0.006)	(0.006)	(0.005)				
Muslim or Protestant deportation	-0.011	-0.023	-0.004	-0.018	-0.042	0.092^{*}				
	(0.042)	(0.049)	(0.032)	(0.041)	(0.050)	(0.049)				
Observations	3,190	2,319	3,190	2,319	2,929	2,176				
R-squared	0.0540	0.0732	0.0520	0.142	0.0698	0.0858				
p -value: $\beta(Protestant) = \beta(Muslim)$	0.00***	0.51	0.08**	0.04**	0.22	0.09*				
<i>p</i> -value: β (Protestant) = $-\beta$ (Muslim)	0.51	0.92	0.63	0.42	0.88	0.01**				
Mean of dependent var.	0.111	0.172	0.0445	0.0310	0.894	0.864				
SD of dependent var.	0.314	0.378	0.206	0.173	0.308	0.343				

 Table 3: Actual behavior

Panel B. Specification 2, in shares. Sample: localities with ethnic deportations.

· ,	-			-		
Share of Protestant deportees	0.126^{*} (0.075)	-0.093 (0.063)	$0.085 \\ (0.076)$	$\begin{array}{c} 0.165^{***} \\ (0.053) \end{array}$	$\begin{array}{c} 0.074 \\ (0.090) \end{array}$	$\begin{array}{c} 0.010 \\ (0.072) \end{array}$
Observations R-squared	2,027 0.0567	$1,456 \\ 0.0826$	2,027 0.0738	$1,456 \\ 0.200$	$1,\!896 \\ 0.0860$	$1,382 \\ 0.0737$
Mean of dependent var. SD of dependent var.	$0.116 \\ 0.321$	$0.207 \\ 0.406$	$0.0463 \\ 0.210$	$0.0257 \\ 0.158$	$\begin{array}{c} 0.888\\ 0.316\end{array}$	$0.860 \\ 0.347$
Region FE and controls Sample - gender	\checkmark Female	✓ Male	\checkmark Female	\checkmark Male	\checkmark Female	✓ Male

Note: *** p<0.01, ** p<0.05, * p<0.1. Panel A presents our main specification in levels. All regressions control for the size of all other deportee groups. Panel B presents the specification in shares. All regressions control for the share of all other deportee groups (excluding Sunni Muslims) and the total size of deportations. In both panels, the sample is restricted to all Asian Muslims or Russian Orthodox respondents, and in Panel B the sample is further restricted PSUs within 30km of a deportation. All regressions are conditional on religious group dummies and region fixed effects and on a set of individual controls (age, education and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). Standard errors are corrected for spatial correlation within a 150km radius following Conley (1999).

	(1)	(2)	(3)	(4)	
	1st Prine	ciple Component	Tried to	start	
Dependent Var.:	Progressive	e Gender Attitudes	a business		
		Specification 1, i	n levels		
				0.001	
German deportees (ln)	0.022***	0.021***	0.010***	-0.001	
	(0.006)	(0.004)	(0.003)	(0.003)	
Chechen and Ingush deportees (ln)	-0.011**	-0.007**	-0.014***	-0.004	
	(0.005)	(0.003)	(0.005)	(0.004)	
Crimean Tatars and Turk-Meskhetians deportees (ln)	-0.003	-0.007	-0.014***	0.007	
	(0.006)	(0.007)	(0.004)	(0.005)	
Muslim or Protestant Deportation	-0.060	0.014	-0.006	-0.035	
	(0.049)	(0.053)	(0.040)	(0.028)	
Observations	2,996	2,170	$3,\!190$	2,319	
R-squared	0.146	0.172	0.0562	0.0742	
p -value: $\beta(Chechens) = \beta(Tatars and Turks)$	0.14	0.96	0.99	0.09*	
Region FE and controls	\checkmark	\checkmark	\checkmark	\checkmark	
Sample - all localities	\checkmark	\checkmark	\checkmark	\checkmark	
Sample - gender	Female	Male	Female	Male	
Mean of dependent var.	0.205	0.176	0.111	0.172	
SD of dependent var.	0.270	0.260	0.314	0.378	

Table 4: The effect of exposure to Germans and separately to Chechens and Crimean Tatars and Turk-Meskhetians

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the main specification in levels, where deportees are grouped by their ethnicity, instead of traditional religion. All regressions control for the size of all other deportee groups. The sample is restricted to all Asian Muslims or Russian Orthodox respondents, and in Panel B the sample is further restricted PSUs within 30km of a deportation. All regressions are conditional on religious group dummies and region fixed effects and on a set of individual controls (age, education and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). Standard errors are corrected for spatial correlation within a 150km radius following Conley (1999).

	(1) (2) Respondent's mother completed tertiary education		
Panel A. Specification 1, in levels. Sample: all localities.			
Mother finished school BEFORE deportations \times Protestant deportees (ln)	-0.004		
Mother finished school BEFORE deportations \times Muslim deportees (ln)	(0.003) (0.002) (0.005)		
Mother in school DURING/AFTER deportations \times Protestant deportees (ln)	0.006^{**} (0.003)		
Mother in school DURING/AFTER deportations \times Muslim deportees (ln)	-0.008^{*} (0.005)		
Mother finished school BEFORE WWII \times Protestant deportees (ln)		-0.005 (0.005)	
Mother finished school BEFORE WWII \times Muslim deportees (ln)		$0.001 \\ (0.005)$	
Mother in school DURING WWII \times Protestant deportees (ln)		-0.001 (0.005)	
Mother in school DURING WWII \times Muslim deportees (ln)		-0.004 (0.005)	
Mother in school AFTER WWII × Protestant deportees (ln)		0.007^{**} (0.003)	
Mother in school AFTER WWII \times Muslim deportees (ln)	0.001	-0.009^{*} (0.005)	
Muslim or Protestant Deportation	(0.001) (0.034)	(0.002) (0.034)	
Observations R-squared	5,547 0 196	5,547 0 197	
n -value - $BEFORE: \beta(Protestant) = \beta(Muslim)$	0.355	0.351	
p -value - $AFTER: \beta(Protestant) = \beta(Muslim)$	0.004***	0.003***	
Mean of dependent var.	0.142	0.142	
SD of dependent var.	0.349	0.349	

Table	5:	Pre-	and	post-treatment	outcome.	mothers'	educational	attainment
Table	υ.	1 10-	anu	post-ucauntun	outcome.	mountra	Cuucanona	autamment

Panel B. Specification 2, in shares. Sample: localities with ethnic deportations.

