

Geographical Mobility as a Bridge to Opportunity: Evidence from the Spanish Military Service*

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Abstract

We study the effects of a temporary and forced migration shock on individuals' future geographical mobility and labor market outcomes. We exploit a feature of the mandatory military service in Spain, where individuals were randomly allocated to a military camp in their own region or in one of the other sixteen regions of the country. Using data from a nationally representative survey in Spain, we find that conscripts assigned to military service in a region different from their own have a substantially higher probability (8 pp) of changing their province of residence at some time in the future. The size of this effect is larger for the older cohorts. We find that most of the effect is driven by migrations to provinces different from that of the military service, which is consistent with the hypothesis that the decision to migrate does not rely on the individual having a preference for that destination, but on featuring a greater propensity to move after a previous migration experience. Furthermore, we find that the individuals who were sent out during the military service were more likely to be employed (2.3 pp), work more hours per week (0.7 hours), and were more likely to make social security contributions (2.5 pp). All in all, our estimates suggest that a temporary migration shock during the early adulthood years had a positive effect on the future geographical mobility of conscripts and on their labor market outcomes.

JEL Classification: J61, J62, R23.

Keywords: Migration, Geographical Mobility, Labor Market.

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1 Introduction

Migration has been a significant topic of interest for economists due to its potential impact on labor markets, human capital, and economic growth. The determinants of migration are numerous and complex, ranging from economic incentives to social and political factors. After migrating, individuals might experience gains in terms of income and human capital, but may also face challenges in adapting to new environments and integrating into the labor market. Understanding the drivers and consequences of migration is crucial for policymakers seeking to develop effective strategies to manage migration flows, particularly in recent times, when migration flows have not always responded to changes in the geographical distribution of economic activity (Molloy, Smith and Wozniak, 2011).

Traditionally, the literature on migration focused on wage differentials across regions and countries, the search for better job prospects, and other economic determinants (Borjas, 2003; Peri, 2016).¹ Although economic forces are important drivers for both international and internal migration, some specific economic phenomena, like technological change and macroeconomic circumstances, are particularly relevant for internal migration (Green, 2018), since such type of migration can be used as a form of insurance against negative economic shocks more easily than the international counterpart (Gröger and Zylberberg, 2016; Monras, 2018).

One possible determinant of migration that has received little attention from the literature is previous migration experiences. These experiences can act as a push factor for future migration and labor decisions. For example, early geographical mobility may trigger future geographical mobility if it helps stepping outside the so-called comfort zone. Similarly, an early migration experience can affect future labor outcomes if it changes the propensity to migrate or serves as a learning or personal growth experience. These experiences are also relevant from a policy perspective. If early geographical mobility reduces the cost of future migration and renders positive labor market effects, policies aiming at fostering internal geographical mobility can be beneficial for economies with strong urban-rural economic divides, or economies characterized by a strong segmentation between different local labor markets, among others.²

In this article, we provide evidence on the causal effect of early geographical mobility on future geographical mobility and labor market outcomes by exploiting the random geographical allocation of conscripts for military service. More specifically, we focus on the Spanish context and exploit the design of the system that allocated male conscripts to different military camps throughout the country.³ During the years of study (1960-1991),

¹While these economic factors are important determinants of migration, there are other factors that can play a role in migration decisions. These include political factors, social networks, cultural factors, and environmental factors, among others (Simpson, 2022).

²For the case of Spain, Lull and Miller (2018) show that while movers switch jobs more often and take one year longer than stayers to land a permanent job, their first permanent job wage is higher.

³One important drawback of our study design is that we are silent regarding the potential differential effect on females since they were not obliged to fulfill the military service. This is particularly important since some evidence suggests that female geographical mobility is significantly lower and translates into higher costs later on in life (Farré and Ortega, 2021).

the final destination of Spanish conscripts was determined through a lottery system. As a result of the lottery, some individuals would serve in their province of residence and stay close to their home, whereas other individuals were forced to serve in another province. We interpret the latter case as a migration shock with potential effects on the future geographical mobility and labor market performance of conscripts. Hence, our empirical strategy relies on comparing the future migration status and several labor market indicators between those who were forced to move and those who stayed during their time of service. This allows us to establish a causal link between an early migration experience and both future geographical mobility and labor market performance.

We use the 1991 Socio-Demographic Survey, a nationally representative survey conducted by the Spanish Statistic Office (INE, for its acronym in Spanish). This survey is unique with respect to the information it provides, as it combines data on the military service of individuals, including their destination, with detailed information about their residential and work history, among other details.

Our results are very informative. First, with respect to future geographical mobility, we find that conscripts assigned to military service in a region different from their own have a substantially higher probability (8 pp) of changing their province of residence at some time in the future. Our findings are similar when we look at different definitions of future geographical mobility. Importantly, the size of this effect is larger for the older cohorts. Although our study is (still) agnostic about the mechanisms that explain these results, we find that the effect is mostly driven by migrations to provinces different from that of the military service, which is consistent with the hypothesis that the decision to migrate does not rely on the individual having a preference for that destination, but on featuring a greater propensity to move after a previous migration experience. This result leads us to conjecture that the posterior migration decision is not driven by local contacts or personal connections made at the time of the military service, but on the effects that the migration experience by itself had on the individual.

Second, with respect to future labor market outcomes, we find that the individuals who were sent out during the military service were more likely to be employed (2.3 pp), work more hours per week (0.7 hours), and were more likely to make social security contributions (2.5 pp). We also find that these effects are concentrated on the younger cohorts, which is suggestive that an early migration experience helps individuals enter the labor market or, alternatively, that the economic conditions affecting these cohorts were more favorable for the migration shock to have an effect on labor market outcomes.

Our results indicate that early geographical mobility might reduce the cost of future migration decisions and render positive labor market effects. These findings support the rationale of policies that aim to foster internal mobility, like educational exchanges or national social services, specifically in contexts where regional economic differences coexist with information barriers and other forces that cause persistent labor market segmentation.⁴

⁴Bertoli, Moraga and Guichard (2020) show that information frictions are an important factor explaining international migration flows.

Our paper joins a large empirical literature that addresses the causes and consequences of migration. Among this extensive literature, our study is directly related to previous work analyzing the effect of previous experiences on geographical mobility. For example, [Groen \(2004\)](#) shows that studying in a given state increases the probability of working in that state in the future. Relatedly, [Malamud and Wozniak \(2012\)](#) study the effect of attending college on interregional mobility in the US, and they find that attending college substantially increases the probability of residing in a different state later in life. In two important contributions, [Parey and Waldinger \(2011\)](#) and [Oosterbeek and Webbink \(2011\)](#) explore the link between international student mobility and the decision to live and work abroad after graduation. Our work presents some advantages relative to this literature. First, our work studies the effects of a migration shock that affects the majority of the (male) population, instead of looking only at the college population. Second, our data allow us to study labor market outcomes and not only geographical mobility. And third and last, our lottery mechanism is better suited to tackle endogeneity issues.

Our work is also related to recent papers that study the economic effects of moving when moving is induced by a certain policy. Two important papers use an RCT approach. First, [? \(2016\)](#) uses subsidies in rural Bangladesh to temporarily out-migrate during the lean season, finding positive effects on household consumption and future re-migration. [Chetty, Hendren and Katz \(2016\)](#) uses housing vouchers to induce moving from high-poverty housing projects to lower-poverty neighborhoods, finding positive effects on college attendance and future earnings.

A recent and growing literature has explored the economic effects of forced migration ([Chyn, 2018](#); [Deryugina, Kawano and Levitt, 2018](#); [Sarvimäki, Uusitalo and Jäntti, 2022](#); [Becker et al., 2020](#); [Arellano-Bover, 2022](#); [Nakamura, Sigurdsson and Steinsson, 2022](#)).⁵ These studies find positive long-term effects of forced migration on income among agricultural workers and young individuals, or not yet born at the time of displacement. Although related to this literature, our approach is remarkably different. Whereas these papers use forced migration in a strict sense, defined as the migration that happens as a consequence of wars, civil conflicts, or natural disasters, our natural experiment uses a purely temporary migration shock, where permanent migration is only optional. Also, given the nature of our natural experiment, we can study whether the decision to migrate in the future is affected by this migration shock, whereas most of this literature focuses only on the economic effects of migration.

[Diamond \(2016\)](#) and [Lagakos, Mobarak and Waugh \(2018\)](#) study welfare consequences of rural-urban migration using structural models. In these models, policies reducing migration costs have large welfare effects. Our paper uses a natural experiment that can be viewed as a mechanism that reduces migration costs.

Lastly, this study builds on the existing literature that explores the impact of military service on various outcomes, such as political attitudes and beliefs ([Angrist, 1990](#); [Galiani, Rossi and Schargrodsky, 2011](#); [Card and Cardoso, 2012](#); [Cáceres-Delpiano, 2019](#); [Erikson](#)

⁵A literature review on this topic can be found in [Becker and Ferrara \(2019\)](#).

and Stoker, 2011; Samii, 2013; Navajas et al., 2020; Fize and Louis-Sidois, 2020; Oosterbeek and Webbink, 2022). However, instead of focusing on the military service itself, this paper uses a specific aspect of the (Spanish) military service: the regional allocation of conscripts. This feature connects this paper with our previous work (Cáceres-Delpiano et al., 2021).

The article proceeds as follows: section 2 provides institutional detail on the Spanish military service. Section 3 describes our data and empirical strategy. Section 4 presents the main results on future migration and labor market outcomes. Section 5 summarizes and concludes.