Mother finished school BEFORE deportations \times Share of Protestant deportees	-0.024 (0.047)		
Mother in school DURING/AFTER deportations \times Share of Protestant deportees	0.076^{**} (0.037)		
Mother finished school BEFORE WWII \times Share of Protestant deportees	. ,	-0.023 (0.047)	
Mother in school DURING WWII \times Share of Protestant deportees		0.008 (0.056)	
Mother in school AFTER WWII \times Share of Protestant deportees		(0.030) (0.083^{**}) (0.039)	
Observations	3,320	3,320	
R-squared	0.208	0.209	
Mean of dependent var.	0.148	0.148	
SD of dependent var.	0.355	0.355	
Region and birth-year FE and controls; sample - all genders	\checkmark	\checkmark	_

Note: Panel A presents our main specification in levels. All regressions control for the size of all other deportee groups. Panel B presents the specification in shares. All regressions control for the share of all other deportee groups (excluding Sunni Muslims) and the total size of deportations. In both panels, the sample is restricted to representatives of the majority group in each country. All regressions are conditional on religious group dummies and region fixed effects and on a set of individual controls (gender of respondent and mother's predicted age) and geographic controls (population density in 1897, distance to the closest railroad, capital city and gulag, past/current capital and current urban status, ruggedness, and the average long-run summer precipitation and temperature). Standard errors are corrected for spatial correlation within a 150km radius following Conley (1999) The thresholds for mother's birth year that define groups are as follows: in column 1, it is 1926/1927; in column 2, they are 1926/1927 and 1929/1930.

	(1)	(2)	(3)	(4)	(5)	(6)				
Dependent Var.:	1st princip	al component	Tried to start	1st princip	al component	Tried to start				
	Gender	attitudes	a business	Gender	attitudes	a business				
Sample:		Muslims		O1	rthodox Chri	istians				
Panel A. Specification 1, in levels. Sample: all localities.										
Protestant deportees (ln)	0.030***	0.022***	0.008**	0.016	0.020	0.028***				
	(0.005)	(0.003)	(0.004)	(0.012)	(0.020)	(0.007)				
Muslim deportees (ln)	-0.017^{*}	-0.007	-0.015**	-0.014*	-0.006	-0.021***				
	(0.010)	(0.009)	(0.007)	(0.008)	(0.012)	(0.007)				
Muslim or Protestant deportation	-0.036	0.000	0.007	0.048	0.078	-0.088				
	(0.087)	(0.077)	(0.069)	(0.099)	(0.154)	(0.057)				
Observations	2,166	1,753	2,295	827	416	892				
R-squared	0.184	0.192	0.0644	0.138	0.179	0.108				
<i>p</i> -value: β (<i>Protestant</i>) = β (<i>Muslim</i>)	0.00***	0.00***	0.00***	0.019**	0.27	0.00***				
Mean of dependent var.	0.189	0.161	0.118	0.254	0.231	0.0874				
SD of dependent var.	0.274	0.253	0.323	0.257	0.266	0.283				

Table 6: The effects in sub-samples of Muslims and Orthodox Christians

Panel B. Specification 2, in shares. Sample: localities with ethnic deportations.

- /	-			-		
Share of Protestant deportees	0.119^{*} (0.061)	$0.103 \\ (0.071)$	$\begin{array}{c} 0.032\\ (0.070) \end{array}$	0.508^{*} (0.285)	-0.164 (0.296)	0.396^{**} (0.162)
Observations R-squared	$1,508 \\ 0.184$	$1,194 \\ 0.212$	$1,578 \\ 0.0733$	$425 \\ 0.256$	$\begin{array}{c} 185 \\ 0.365 \end{array}$	$\begin{array}{c} 446 \\ 0.176 \end{array}$
Mean of dependent var. SD of dependent var.	$0.181 \\ 0.279$	$0.155 \\ 0.258$	$0.114 \\ 0.318$	$0.260 \\ 0.274$	0.275 0.280	0.120 0.325
Region FE and Controls Sample - Gender	$\checkmark \\ \text{Female}$	$\checkmark Male$	\checkmark Female	\checkmark Female	$\overbrace{\text{Male}}^{\checkmark}$	\checkmark Female

Note: *** p < 0.01, ** p < 0.05, * p < 0.1. Panel A and B present our main specifications in levels and shares, respectively. The sample is restricted to Muslim respondents in columns 1 to 3 and to Orthodox Christian respondents in columns 4 to 6. All regressions control for the size of all other deportee groups in Panel A and for the share of all other deportee groups (excluding Sunni Muslims) and the total size of deportations in Panel B. In both panels, all regressions are conditional on religious and ethnic group dummies and region fixed effects. All regressions are conditional on religious group dummies and region fixed effects and on a set of individual controls (age, education and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). Standard errors are corrected for potential spatial correlation within a 150km radius following Conley (1999).

	(1)	(2)	(3)	(4)	(5)	(6)	
Dependent Var.:	Hig	High or moderate trust in religious institutions					
Sample:		Muslims		Ortho	odox Chris	tians	
Protestant deportees (\ln)	-0.025**	-0.026**	-0.018	0.010	0.013	-0.014	
	(0.012)	(0.013)	(0.013)	(0.014)	(0.016)	(0.025)	
Muslim deportees (ln)	-0.020	-0.018	-0.021	-0.025**	-0.040***	0.006	
	(0.014)	(0.014)	(0.018)	(0.011)	(0.012)	(0.020)	
Muslim or Protestant deportation	0.255^{*}	0.208*	0.273	0.054	0.044	0.071	
	(0.152)	(0.121)	(0.202)	(0.123)	(0.127)	(0.184)	
Observations	3,508	1,916	1,592	1,172	771	400	
R-squared	0.0945	0.108	0.126	0.129	0.143	0.197	
	0.660	0 500	0 801	0.005**	0 000***	0.100	
$\underline{p\text{-value: }\beta(Protestant) = \beta(Muslim)}$	0.668	0.578	0.794	0.025**	0.003***	0.489	
Mean of dependent var.	0.543	0.542	0.544	0.387	0.407	0.349	
SD of dependent var.	0.498	0.498	0.498	0.487	0.492	0.477	
Region FE and controls	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	
Sample - all PSUs	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	
Sample - gender	Both	Female	Male	Both	Female	Male	

 Table 7:
 Trust in own religious institutions

Note: *** p < 0.01, ** p < 0.05, * p < 0.1. The table presents the effect of the size of Protestant and Sunni Muslim deportees on trust in own religious institutions. The dependent variable is a dummy for a response of "Some trust" or "Complete trust ' to the question "To what extent do you trust religious institutions." All regressions control for the size of all other deportee groups. All regressions are conditional on religious group dummies and region fixed effects and on a set of individual controls (age, education and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). In columns 1 and 4, we also control for a gender dummy. Standard errors are corrected for potential spatial correlation within a 150km radius following Conley (1999).