2 Institutional Background: The Spanish Military Service (1960-1991)

The individuals in our survey did the military service between 1960 and 1991. Over the course of 31 years, Spain underwent significant institutional changes, particularly following the transition from Franco’s dictatorship (1939-1975) to a democratic government that began with the adoption of the Constitution of 1978. This transition period also brought about reforms to the Spanish military service, including changes to the duration and conditions of military service and adjustments to the proportion of conscripts who served in their region of origin.⁶ Despite all these major changes, one feature of the military service remained unchanged until 1992. Each of these years, the destination camp of the conscripts living in a given province was determined through a lottery.⁷

During our period of analysis, the lottery system changed. Before 1987, each province conducted its own lottery independently, and eligible conscripts were assigned a number based on alphabetical order. The lottery draw was conducted publicly using a spherical cage filled with numbered wooden balls. During the draw process, one ball was released from the cage, and the number on the ball determined the order in which eligible conscripts would be assigned to serve in different military areas (Bagues and Roth, 2022). After 1987, the lottery was centralized at the national level and was simplified. The cage, instead of containing one ball per conscript, was filled with 366 balls, one for each day in a given year. Those whose birthday was immediately after the selected date were assigned to different destinations using an algorithm that filled military areas sequentially. The allocation outcome was determined based on different birth date ranges by province (Cáceres-Delpiano et al., 2021).

The process of conscription was carried out in three consecutive phases. Firstly, a yearly registration was held at the municipal level, where individuals had to enroll themselves approximately two years before their conscription date. This process resulted in provisional lists of potential recruits, excluding those who deferred military duties for academic or other reasons.⁸ Secondly, potential recruits had to undergo a medical checkup, and a final list

⁶The 1940 Recruitment Act was reformed by Act 55 in 1968, Act 48 in 1984, and Act 22 in 1998 (Bagues and Roth, 2022).

⁷From 1992 onwards, the assignment process was no longer random. Instead, conscripts were allowed to provide information about their preferred destination, and a computer system was utilized to carry out the assignments: https://elpais.com/diario/1991/11/02/espana/689036403_850215.html.

⁸Deferrals were granted for the following circumstances: i) academic studies; ii) family economic support;

of physically fit individuals was posted publicly. Lastly, conscripts were allocated using the lottery system described above.

Three features of the recruiting process and the randomization are worth mentioning. First, individuals who volunteered to do the military service before the corresponding age did not enter the recruiting process we described. Instead, they were allowed to pick the destination. However, volunteers had to stay for a longer period (see Figures A.1 and A.2). Second, all decisions to volunteer, postpone, or be exempted from military service occurred before the realization of the lottery. Third, while the fraction of conscripts who were assigned to the different military areas changed over the period we study, a significant part of the conscripts served in their military area of residence, this implied that those serving in another region had a lower fraction of peers from their own region.

3 Data and empirical strategy

3.1 Data

We employ data from the 1991 Socio-Demographic Survey (SDS) conducted by the Spanish Statistical Office (INE) for two reasons. First, the SDS is one of the very few surveys that contain questions about military service. Second, the SDS, despite having a cross-sectional data collection design, was actually a life-cycle survey because the questionnaire included retrospective questions about the demographic, family, residential, educational, and work histories of the Spanish population. The complete sample consisted of 159,154 individuals between 10 and 91 years of age at the time of the SDS.

The Socio-demographic survey has a military survey module with several questions that enable our analysis. First, men are asked whether or not they have done military service. We restrict our sample to those men born between 1940 and 1970 who reported going through the service. Moreover, we exclude volunteer conscripts, which are those that chose to start military service at a younger age, since this choice also implied the ability to choose the military destination. We exclude these conscripts from our sample by restricting the analysis to those reporting having served after the threshold age of 18. Finally, for each of the individuals, we know the province of destination. This variable, jointly with the retrospective information about the province of residence at the age of 17, defines the migration status due to military service. We describe the variables that we use below:

Pre-Military Service sociodemographic characteristics Our dataset includes key information about individuals prior to their military service. This includes the month, year, and province of birth, the number of years of education completed before the age of 14, and changes in residence before the age of 17. Additionally, we have data on the individual's parents, including their province of birth and the highest level of education

iii) having another sibling in the army; iv) residing abroad; or v) reasons of National interest.

completed. This information is particularly important in ensuring that the destination of military service was randomly assigned and not influenced by these variables.

Military Service The dataset contains valuable information about the military service of individuals, including whether or not they served, the start date and the length of their service, the province where they served, and whether they were studying or working at the time.

Migration outcomes The dataset also includes detailed migration histories for each individual. This includes information on all places of residence, starting from their province of birth, up to the present day. For each place of residence, we have data on the duration of their stay, whether they moved alone or with family, reasons for the move, and their new destination.

Labor outcomes Similarly to the migration outcomes, our dataset also includes detailed working histories of the individual. However, in this version of the paper we focus only on labor outcomes at the time that the interview took place. The information that we use is the respondent’s working status, affiliation to Social Security, and hours worked per week.

Additional outcomes In addition to analyzing migration and labor outcomes, we are also considering several other socioeconomic variables that may be relevant to our analysis. These variables include the age at which the individual left their parents’ household, the age at which they first cohabitated with a partner, the current residence of their parents, any previous unions they may have had, their current marital status, the province in which they currently reside, the province of residence for any previous unions, and the number of children they have.

Descriptive Statistics In table 1, we present the descriptive statistics of the primary variables in our sample.

3.2 Empirical specification

The following specification is at the center of the analysis,

$$y_{ipmb} = \rho_b + \delta_m + \theta_p + \beta \text{MSOutP}_i + \gamma X_i + \epsilon_{ipmb}, \quad (1)$$

where y_{ipmb} is one of the outcomes for the individual i born in province p in month m in year b . ρ_b , δ_m and θ_p are year, month, and province of birth fixed effects, respectively.⁹ X_i groups other individual controls such as completed years of education at 14, duration of the military service (in months) fixed effects, and the province of service fixed effects. Finally, the variable MSOutP_i , is a dummy variable that indicates whether or not a conscript serves

⁹We also include an interaction of province and year of birth fixed effects in our preferred specification, that is, we allow that these provinces of birth effects differ by year of birth.

Table 1: Descriptive Statistics

	Mean	SD	Min	Max	N
Ever change residence after 17	0.336	0.472	0	1	22,888
Ever resided in a prov. different to the one of birth (after 17)	0.204	0.403	0	1	22,888
Currently other prov.	0.267	0.443	0	1	22,888
Currently other CCAA	0.231	0.421	0	1	22,888
MS in other province	0.711	0.453	0	1	22,812
Working in the last week	0.837	0.369	0	1	22,888
Employed in the last week	0.872	0.334	0	1	22,888
Hours worked last week	36.853	16.000	0	70	22,152
SSR in the last job	0.841	0.366	0	1	22,888
Age leaving parents HH	24.607	6.110	0	51	19,323
Parents live in other prov	0.117	0.321	0	1	22,888
Percentage siblings living prov diff of birth	0.267	0.443	0	1	22,888
Number of unions	0.760	0.456	0	3	22,888
Percentage unions form other prov	25.076	43.219	0	100	22,888
Number of children respondent	1.307	1.233	0	13	22,888
Age leaving parents HH	24.607	6.110	0	51	19,323
Live now at least with one of the parents	0.237	0.425	0	1	22,888
Parents live by themself	0.407	0.491	0	1	22,888
At least one of the parents lives with a relative	0.054	0.225	0	1	22,888
At least one of the parents lives with other siblings	0.049	0.216	0	1	22,888
Ever Married	0.733	0.442	0	1	22,888
More than two stable partners	0.013	0.112	0	1	22,888
Age of first cohabitation	25.875	3.664	14	50	17,104

in a province different from the one where he resided at the age of 17 (just before their military service). Thus, β corresponds to the parameter of interest in our analysis and it represents the average conditional difference in the dependent variable for those serving in a province different from the one of residence and those serving in their province of residence. Throughout the analysis, we cluster the standard errors (ϵ_{ipmb}) at the level of province and year of birth.

To estimate the previous specification, we exploit the fact that there has always been a degree of randomization in the destination of conscripts doing mandatory military service. We examine the similarities or differences between respondents who were randomly assigned to serve in the military outside of their province of residence and those who were assigned to serve in their province of residence with regard to a predetermined set of variables. We estimate equation (1) using those predetermined variables as outcomes and without any other controls apart from year, month, and the province of birth fixed effects. Table 2 provides evidence that, once those controls are included, there is no correlation between serving outside and any observable predetermined characteristic. This seems to suggest that the lottery was indeed random.

Table 2: Lottery assignment and predetermined characteristics

	Mother literate		Father literate		Mother EGB+		Father EGB+	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MS out	-0.02*	-0.02	-0.00	-0.00	0.00	-0.01	-0.00	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Observations	15861	15609	14689	14461	22596	22217	22596	22217
Mean MS in	.35		.39		.29		.35	

	Yrs educ at 14		Migrate before 17		Mother same CA		Father same CA	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MS out	0.24***	-0.04	0.04***	0.01	-0.01	-0.01	-0.01	-0.01
	(0.04)	(0.04)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Observations	21782	21416	22596	22217	22596	22217	22596	22217
Mean MS in	6.47		.16		.82		.81	

Notes: Each column represents a given outcome whose name is specified at the top. Models with (column 2) and without (column 1) controls. Controls are year, month and province of birth FE and a variable that corresponds to the number of months of service. Standard errors are clustered at the year of birth-province level. *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$