Dependent Var.:	1st Princip Gender	le Component Attitudes	Tried to start a business						
Panel A. Specification 1, in levels. Sample: all localities.									
Protestant Deportees (ln)	0.017**	0.012**	0.015**						
	(0.007)	(0.006)	(0.006)						
Muslim Deportees (ln)	-0.009	-0.000	-0.018***						
	(0.008)	(0.006)	(0.006)						
Muslim or Protestant Deportation	-0.021	0.010	0.012						
	(0.071)	(0.064)	(0.041)						
Observations	1,658	$1,\!177$	1,735						
R-squared	0.211	0.247	0.0860						
p-value: $Protestant = Muslim$	0.009***	0.149	0.000***						
Mean of dependent var.	0.208	0.160	0.108						
SD of dependent var.	0.271	0.248	0.310						

Table 8: Test for whether differential in-migration drives the results:The sample of ancestors of respondents who lived in 1939 in the same region as respondents

Panel B. Specification 2, in shares. Sample: localities with deportations.

Share of Protestant deportees	0.039	0.087*	0.195**
	(0.099)	(0.045)	(0.085)
Observations	1 120	803	1 153
R-squared	0.223	0.270	0.104
Sample - PSUs with deportations	\checkmark	\checkmark	\checkmark
Mean of dependent var.	0.185	0.149	0.114
SD of dependent var.	0.270	0.248	0.318
Region FE and Controls	\checkmark	\checkmark	\checkmark
Sample - Gender	Female	Male	Female

Note: *** p<0.01, ** p<0.05, * p<0.1. Panel A and B present our main specifications in levels and shares, respectively. The sample is restricted to respondents whose ancestors lived in 1939 the same region as the respondents. All regressions control for the size of all other deportee groups in Panel A and for the share of all other deportee groups (excluding Sunni Muslims) and the total size of deportations in Panel B. In both panels, all regressions are conditional on religious and ethnic group dummies and region fixed effects. All regressions are conditional on religious group dummies and region fixed effects and on a set of individual controls (age, education and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). Standard errors are corrected for potential spatial correlation within a 150km radius following Conley (1999).

Table 9: Test for the differential out-migration:

Dependent Var.:	Respondent's	region different from that of ancestor
Protestant deportees in ancestor's region (ln)	-0.010	-0.010
	(0.024)	(0.027)
Protestant deportees in ancestor's region (ln) \times Ancestor from Russia		-0.030
		(0.061)
Muslim deportees in ancestor's region (ln)	0.047^{**}	0.051^{**}
	(0.021)	(0.025)
Muslim deportees in ancestor's region (ln) \times Ancestor from Russia		-0.026
		(0.045)
Observations	8,367	8,367
R-squared	0.318	0.319
Mean of dependent var.	0.374	0.374
SD of dependent var.	0.484	0.484
Country of destination and country of origin FEs	\checkmark	\checkmark
Number of PSUs in region	\checkmark	\checkmark
Clustered by region of origin and by respondent	\checkmark	\checkmark
Sample - regions of origin with deportations	\checkmark	\checkmark
Sample - ancestor's side	Both	Both

The sample of respondents, whose ancestors lived in 1939 in the regions that became the destinations of ethnic deportation

Note: *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is a dummy equal to one if the respondent lives in a different region than the region of residence of his/her ancestors in 1939. The unit of analysis is respondent's ancestor. The sample is comprised of all ancestors from regions with Protestant or Muslim deportation. All regressions control for the size of all other deporte groups, 1897 population density, the number of LiTs PSUs in the region, and the gender of the parent. The regressions also control for country of destination fixed effect and country of origin fixed effects. Two-way clusters are applied: by respondent and by the region of origin of ancestor.

A Online Appendix

	The number of ethnic deportees by religion and destination						
				Soviet republ	ic of destinati	on	
Ethnicity ($\%$ in religious group):	All	Russia	Kazakhstan	Uzbekistan	Kyrgyzstan	Tajikistan	Turkmenistan
Protestants:	52.5%	30.8%	19.6%	0.3%	0.7%	0.9%	0.1%
Germans (96.5%)	1,095,978	627,131	423,185	6,424	15,877	21,012	2,349
Latvians	35,707	35,707	-	-	-	-	-
Estonians	3,790	3,790	-	-	-	-	-
Sunni Muslims:	34.7%	2.3%	19.0%	7.4%	5.8%	0.2%	-
Chechens and Ingush (59.9%)	450,119	411	375,300	98	74,272	38	-
Crimean Tatars (24.6%)	184,822	44,429	6,465	127,999	1,118	4,804	7
Turk-Meshketians (10.0%)	75,450	4,518	30,032	31,333	9,567	-	-
Karachay	25,415	-	-	-	25,415	-	-
Balkar	15,093	-	-	-	15,093	-	-
Catholics and Jews:	6.6%	4.6%	2.0%	-	-	-	-
Lithuanians	78,921	78,921	-	-	-	-	-
Poles (Catholics and Jews)	43,814	7	43,807	-	-	-	-
Baltic	19,884	19,881	3	-	-	-	-
Orthodox:	3.1%	1.4%	1.7%	-	-	-	-
Greeks	36,776	-	36,767	-	9	-	-
Moldavians	29,988	29,988	-	-	-	-	-
Buddhists:	2.9%	2.7%	0.1%	0.04%	-	-	-
Kalmyk	62,251	58,749	2,374	756	262	105	5
Shia Muslims:	0.2%	-	0.2%	-	-	-	-
Iranians	4,460	-	4,460	-	-	-	-
Number of destination							
districts, by republic	1,131	774	190	97	55	12	3

Table A1: Ethnic deportees in 1951, by religion and destination

Notes: "Chechens and Ingush" refers mostly to Chechens and some Ingush. "-" denotes zero. We cannot distinguish between Poles (who were Catholics) and Jews deported from annexed territories of Poland.