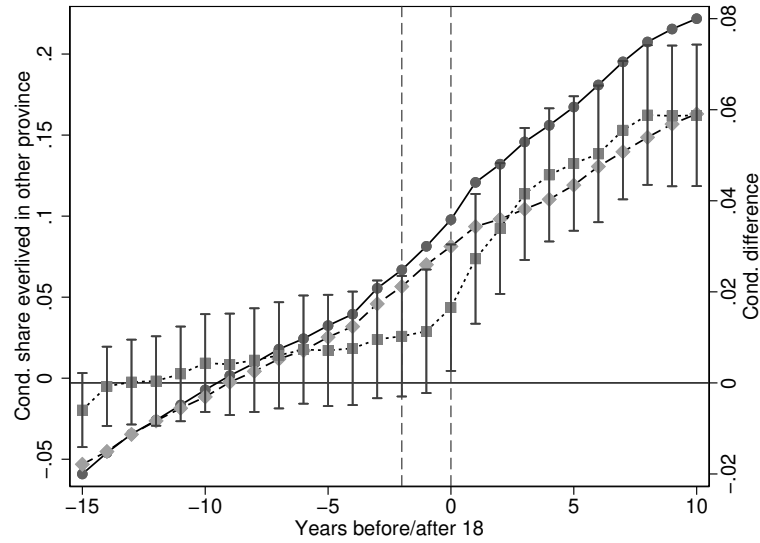
4 Results

4.1 Internal Migration

We first look at the effect of doing the military service outside their own province on the probability of migrating in the future. Figure 1 provides the most direct illustration of this effect and depicts the essence of the research design used in the paper. The lines with dots and rhombuses depict the conditional share of individuals who live in a province different from that of birth at different ages in the treated ($MSOutP = 1$) and control groups ($MSOutP = 0$) respectively. We can observe that both lines are virtually indistinguishable from each other until the age of 19, at which point they start to diverge with the treatment group showing a higher share of individuals living outside. Similarly, Figure 1 reports the conditional differences in these shares at different ages (right axis) which are statistically different from zero after conscription and reaching a plateau of approximately 6 percentage points.

The first panel of Table 3 shows the estimated coefficients of equation (1) using different definitions of moving. The outcome in column (1) is a dummy variable indicating whether the individual has ever changed residence at all, while the outcome in column (2) takes value one only if the change of residence implied a change in the province. Column (3) instead is equal to one if the individual resides in a different province at the time of the survey. Finally, columns (3) and (4) are mutually exclusive and measure whether the individual has ever lived in the province of the MS (after the MS) or in another province, respectively. The second panel of the table shows interactions of the treatment with dummies for groups of years of birth to analyze cohort and/or age effects.

Figure 1: Effect of doing the MS outside on probability of ever living in another province



Notes: First vertical line (-2) represents the age of 17 (lottery year). The second line the age of 19 (the year starting conscription). The dots and rhombuses depict the share of individuals who live in a province different from that of birth at different ages in the treated ($MSOutP = 1$) and control groups ($MSOutP = 0$) respectively. The magnitude is represented in the left-scale. The squares represent the coefficient of $MSoutP$. The magnitude is represented in the right-scale.

Looking at the first two columns, we can observe that those individuals who did their military service outside their province are about 8 percentage points (24%) more likely to have ever changed residence, and this difference is mainly explained by moving to another province. As column (3) shows, the effect is slightly smaller if we look only at the current residence.

Interestingly, the effect on migration seems to be similar whether we restrict the outcome to living in the same province of the military service or other provinces (columns 3 and 4). This is important when thinking about the mechanisms behind this effect. If we think that most of the effect goes through the change in how open to experience the individuals are, we would expect that the effect is more or less equal and not exclusive to going back to the province of service. Instead, if we think that the main channel is one of newly formed connections at the province of service, then we would expect a large effect on living in the province of service and a smaller or zero effect on living somewhere else.

Finally, the second panel of Table 3 shows that, for all outcomes, the effect is larger for the first cohort and older individuals. This is also what we can observe in Table 4, which shows in each column the estimates from using as an outcome the probability of living in a province different from the one of residence when 17 years old at different ages in five years laps. While the treatment group is only 6 percentage points more likely to live in a different province at 21 years old, that effect more than doubles for those who are 41 years old (14 percentage points). Again, about 40% of that effect corresponds to people living in a different province excluding that of military service, as shown in the second panel of

Table 3: Effect of MS out on internal migration

	(1) Ever changed residence	(2) Ever resided other prov.	(3) Currently resides other prov.
<i>I Basic specification</i>			
MS out of province	0.080*** (0.011)	0.077*** (0.008)	0.056*** (0.011)
Observations	21416	21416	21416
Mean MS in	.3	.16	.23
<i>II Heterogeneity by Yr. of Birth</i>			
MS out 1940-47	0.1292*** (0.0220)	0.1148*** (0.0184)	0.0678*** (0.0214)
MS out 1948-54	0.1048*** (0.0218)	0.1112*** (0.0173)	0.0990*** (0.0204)
MS out 1955-63	0.0399** (0.0176)	0.0305*** (0.0118)	0.0069 (0.0181)
MS out 1964-70	0.0353** (0.0149)	0.0394*** (0.0096)	0.0449** (0.0182)
Observations	21416	21416	21416

Notes: Each column represents a given outcome whose name is specified at the top of the column. Controls are year, month, province of birth, and province-year of birth FE. X_i includes years of completed education at the age of 14, months of service, and province of military service FE.

Table 4: Effect of MS out on internal migration by age

	(1) At 21 yrs of age	(2) At 26 yrs of age	(3) At 31 yrs of age	(4) At 36 yrs of age	(5) At 41 yrs of age
<i>I Residing in a province diff to the one at 17</i>					
MS out of province	0.062*** (0.006)	0.091*** (0.009)	0.105*** (0.010)	0.121*** (0.013)	0.136*** (0.016)
Observations	21416	19442	15524	10472	6547
Mean MS in	.03	.09	.12	.12	.13
<i>II Excluding province of service</i>					
MS out of province	0.027*** (0.005)	0.042*** (0.008)	0.042*** (0.009)	0.041*** (0.011)	0.046*** (0.015)
Observations	21416	19442	15524	10472	6547
Mean MS in	.03	.09	.12	.12	.13

Notes: Each column represents a given outcome whose name is specified at the top of the column. Controls are year, month, province of birth, and province-year of birth FE. X_i includes years of completed education at the age of 14, months of service, and province of military service FE.

Table 4.

4.2 Labor Outcomes

Now we turn our focus to labor market outcomes. We first estimate a naive model where we look at the correlation between moving to another province and a set of labor market outcomes. Table 5 shows estimates of such a model including the same set of controls as in (1). We observe that, for a given week, movers are more likely to be employed, be working, contribute to social security and work more hours. However, there is a potential endogeneity problem since people who decide to voluntarily move after the age of 17 might have some unobservable characteristic that correlates positively with those outcomes (e.g. movers may come from a richer family to begin with, this helps them lower the cost of moving but also increase their connections and job quality).

Table 5: Effect of migrating on labor market outcomes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Employed	Working	Working if employed	Hours	Hours if working	SSR	SSR if employed
Move other prov. after 17	0.023*** (0.007)	0.020** (0.008)	-0.002 (0.005)	0.776** (0.356)	-0.325* (0.185)	0.026*** (0.008)	0.004 (0.004)
Observations	21480	21480	18941	20798	17560	21480	18941

Notes: Each column represents a given outcome whose name is specified at the top of the column. Controls are year, month and province of birth FE. X_i just consider years of completed education at the age of 14 and province of military service FE.

Table 6 instead, we look at the differences in labor market outcomes for individuals who (randomly) did their military service outside their province of residence at age 17 and those who did it in the same province. Although the results are qualitatively similar to the ones from the naive model, now only two of the four coefficients are statistically different from zero. In particular, we observe that the treated group is 1.4 percentage points more likely to be working, and work on average 0.6 hours more per week.

Finally, when we interact treatment with cohort groups, we observe that most of the effect is driven by the most recent cohorts. There is two possible explanations. Either the effect of the treatment only helps young individuals entering the labor market. Or, the effect is only helpful for the most recent cohort because the environment and conditions allow this channel to work, which before was not the case. This is also shown using pair of years in Figure A.3 of the Appendix.

5 Conclusion

In this paper, we offer new evidence on how a temporary and forced migration shock may affect individual’s future geographical mobility and labor market outcomes. We exploit the

Table 6: Effect of MS out on labor market outcomes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Employed	Working	Working if employed	Hours	Hours if working	SSR	SSR if employed
<i>I Basic specification</i>							
MS out	0.0104 (0.0073)	0.0135* (0.0079)	0.0035 (0.0046)	0.6047* (0.3433)	0.2384 (0.1814)	0.0119 (0.0080)	0.0023 (0.0043)
Observations	21416	21416	18885	20741	17513	21416	18885
Mean MS in	.87	.83	.96	36.42	42.37	.83	.96
<i>II Heterogeneity by Yr. of Birth</i>							
MS out 1940-47	0.0129 (0.0134)	0.0072 (0.0147)	-0.0059 (0.0107)	0.8066 (0.6509)	0.2714 (0.3627)	0.0059 (0.0143)	-0.0084 (0.0082)
MS out 1948-54	0.0034 (0.0111)	-0.0009 (0.0123)	-0.0047 (0.0060)	0.2718 (0.5384)	0.1479 (0.3019)	0.0055 (0.0121)	0.0018 (0.0054)
MS out 1955-63	-0.0079 (0.0134)	-0.0020 (0.0150)	0.0045 (0.0082)	-0.0311 (0.6455)	0.3318 (0.3400)	-0.0093 (0.0144)	-0.0016 (0.0070)
MS out 1964-70	0.0456** (0.0220)	0.0685*** (0.0223)	0.0325*** (0.0118)	1.8050* (0.9418)	0.2019 (0.3688)	0.0622*** (0.0239)	0.0273* (0.0157)
Observations	21416	21416	18885	20741	17513	21416	18885

Notes: Each column represents a given outcome whose name is specified at the top of the column. Controls are year, month, province of birth, and province-year of birth FE. X_i includes years of completed education at the age of 14, months of service, and province of military service FE.

rules for the allocation of conscripts across the territory in the Spanish mandatory military service as a large-scale quasi-natural experiment.

We find that, compared to those counterparts who stayed, individuals who did the military service in another province are more likely to have ever lived in a different province later in life. Moreover, the effect is of similar size whether we restrict to moving to the province of the military service or exclude it, hinting that there may be a more general change in preference for moving.