	(1)	(2)	(3)	(4)	(5)	(6)		
Dependent Var.:		Literacy (or gende	rate within er \times religion	te within a gender \times ethnicity \times religion) group in a province				
Comparison group:	Male R	lussians	Male Cent	tral Asians	Male N	Iuslims		
Females	-0.225^{***} (0.008)	-0.215^{***} (0.005)	-0.032^{***} (0.005)	-0.093^{***} (0.004)	-0.037^{***} (0.005)	-0.115^{***} (0.011)		
Germans	0.242^{***} (0.031)	0.104^{***} (0.026)	0.376^{***} (0.053)	0.446^{***} (0.056)		× ,		
Chechens	-0.211*** (0.012)	-0.221^{***} (0.014)	-0.067*** (0.024)	0.118*** (0.029)				
Female \times Germans	0.208^{***} (0.011)	0.184^{***} (0.010)	0.016^{*} (0.009)	0.062^{***} (0.009)				
Female \times Chechens	0.184^{***} (0.009)	-0.060*** (0.007)	-0.009 (0.006)	-0.182*** (0.007)				
Protestants	()				0.329^{***} (0.033)	0.341^{***} (0.033)		
Female \times Protestants					$\begin{array}{c} 0.034^{***} \\ (0.010) \end{array}$	(0.091^{***}) (0.015)		
Observations	272	274	173	171	219	229		
R-squared	0.864	0.838	0.949	0.948	0.943	0.943		
Clusters by province	\checkmark	\checkmark	\checkmark	\checkmark	 ✓ 	\checkmark		
Literacy rates by gender in province	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		
Locality type	Rural	Urban	Rural	Urban	Rural	Urban		
Mean literacy of comparison group SD for literacy of comparison group	0.310 0.0848	$0.579 \\ 0.0643$	$0.0371 \\ 0.0308$	$0.136 \\ 0.0478$	0.119 0.0987	$0.270 \\ 0.0966$		
			•					

Table A2: Pre-existing differences in the literacy rate, 13	1897 Russian Empire Cen	sus
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Note: *** p<0.01, ** p<0.05, * p<0.1. The table present the pre-existing differences in gender gap in literacy across the main ethnic groups of deportees and of the local population. Columns 1 to 4 of the Table present regressions by gender × ethnic group × province. The dependent variable in columns 1 to 4 is the literacy rate in a province × ethnicity × gender subgroup of the population. We regress it on a set of dummies indicating whether the subgroup is female, which ethnic group it is, and the interactions between females and considered ethnic groups. In columns 1 and 2, the sample consists of Germans, Chechens and Russians, so that the comparison group is Russian males; and in columns 3 and 4 the sample consists of Germans, Chechens and Central Asians, so that the comparison group is males of Central Asian origin. Columns 5 and 6 present the pre-existing differences in gender gaps in literacy between Muslim and Protestant groups that were subsequently deported. The dependent variable in columns 5 and 6 is the literacy rate in a province × religion × gender subgroup of the population. We regress it on a set of dummies indicating whether the subgroup is female, Protestant, and the interaction between females and Protestants, leaving Muslim males as the comparison subgroup of the population. In all regressions, we control for the average literacy rate of the entire population in each province by gender and correct standard errors for clusters at the province level. Each observation is weighted by the number of people in it, i.e., in the province × ethnicity × gender group in columns 1 to 4 and in the province × religion × gender group in columns 5 and 6.

Table A3:	Contemporary	differences in	gender	norms, 2016	Life in	Transition	Survey ((LiTs))
	1 1		0					<hr/>	

Dependent Var.:	Chose to disagree or strongly agree (on a 4 point Likert scale) with the statement:						
	A woman should always do most of the household chores	It is better if the man earns the money in the family	Men make better political leaders than women do				
Protestant dummy	0.372***	0.205***	0.228***				
(Muslims are the comparison group)	(0.013)	(0.014)	(0.015)				
Observations R-squared	$10,523 \\ 0.128$	10,457 0.0358	$10,345 \\ 0.0561$				
Mean of dependent var.	0.349	0.349	0.349				
SD of dependent var.	0.478	0.478	0.478				
Socio-demographic controls	\checkmark	\checkmark	\checkmark				

Note: *** p < 0.01, ** p < 0.05, * p < 0.1. The Table presents average differences between gender norms of all Protestant and all Muslim respondents in the Life in Transition 2016 Survey (LiTs). The dependent variables are dummies indicating disagreement with the three statements regarding gender roles in the family and society. Observations are respondents in the LiTs survey. The sample is limited to Protestant and Muslim respondents. Controls include the age, gender, education, and log of income of the respondent. Robust standard errors are presented in parentheses.

Table A4:	Summary	statistics
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Sample:		All PSUs			PSUs with deportations			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Main outcomes:								
Disagree: A woman should do most of the household chores	0.17	0.38	0.00	1.00	0.15	0.36	0.00	1.00
Disagree: It is better for everyone if the man earns the money	0.19	0.39	0.00	1.00	0.18	0.39	0.00	1.00
Disagree: Men make better political leaders	0.22	0.42	0.00	1.00	0.23	0.42	0.00	1.00
Progressive gender attitude (1st PC)	0.19	0.27	0.00	1.00	0.19	0.27	0.00	1.00
Tried to start a business	0.14	0.34	0.00	1.00	0.15	0.36	0.00	1.00
Member of a women's rights association	0.04	0.19	0.00	1.00	0.04	0.21	0.00	1.00
University aspirations for daughter compared to son	0.88	0.33	0.00	1.00	0.88	0.33	0.00	1.00
Mother completed tertiary education	0.13	0.34	0.00	1.00	0.14	0.35	0.00	1.00
Main treatment:								
Share of Protestant deportees (30km radius)	0.19	0.31	0.00	1.00	0.31	0.34	0.00	1.00
Share of (Sunni) Muslim deportees (30km radius)	0.39	0.42	0.00	1.00	0.63	0.37	0.00	1.00
Nb of Protestant Deportees (30km radius)	1205.63	2643.90	0.00	22221.00	1945.85	3137.25	0.00	22221.00
Nb of (Sunni) Muslim Deportees (30km radius)	3099.79	5011.73	0.00	24787.00	5002.96	5569.44	0.00	24787.00
Controls:								
Protestant or Muslim deportation dummy (30km radius)	0.62	0.49	0.00	1.00	1.00	0.00	1.00	1.00
Share of Catholic deportees (30km radius)	0.01	0.04	0.00	0.65	0.01	0.05	0.00	0.65
Share of Buddhist deportees (30km radius)	0.00	0.04	0.00	0.53	0.01	0.05	0.00	0.53
Share of Orthodox deportees (30km radius)	0.01	0.06	0.00	0.65	0.01	0.07	0.00	0.65
Share of Shia Muslim deportees (30km radius)	0.00	0.00	0.00	0.07	0.00	0.01	0.00	0.07
Share of non-ethnic deportees (30km radius)	0.02	0.12	0.00	1.00	0.03	0.12	0.00	0.97
Nb of Catholic Deportees (30km radius)	42.25	270.18	0.00	3902.00	68.19	340.67	0.00	3902.00
Nb of Buddhist Deportees (30km radius)	19.76	144.03	0.00	1891.00	31.89	181.92	0.00	1891.00
Nb of Orthodox Deportees (30km radius)	68.20	503.82	0.00	10381.00	110.08	636.49	0.00	10381.00
Nb of Shia Muslim Deportees (30km radius)	10.37	85.01	0.00	1335.00	16.74	107.51	0.00	1335.00
Non-ethnic deportees (30km radius)	192.90	954.90	0.00	10015.00	304.64	1195.40	0.00	10015.00
Nb of ethnic deportees (30km radius)	4638.90	6494.71	0.00	34100.00	7480.35	6844.45	1.00	34100.00
Age of respondent	43.27	15.36	18.00	95.00	42.98	15.03	18.00	93.00
Highest education completed	4.77	1.20	1.00	8.00	4.78	1.18	1.00	8.00
Male dummy	0.42	0.49	0.00	1.00	0.42	0.49	0.00	1.00
Household net monthly income (ln)	10.43	2.65	0.00	17.43	10.91	2.66	0.00	17.43
Predicted mother's age	69.90	16.34	43.00	123.00	69.62	16.01	43.00	121.00
Population density in 1897 (sq km)	33.75	110.10	0.16	810.61	12.44	11.85	0.16	74.64
Capital (old or new)	0.13	0.34	0.00	1.00	0.16	0.37	0.00	1.00
Distance to railroad (km)	16.35	29.16	0.00	162.31	10.26	17.80	0.00	142.41
Urban	0.44	0.50	0.00	1.00	0.49	0.50	0.00	1.00
Ruggedness	75.49	22.27	9.88	99.72	78.34	17.93	26.85	99.72
Travel distance to capital city (km)	440.42	709.35	0.00	6057.08	352.59	575.25	0.00	5970.96
Distance to Gulag (km)	138.42	110.68	1.16	458.49	134.30	112.91	1.16	427.38
Distance to water (km)	12.23	12.88	0.00	95.04	11.20	10.16	0.00	54.94
Precipitation (June-August)	23.49	24.54	0.41	118.28	19.67	20.61	0.43	118.28
Temperature (June-August)	21.37	4.79	-1.28	28.71	22.51	4.13	6.66	28.56
Precipitation (Dec-Feb)	34.95	16.03	8.66	111.53	33.07	14.73	9.51	111.53
Temperature (Dec-Feb)	-4.61	6.42	-21.57	4.60	-3.71	6.44	-20.66	4.60
Soil Suitability, high inputs	2.90	1.57	1.00	7.64	2.62	1.19	1.00	6.07
Soil Suitability, low inputs	3.42	1.21	1.03	7.62	3.25	0.95	1.27	6.84
Observations		65	85			40	80	

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	Chose to	disagree or strong	y disagree	(on 4-point Likert	scale) with	the statement:	1st Princip	le Component	
	A woman most of th	should always do e household chores	It is bette the mor	er if the man earns ney in the family	s Men make leaders t	better political han women do	Progressi Normalized	ive attitudes d b/w 0 and 1	
Panel A. Specification 1, in levels. Sample: all localities.									
Protestant deportees (ln)	0.027***	0.015***	0.018**	0.019***	0.035***	0.016***	0.027***	0.017***	
	(0.004)	(0.005)	(0.008)	(0.007)	(0.009)	(0.006)	(0.004)	(0.004)	
Muslim deportees (ln)	-0.010	-0.017*	-0.003	-0.006	-0.012*	0.000	-0.008	-0.008	
	(0.008)	(0.009)	(0.008)	(0.008)	(0.007)	(0.008)	(0.006)	(0.006)	
Muslim or Protestant deportation	-0.082	0.092	-0.074	-0.015	-0.061	-0.018	-0.076	0.019	
-	(0.068)	(0.063)	(0.062)	(0.075)	(0.069)	(0.079)	(0.053)	(0.053)	
Observations	2,679	2,004	2,656	1,995	2,635	1,978	2,572	1,924	
R-squared	0.202	0.165	0.129	0.146	0.188	0.152	0.166	0.166	
<i>p</i> -value: β (Protestant) = β (Muslim)	0.00***	0.00***	0.04**	0.00***	0.00***	0.08*	0.00***	0.00***	
<i>p</i> -value: β (Protestant) = $-\beta$ (Muslim)	0.103	0.89	0.21	0.31	0.03**	0.14	0.02**	0.25	
Mean of dependent var.	0.161	0.174	0.205	0.164	0.246	0.176	0.206	0.170	
SD of dependent var.	0.368	0.380	0.404	0.370	0.431	0.381	0.271	0.256	

Table A5: Robustness of Table 2 to using the sub-sample of respondents with the "title" ethnicity

Panel B.	Specification	2.	in shares.	Sample:	localities	with	ethnic	deportations.
		- 7						

Share of Protestant deportees	$\begin{array}{c} 0.189^{***} \\ (0.045) \end{array}$	0.230^{***} (0.056)	$\begin{array}{c c} 0.117^* \\ (0.061) \end{array}$	0.179^{**} (0.091)	0.199^{*} (0.115)	0.078 (0.079)	$\begin{array}{c c} 0.160^{***} \\ (0.050) \end{array}$	$\begin{array}{c} 0.163^{***} \\ (0.053) \end{array}$
Observations R-squared	$1,643 \\ 0.233$	$1,238 \\ 0.190$	$1,636 \\ 0.137$	$1,236 \\ 0.156$	$1,621 \\ 0.182$	$1,217 \\ 0.146$	$1,599 \\ 0.203$	$1,193 \\ 0.195$
Mean of dependent var. SD of dependent var.	$0.149 \\ 0.356$	$0.158 \\ 0.365$	0.204 0.403	$0.155 \\ 0.362$	0.231 0.422	$0.186 \\ 0.389$	0.195 0.280	$0.163 \\ 0.261$
Region FE and controls Sample - gender	✓ Female	✓ Male	✓ Female	✓ Male	✓ Female	✓ Male	√ Female	✓ Male

Note: *** p<0.01, ** p<0.05, * p<0.1. Panel A presents our main specification in levels. All regressions control for the size of all other deportee groups. Panel B presents the specification in shares. All regressions control for the share of all other deportee groups (excluding Sunni Muslims) and the total size of deportations. In both panels, the sample is restricted to respondents of the majority group in each country, and in Panel B the sample is further restricted PSUs within 30km of a deportation. All regressions are conditional on religious group dummies and region fixed effects and on a set of individual controls (age, education and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). Standard errors are corrected for spatial correlation within a 150km radius following Conley (1999). The dependent variable in columns (7) and (8) is the first principal component of questions used in columns (1) to (6), normalized to a range between 0 and 1.

	(1)	(2)	(3)	(4)	(5)	(6)				
	Tried to busin	start a less	Member rights a	of women's association	Same educatio for dau	or higher n aspirations ghter vs son				
Panel A. Specification 1, in levels. Sample: all localities.										
Protestant deportees (ln)	0.009***	0.000	0.007*	0.010***	0.001	-0.005				
	(0.004)	(0.005)	(0.004)	(0.003)	(0.005)	(0.004)				
Muslim deportees (ln)	-0.013***	0.006	-0.003	-0.003	-0.005	-0.016***				
	(0.004)	(0.006)	(0.006)	(0.006)	(0.005)	(0.004)				
Muslim or Protestant deportation	0.007	-0.042	-0.013	-0.027	-0.031	0.108^{**}				
	(0.037)	(0.052)	(0.034)	(0.040)	(0.042)	(0.047)				
Observations	2,732	2,047	2,732	2.047	2,512	1,922				
R-squared	0.0721	0.0866	0.0673	0.113	0.0873	0.0937				
p -value: $\beta(Protestant) = \beta(Muslim)$	0.00***	0.43	0.15	0.06*	0.33	0.03**				
<i>p-value:</i> β (<i>Protestant</i>) = $-\beta$ (<i>Muslim</i>)	0.53	0.41	0.58	0.28	0.61	0.00***				
Mean of dependent var.	0.108	0.177	0.0437	0.0249	0.893	0.859				
SD of dependent var.	0.310	0.381	0.204	0.156	0.309	0.348				

Table A6: Robustness of Table 3 to using the sub-sample of respondents with "title" ethnicity

Panel B. Specification 2, in shares. Sample: localities with ethnic deportations.

· ,	-			-		
Share of Protestant deportees	$\begin{array}{c} 0.164^{***} \\ (0.052) \end{array}$	-0.067 (0.075)	$\left \begin{array}{c} 0.078\\ (0.084) \end{array} \right $	0.143^{**} (0.056)	$ \begin{array}{c c} 0.061 \\ (0.069) \end{array} $	$0.056 \\ (0.068)$
Observations R-squared	$1,669 \\ 0.0899$	$1,257 \\ 0.0911$	$1,669 \\ 0.0981$	$1,257 \\ 0.172$	$1,571 \\ 0.108$	$1,196 \\ 0.0815$
Mean of dependent var. SD of dependent var.	$0.116 \\ 0.321$	$0.207 \\ 0.406$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$0.0257 \\ 0.158$	0.888 0.316	$0.860 \\ 0.347$
Region FE and controls Sample - gender	\checkmark Female	✓ Male	√ Female	\checkmark Male		✓ Male

Note: *** p<0.01, ** p<0.05, * p<0.1. Panel A presents our main specification in levels. All regressions control for the size of all other deportee groups. Panel B presents the specification in shares. All regressions control for the share of all other deportee groups (excluding Sunni Muslims) and the total size of deportations. In both panels, the sample is restricted to respondents of the majority group in each country, and in Panel B the sample is further restricted PSUs within 30km of a deportation. All regressions are conditional on religious group dummies and region fixed effects and on a set of individual controls (age, education and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). Standard errors are corrected for spatial correlation within a 150km radius following Conley (1999).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Chose t	o disagree or strongl	y disagree	(on 4-point Likert	scale) with	the statement:	1st Princip	ole Component
	A woma	n should always do	It is bette	r if the man earns	Men make	e better political	Progress	ive attitudes
	most of th	he nousenoid chores	the mor	ley in the family	leaders t	anan women do	Normalize	d b/w 0 and 1
Panel A. Specification 1, in levels. Sample: all localities.								
Protestant deportees (ln)	0.024^{***}	0.019***	0.019**	0.021***	0.036***	0.021***	0.027***	0.021***
	(0.005)	(0.005)	(0.009)	(0.006)	(0.009)	(0.004)	(0.005)	(0.003)
Muslim deportees (ln)	-0.011*	-0.023***	-0.012*	-0.009	-0.008	0.002	-0.010*	-0.011
	(0.006)	(0.008)	(0.007)	(0.008)	(0.007)	(0.009)	(0.006)	(0.007)
Muslim or Protestant deportation	-0.064	0.116^{*}	-0.049	0.011	-0.059	-0.020	-0.066	0.035
	(0.067)	(0.070)	(0.065)	(0.080)	(0.078)	(0.079)	(0.056)	(0.063)
Observations	2,979	2,178	2,954	2,171	2,922	2,150	2,856	2,089
R-squared	0.175	0.175	0.118	0.143	0.191	0.163	0.144	0.176
p -value: $\beta(Protestant) = \beta(Muslim)$	0.00***	0.00***	0.01***	0.00***	0.00***	0.04**	0.00***	0.00***
<i>p-value:</i> $\beta(Protestant) = -\beta(Muslim)$	0.196	0.72	0.58	0.31	0.02**	0.02**	0.03**	0.24
Mean of dependent var.	0.161	0.179	0.203	0.163	0.247	0.186	0.205	0.176
SD of dependent var.	0.368	0.384	0.403	0.369	0.431	0.389	0.270	0.260
Panel B. Specification 2, in shares. Sample: localities with ethnic deportations.								

Table A7: Robustness of Table 2 with control for parent's education

	-		-					
Share of Protestant deportees	0.150^{**} (0.061)	$\begin{array}{c} 0.243^{***} \\ (0.072) \end{array}$	0.110 (0.081)	$0.102 \\ (0.087)$	$\begin{array}{c} 0.200^{*} \\ (0.113) \end{array}$	0.081 (0.090)	$\begin{array}{c c} 0.157^{**} \\ (0.064) \end{array}$	$\begin{array}{c} 0.153^{***} \\ (0.058) \end{array}$
Observations R-squared	$1,907 \\ 0.190$	$1,380 \\ 0.182$	$1,898 \\ 0.126$	$1,373 \\ 0.185$	$1,870 \\ 0.174$	$1,357 \\ 0.161$	$1,848 \\ 0.175$	$1,329 \\ 0.213$
Mean of dependent var. SD of dependent var.	$0.148 \\ 0.355$	$0.163 \\ 0.370$	0.203 0.402	0.161 0.368	0.246 0.431	$0.208 \\ 0.406$	0.199 0.279	0.176 0.268
Region FE and controls Sample - gender	\checkmark Female	✓ Male	√ Female	✓ Male	✓ Female	\checkmark Male	√ Female	✓ Male

Note: *** p<0.01, ** p<0.05, * p<0.1. Panel A presents our main specification in levels. All regressions control for the size of all other deportee groups. Panel B presents the specification in shares. All regressions control for the share of all other deportee groups (excluding Sunni Muslims) and the total size of deportations. In both panels, the sample is restricted to all Asian Muslims or Russian Orthodox respondents, and in Panel B the sample is further restricted PSUs within 30km of a deportation. All regressions are conditional on religious group dummies and region fixed effects and on a set of individual controls (age, education, parents' education, and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). Standard errors are corrected for spatial correlation within a 150km radius following Conley (1999). The dependent variable in columns (7) and (8) is the first principal component of questions used in columns (1) to (6), normalized to a range between 0 and 1.

	(1)	(2)	(3)	(4)	(5)	(6)				
	Tried to busin	start a less	Member rights a	of women's ssociation	Same educatio for daug	or higher n aspirations ghter vs son				
Panel A. Specification 1, in levels. Sample: all localities.										
Protestant deportees (ln)	0.012***	-0.000	0.007**	0.010***	-0.001	-0.005				
	(0.005)	(0.003)	(0.003)	(0.003)	(0.005)	(0.004)				
Muslim deportees (ln)	-0.016***	0.001	-0.003	-0.006	-0.004	-0.013***				
	(0.004)	(0.006)	(0.005)	(0.006)	(0.006)	(0.005)				
Muslim or Protestant deportation	-0.018	-0.029	-0.008	-0.014	-0.023	0.091^{*}				
	(0.041)	(0.047)	(0.035)	(0.039)	(0.046)	(0.048)				
Observations	3,034	2,226	3,034	2,226	2,793	2,096				
R-squared	0.0569	0.0724	0.0555	0.148	0.0681	0.0893				
p -value: $\beta(Protestant) = \beta(Muslim)$	0.00***	0.81	0.10*	0.03**	0.47	0.18				
p -value: $\beta(Protestant) = -\beta(Muslim)$	0.53	0.86	0.56	0.51	0.63	0.00***				
Mean of dependent var.	0.111	0.172	0.0445	0.0310	0.894	0.864				
SD of dependent var.	0.314	0.378	0.206	0.173	0.308	0.343				

 Table A8: Robustness of Table 3 with control for parent's education

Panel B. Specification 2, in shares. Sample: localities with ethnic deportations.

- /	-			-		
Share of Protestant deportees	0.131^{*} (0.074)	-0.087 (0.064)	0.083 (0.073)	$\begin{array}{c} 0.157^{***} \\ (0.054) \end{array}$	$ \begin{array}{c c} 0.073 \\ (0.092) \end{array} $	0.020 (0.077)
Observations R-squared	$1,932 \\ 0.0586$	$1,399 \\ 0.0838$	$1,932 \\ 0.0763$	$1,399 \\ 0.203$	$1,813 \\ 0.0823$	$1,329 \\ 0.0812$
Mean of dependent var. SD of dependent var.	$0.112 \\ 0.315$	$0.192 \\ 0.394$	$0.0513 \\ 0.221$	$\begin{array}{c} 0.0350\\ 0.184\end{array}$	$0.888 \\ 0.315$	$\begin{array}{c} 0.866\\ 0.341 \end{array}$
Region FE and controls Sample - gender	\checkmark Female	✓ Male	\checkmark Female	\checkmark Male	$\overbrace{\text{Female}}^{\checkmark}$	\checkmark Male

Note: *** p<0.01, ** p<0.05, * p<0.1. Panel A presents our main specification in levels. All regressions control for the size of all other deportee groups. Panel B presents the specification in shares. All regressions control for the share of all other deportee groups (excluding Sunni Muslims) and the total size of deportations. In both panels, the sample is restricted to all Asian Muslims or Russian Orthodox respondents, and in Panel B the sample is further restricted PSUs within 30km of a deportation. All regressions are conditional on religious group dummies and region fixed effects and on a set of individual controls (age, education, parents' education, and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). Standard errors are corrected for spatial correlation within a 150km radius following Conley (1999).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			1st pri	ncipal co	mponent		
			Progress	ive gende	r attitude	es	
Travel distance to capital city (ln)	-0.013						
Precipitation (Dec-Feb) (ln)	(0.009)	-0.082					
Temperature (June-August)		(0.002)	-0.000 (0.002)				
Temperature (Dec-Feb)			()	-0.003 (0.002)			
Soil Suitability low inputs (ln)				· · · ·	0.114 (0.077)		
Evacuated enterprise dummy						0.046^{*} (0.025)	
Share in white collar jobs							-5.048 (42.563)
Observations	3,318	3,318	3,318	3,318	3,318	3,318	2,480
R-squared	0.159	0.159	0.157	0.158	0.160	0.165	0.0944
Conley SE & Demographic and other deportee controls	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Region FE	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	,
Geographic Controls Sample - PSUs with deportations	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	√ √
Mean of dependent var.	4.793	3.435	22.51	-3.711	1.423	0.490	0.000766
SD of dependent var.	1.697	0.443	4.127	6.440	0.221	0.500	0.000297

Table A9: Correlation between unbalanced covariates and the 1st principal component of progressive gender attitudes

Note: *** p<0.01, ** p<0.05, * p<0.1. All regressions control for the share of all deportee groups (excluding Sunni Muslims). The sample is restricted to all Asian Muslims or Russian Orthodox respondents residing in a PSU within 30km of a deportation. We also include a set of individual controls (age, education and male dummy) and religious fixed effects. All regressions including non-geographic variables (columns 6 and 7) also include a set of geographic controls (distance to capital city and to the railroad and average long-run precipitation in summer and winter). All regressions, except for those where the independent variable is from the 1897 census (column 7), are conditional on region fixed effects. Standard errors are corrected for potential spatial correlation within a 150km radius following Conley (1999).

Figure A1: Destination locations of ethnic and non-ethnic deportations



(a) Deportation destinations

Note: The map presents deportation locations of all ethnic and non-ethnic deportees, as recorded in 1951 deportation census. Non-ethnic deportees were "Kulaks" and "other anti-Soviet elements."



Figure A2: Religious composition and size of ethnic deportations

Note: The map zooms into the area with the most sizeable ethnic deportations. It presents the size and the religious composition of ethnic deportations and regional boundaries.



Figure A3: Literacy gap did not decrease with literacy level across Russian empire provinces within ethnic groups

Note: The figure presents scatterplots of the estimated literacy gender gap for subsamples of ethnicities, similar to Table A2, conditional on the male literacy rate across provinces and ethnicities. Figures (a) and (b) restricts the sample to Germans and Chechens for urban and rural areas, respectively. Figures (c) and (d) also consider Russians and groups from the North-Caucuses for urban and rural areas, respectively. All regressions control for ethnic group dummies. The sample is restricted to provinces with at least 200 individuals in each ethnicity.



Figure A4: The comparison of 1951 Deportation census and 1970 USSR Census

Note: The figure presents scatter plots of the size of the deported ethnic groups by region in the 1970 Soviet Census plotted against the size of Protestant and Muslim deportations by region in the 1951 NKVD deportation census.

Figure A5: The share of Protestants and Muslims among ethnic deportees in LiTs PSUs that had an ethnic deportation in their vicinity



Note: The figure presents the religious composition of ethnic deportees across PSUs within a 30km radius to an ethnic deportation. The PSUs are in the five deportation destination countries covered by the Life in Transition 2016 survey: Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan.



Figure A6: Deportation destinations and railroads

Note: The map zooms into the area with the most sizeable ethnic deportations. It shows the location of deportation destinations and railroad network.

Figure A7: The effect of the size of Protestant and Muslim deportations, by cohort

(a) The effect on mother's tertiary education



Mother obtained tertiary education





Gender attitudes, 1st principal component

Note: Panel A presents the effect of the size of Protestant deportees and Muslim deportees on the tertiary education of mothers of respondents by mother's predicted birth cohort. Panel B presents the effect of the size of Protestant deportees and Muslim deportees on the 1st principle component of progressive gender attitudes, by birth cohort of respondent. There is a one-to-one correspondence between birth cohorts of respondents and birth cohorts of the mothers. The coefficients and 90% confidence intervals displayed are from the OLS regressions described in the text. Individual and destination location controls are included. Standard errors are corrected for potential spatial correlation within a radius of 150km following Conley (1999). The two vertical lines on Panels A and B mark three groups of respondents mothers: 1) those with no exposure (i.e., respondents' mothers finished secondary school before deportations occurred); 2) possible exposure (i.e., mothers were about to finish secondary school at the time of deportations) and 3) full exposure (i.e., mother went to school after the deportations took place).

Figure A8: Robustness of the effect of the share of Protestant deportees to using different thresholds for travel distance to deportees



(a) The effect on gender attitudes

(b) The effect on entrepreneurship among women



Note: The figure presents the effect of the share of Protestant deportees on on the 1st principle component of progressive gender attitudes (Panel A), separately for males and females, and on a dummy for having tried to start a business, among female respondents (Panel B). The coefficients and 95% confidence intervals displayed are from OLS regressions that control for the share of all other deportee groups (excluding Sunni Muslims) and the total size of deportations at various distance thresholds (N=10km, 20km, 30km, 40km or 50km). The sample is restricted to all Asian Muslims or Russian Orthodox respondents residing in a PSU within N km of a deportation. In both panels, all regressions are conditional on religious group dummies and region fixed effects. The regressions also include a set of individual controls (age, education and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). Standard errors are corrected for spatial correlation within a 150km radius following Conley (1999).

Figure A9: Robustness of the effect of the number of Protestant and Muslim deportees to using different thresholds for travel distance to deportees

(a) The effect on gender attitudes of Protestant deportees

(b) The effect on gender attitudes of Muslim deportees



(c) The effect on entrepreneurship among women of Protestant and Muslim deportees



Dep. Var.: Tried to start a business (only for women)

Note: The figure presents the effect of the level of Protestant deportees and Muslim deportees on the 1st principle component of progressive gender attitudes (Panels A and B), separately for males and females, and on a dummy for having tried to start a business, among female respondents (Panel C). The coefficients and 95% confidence intervals displayed are from OLS regressions that control for the size of all other deportee groups and a dummy for a Protestant or Muslim deportation at various distance thresholds (N=10km, 20km, 30km, 40km or 50km). The sample is restricted to all Asian Muslims or Russian Orthodox respondents residing in a PSU within N km of a deportation. All regressions are conditional on religious group dummies and region fixed effects. The regressions also control for a set of individual controls (age, education and log of income) and geographic controls (population density in 1897, distance to the closest railroad, capital city, water and gulag, past/current capital and current urban status, ruggedness, soil suitability for high and low inputs, and average long-run precipitation and temperature in summer and winter). Standard errors are corrected for spatial correlation within a 150km radius following Conley (1999).