We also find some evidence of better labor market performance, as shown by a higher likelihood of working and working longer hours. These effects are concentrated on the more recent cohorts, which may be a sign that the experience abroad helps young individuals with no experience enter the labor market, but those differences disappear later in life.

The findings in this study are particularly relevant for countries with large differences between local labor markets in terms of wages and employment (such as Spain). Although our study is a step in this direction, more research on how to reduce those labor market inequalities is needed.

We believe that similar mobility effects can be achieved through other large-scale policies that also yield contact between different groups; examples of such policies include educational exchanges, national social services or other measures that foster internal labor mobility (e.g. internships in other provinces).

References

- Angrist, Joshua D. 1990. "Lifetime earnings and the Vietnam era draft lottery: evidence from social security administrative records." *The American Economic Review* pp. 313–336. 4
- Arellano-Bover, Jaime. 2022. "Displacement, Diversity, and Mobility: Career Impacts of Japanese American Internment." *The Journal of Economic History* 82(1):126–174. 4
- Bagues, Manuel and Christopher Roth. 2022. "Interregional contact and national identity." 5
- Becker, Sascha O. and Andreas Ferrara. 2019. "Consequences of forced migration: A survey of recent findings." *Labour Economics* 59:1–16. 4
- Becker, Sascha O, Irena Grosfeld, Pauline Grosjean, Nico Voigtlander and Ekaterina Zhuravskaya. 2020. "Forced migration and human capital: Evidence from post-WWII population transfers." *American Economic Review* 110(5):1430–63. 4
- Bertoli, Simone, Jesús Fernández-Huertas Moraga and Lucas Guichard. 2020. "Rational inattention and migration decisions." *Journal of International Economics* 126:103364. 3
- Borjas, George J. 2003. "The Labor Demand Curve Is Downward Sloping: Reexamining the Impact of Immigration on the Labor Market." *The Quarterly Journal of Economics* 118(4):1335–1374. 2
- Cáceres-Delpiano, Julio. 2019. "The Impact of Mandatory Military Service. Evidence from Spain." *UC3M working paper series* (2019-03). 4
- Cáceres-Delpiano, Julio, Antoni-Italo De Moragas, Gabriel Facchini and Ignacio González. 2021. "Intergroup contact and nation building: Evidence from military service in Spain." *Journal of Public Economics* 201:104477. 5
- Card, David and Ana Rute Cardoso. 2012. "Can compulsory military service raise civilian wages? Evidence from the peacetime draft in Portugal." *American Economic Journal: Applied Economics* 4(4):57–93. 4
- Chetty, Raj, Nathaniel Hendren and Lawrence F. Katz. 2016. "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment." *American Economic Review* 106:855–902. 4
- Chyn, Eric. 2018. "Moved to Opportunity: The Long-Run Effects of Public Housing Demolition on Children." *American Economic Review* 108(10):3028–56. 4
- Deryugina, Tatyana, Laura Kawano and Steven Levitt. 2018. "The economic impact of Hurricane Katrina on its victims: Evidence from individual tax returns." *American Economic Journal: Applied Economics* 10(2):202–33. 4

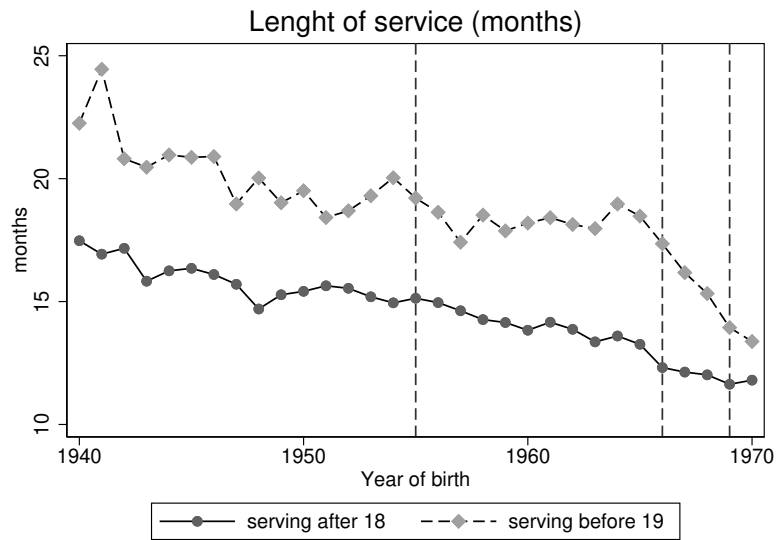
- Diamond, Rebecca. 2016. “The Determinants and Welfare Implications of US Workers’ Diverging Location Choices by Skill: 1980-2000.” *American Economic Review* 106(3):479–524. 4
- Erikson, Robert S. and Laura Stoker. 2011. “Caught in the Draft: The Effects of Vietnam Draft Lottery Status on Political Attitudes.” *The American Political Science Review* 105(2):221–237. 4
- Farré, Lidia and Francesc Ortega. 2021. “Family Ties, Geographic Mobility and the Gender Gap in Academic Aspirations.” 2
- Fize, Ettiene and Charles Louis-Sidois. 2020. “Military Service and Political Behavior: Evidence from France.” *European Economic Review* 122. 5
- Galiani, Sebastian, Martín A Rossi and Ernesto Schargrodsky. 2011. “Conscription and crime: Evidence from the Argentine draft lottery.” *American Economic Journal: Applied Economics* 3(2):119–36. 4
- Green, Anne. 2018. “Internal Migration in the Developed World.” *Understanding the drivers of internal migration* . 2
- Groen, J.A. 2004. “The effect of college location on migration of college-educated labor.” *Journal of Econometrics* 121(1-2):125–42. 4
- Gröger, André and Yanos Zylberberg. 2016. “Internal labor migration as a shock coping strategy: Evidence from a typhoon.” *American Economic Journal: Applied Economics* 8(2):123–153. 2
- Lagakos, David, Ahmed Mushfiq Mobarak and Michael E. Waugh. 2018. “The Welfare Effects of Encouraging Rural-Urban migration.” *NBER working paper 24193*. Available at <https://www.nber.org/papers/w24193> . 4
- Llull, Joan and Robert A Miller. 2018. “Internal Migration and Work Experience in Dual Labor Markets.” *Unpublished Manuscript* . 2
- Malamud, Ofer and Abigail Wozniak. 2012. “The Impact of College on Migration: Evidence from the Vietnam Generation.” *Journal of Human Resources* 47(4):913–950. 4
- Molloy, Raven, Christopher L. Smith and Abigail Wozniak. 2011. “Internal Migration in the United States.” *Journal of Economic Perspectives* 25(3):173–96. 2
- Monras, Joan. 2018. “Economic shocks and internal migration.” 2
- Nakamura, Emi, Jósef Sigurdsson and Jón Steinsson. 2022. “The gift of moving: Intergenerational consequences of a mobility shock.” *The Review of Economic Studies* 89(3):1557–1592. 4

- Navajas, Gabriela Ertola, Paula A López Villalba, Martín A Rossi and Antonia Vazquez. 2020. “The Long-Term Effect of Military Conscription on Personality and Beliefs.” *Review of Economics and Statistics* pp. 1–34. 5
- Oosterbeek, Hessel and Dinand Webbink. 2011. “Does Studying Abroad Induce a Brain Drain?” *Economica* 78(310):347–366. 4
- Oosterbeek, Hessel and Dinand Webbink. 2022. “Army Service in the All-Volunteer Era.” *The Quarterly Journal of Economics* 137(4):2363—2418. 5
- Parey, Matthias and Fabian Waldinger. 2011. “Studying abroad and the effect on international labour market mobility: Evidence from the introduction of ERASMUS.” *The Economic Journal* 121(551):194–222. 4
- Peri, Giovanni. 2016. “Immigrants, Productivity, and Labor Markets.” *Journal of Economic Perspectives* 30(4):3–30. 2
- Samii, Cyrus. 2013. “Perils or Promise of Ethnic Integration? Evidence from a Hard Case in Burundi.” *The American Political Science Review* 107(3):558–573. 5
- Sarvimäki, Matti, Roope Uusitalo and Markus Jäntti. 2022. “Habit formation and the misallocation of labor: evidence from forced migrations.” *Journal of the European Economic Association* 20(6):2497–2539. 4
- Simpson, Nicole B. 2022. “Demographic and economic determinants of migration.” *IZA World of Labor* 373. 2

Appendix

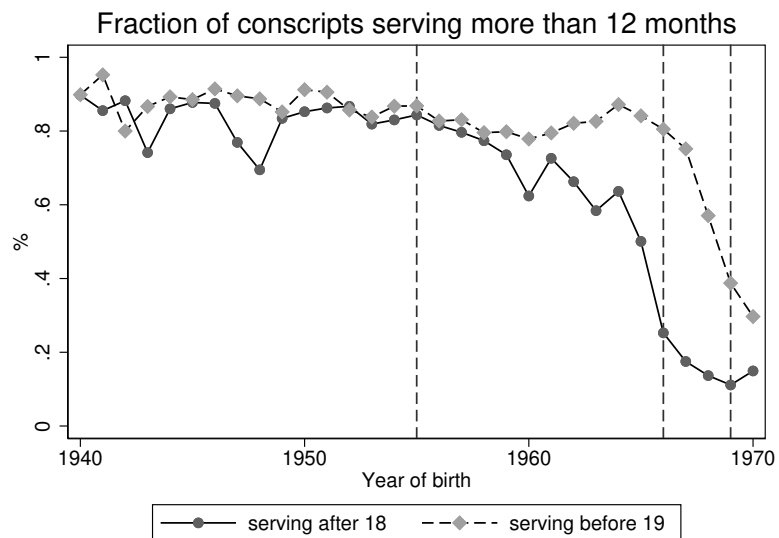
A Other graphs and Figures

Figure A.1: Length of service (months)



Notes:

Figure A.2: Fraction conscripts serving more than 12 months.



Notes:

Figure A.3: Impact of MS out on labor market by year of birth.



Notes: