VETERAN STATUS, RACE, AND LABOR MOBILITY IN THE UNITED STATES

by

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ABSTRACT

Using a new, representative, longitudinal microdata sample that observes native-born white and black men in 1917 and in 1930 in rich detail, this dissertation investigates the determinants of World War I (WWI) draft probability, the effects of WWI military service on subsequent occupational and geographic mobility, racial variations in the effect of WWI service on labor mobility, and racial variation in Southern out-migrant self-selection during the Great Migration period.

Examining how family structure, literacy, occupation, and race affected a man's probability of conscription during WWI, this dissertation finds that inductees were more literate and healthier than the rest of the draft pool. Marriage and having dependents reduced a man's probability of being drafted. Having an agricultural occupation reduced the probability of being drafted for Whites, but not Blacks. Overall, the draft mechanism seems to have functioned as intended and positively selected inductees.

This dissertation also finds that the effect of WWI military service varied substantially by race. Service slightly increased the probability of holding a white-collar or skilled blue-collar occupation by 1930, controlling for observed biases in the assignment of veteran status. White veterans who held such jobs before the war were less likely to end up in unskilled labor occupations in 1930. Skilled White soldiers held skilled jobs during the war where they could accumulate experiences transferable to civilian labor markets. Black veterans enjoyed no such protections from downward

occupational pressures. WWI service did not offer upward occupational mobility to low-skilled workers or a transition out of agriculture for farmers and farm laborers. White veterans were more likely to make an interstate or interregional geographic move after the war, but Black veterans had the same rates of migration as Black nonveterans.

Finally, this study observes black and white Southern out-migrants and nonmigrants before and after migration. Compared with their sending population, Black migrants were more literate and disproportionately from urban areas. Black migrants were more likely to have left from nonfarm occupations in the South and, among nonfarm occupations, professional blacks were more likely to leave. White migrants were more literate than their sending population, but otherwise representative.

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CHAPTER 1

INTRODUCTION

That great pioneer of modern macro-historical dynamics wrote with respect to revolutions that "men make their own history, but they do not make it just as they please; they do not make it under circumstances chosen by themselves, but under circumstances directly encountered, given and transmitted from the past" (Marx, 1852/2005, p. 63). So too is it with micro-history. The social, political, and economic institutions -- those social rules of the game or socially-transmitted habits of thought -- that structure human interaction on the macro-level structure it on the micro-level as well (Hodgson, 2006; North, 1991). Institutions act as carriers of history for societies as a whole and the individuals composing those societies; they shape an individual's roles, opportunities, choices, preferences, habits of thought, and habits of action within societies and markets (David, 1994; Hodgson, 2004; Polanyi, 2001). These institutions shape the labor market opportunities of workers.

With respect to labor markets, economic historians of the late 19th and early 20th-century have focused on an antagonism between the labor market, on the one hand, as opposed to nonmarket institutions that affect the labor market (usually the government), on the other. In reviewing the literature on turn-of-the-century labor markets in the United States, Fishback (1998) argues that these markets were largely free from the

influences of nonmarket institutions and, as such, operated quite well; workers had a large degree of exit and government interference was minimal. These labor markets were relatively competitive. During this period, the literature shows that competitive forces buoyed workers' living standards, compensated workers for occupational hazards, paid workers proportional to the marginal productivity of labor, and eroded some racial discrimination within skill groups (Fishback, 1998).

What this rosy scenario fails to appreciate and emphasize, however, is that in labor markets during this period, as in all periods, nonmarket institutions continued to shape labor markets through their effects on exit and worker mobility.[1] The existence of other opportunities as well as the ability of workers to engage in formally or informal collective action in the production process is a function of social relations (Lazonick & Brush, 1985). Institutions are what structure these relationships. This dissertation explores the effects and interactions of two institutions, wartime conscription, and racial norms, on worker exit and labor mobility in the late 19th and early 20th centuries. These institutions constrained choice in labor markets by giving opportunities to some and denying opportunity to others. I illustrate that, in labor markets, although workers may make their own choices, they do not choose as they please; they do not make choices in circumstances selected by themselves, but under circumstances structured by the institutional framework of their society.

U.S. participation in World War I (WWI) required the swift mass mobilization of millions of soldiers. After its declaration of war on Germany on April 6, 1917, the U.S. cobbled together a conscription system, which held its first registration drive on June 5, 1917 and shipped its first drafted troops to Europe in the spring of 1918. The U.S.

conscripted more than 2.8 million soldiers during WWI. Roughly 72% of all U.S. soldiers were drafted (Chambers, 1987). These conscripts did not choose induction or their subsequent fates.

Hence, the first research question of this dissertation: How were WWI conscripts chosen? The WWI draft lottery was random, but the rules for issuing exemptions and deferments were clearly nonrandom. The structure of the draft was the result of policy choices and political bargaining. This may have shifted the cost of military service onto certain types of workers. The issuing of exemptions and deferments may have been also contingent upon race. The WWI military segregated White and Black soldiers and required states to fill separate quotas for Whites and Blacks. Draft exemption decisions were local, so local racial norms played a role, coloring the decisions of local draft boards. Chapter 3 explores the impact of the structure of the draft on the conscription probabilities of White and Black men.

Conscripts also did not choose how service would affect their postservice lives. Military service creates differences in veterans and nonveterans of otherwise equal preservice characteristics. The literature suggests that veterans may have different skill accumulations, different types of skills, different physical and mental health statuses, and different information networks than nonveterans. These differences may be attributable to either service or selectivity into service. Thus, the second question of this dissertation: How did WWI military service affect the postservice labor mobility of its veterans?

Although economists have studied the effects of Civil War, World War II, Vietnam, and modern military service on labor market outcomes, the effect of WWI military service has remained unexamined until now. In shaping the skills, health, and

information networks of veterans relative to nonveterans, WWI military service may have opened or closed the door to opportunities. There is again a racial twist to how military service affected the postwar labor mobility of veterans. The segregated WWI military assigned Whites and Blacks to different roles. In contrast to White soldiers, whom the military assigned to a variety of different tasks during WWI, ranging from combat, to unskilled labor, to skilled labor, the vast majority of Black soldiers received assignments in all-Black support units dedicated to menial labor tasks. Racial differences in wartime experience created differences in the postwar mobility of veterans by race. Chapter 4 explores these effects.

Racial norms were important in shaping workers' opportunities during this period in the United States. The early 20th century is the era of formalized Jim Crow segregation in the South and formal and informal segregation in the North. It is also the era of massive internal migrations -- the Great Migrations of millions of Whites and Blacks leaving the U.S. South. The third research question of this dissertation ties these two forces together, examining how racial norms affected the out-migration decisions of Southerners during the Great Migration period. Chapter 5 asks the question: Who moved out of the South? Due to data limitations, the previous literature has been unable to examine how Southerners self-selected out-migration. This is the first study that is able to observe both Black and White migrants and nonmigrants before and after potential migration choices during this period. By comparing Southern Black out-migrant characteristics with those of Southern White out-migrants, it traces the contours of the effects of racial norms on migration decisions.

In order to answer these questions, I have constructed a new, longitudinal dataset that links 6,848 native-born, Black and White men from their 1930 U.S. population census entries to their 1917 WWI Draft Registration cards. This dataset is uniquely suited to answering the research questions posed above because it observes veterans and nonveterans before and after service as well as Southern migrants and nonmigrants before and after potential migration decisions. Chapter 2 examines this dataset, its construction, and its representativeness.

Notes

1 Fishback (1998) acknowledges the barriers to skill accumulations and participation in some labor markets during this period faced by Blacks, but leaves these largely unexplored.

CHAPTER 2

A NEW DATASET

The central results of this dissertation rely on the use of a new, longitudinal dataset that links 6,848 White and Black, native-born men from their 1930 U.S. Population Census entries to their 1917 World War I (WWI) Draft Registration Cards. This chapter describes the creation of this dataset, defines the variables used in the following chapters, and examines the representativeness of this dataset. It concludes that the dataset is representative of the underlying population.

Census Linking

On June 5, 1917, all men aged 21 through 30 in the United States were required to register in the first draft registration drive of WWI. I chose to use the 1917 draft records because they observe WWI veterans before military service and they contain rich, detailed information on family status, location, origins, socioeconomic status, health, and stature. The questions on the 1917 Draft Registration Card included the following: name, age, home address, date of birth, naturalization status, citizenship, place of birth (town, state, and country), present occupation, employer, employer's address, type and number of dependents, marital status, race, type and length of previous military service, draft exemption claim, stature, build, eye color, hair color, baldness, amputation, disability,

county of registration, and precinct of registration. Although two subsequent registration drives in 1918 eventually registered all men aged 18 through 45, the records from these later registrations are unusable because they lacked key variables of interest, such as occupation, or key variables used in linking, such as birthplace.

The U.S. Census attempted to enumerate every person living within the United States in April 1930. The 1930 Census records contain information on location, family status, and socioeconomic status in 1930, recording place of residence, address, name, household relationships, information on home ownership and value, gender, race, age, marital status, age at first marriage, literacy, place of birth (state or country), father's birthplace (state or country), mother's birthplace (state or country), mother tongue, citizenship status, occupation, industry, employment status, and veteran status.

I chose the 1930 Census because it observes WWI veterans after the war, but before the implementation of government veterans' benefits. The 1930 Census enumerators recorded which conflict a veteran served in, so the 1930 IPUMS 1% sample codes veteran status as a categorical variable by conflict. This allows me to identify WWI veterans as opposed to veterans of other conflicts, e.g., the Spanish-American War, whom I leave out of the sample (Ruggles et al., 2010). Census enumerators in 1930 operated under a narrow definition of veteran status. They received instructions to enumerate as veterans only those "who were in the Army, Navy, or Marine Corps of the United States during the period of any United States war, even though they may not have gotten beyond the training camp" and that those "in the military or naval service of the United States during peace times *only* are not to be listed as veterans" (U.S. Department of Commerce, 1930, pp. 41-42, emphasis in original). If a respondent met these criteria,

enumerators asked him to "give the name of the war or expedition" in which he served (U.S. Department of Commerce, 1930, p. 41). Enumerators recorded service in the World War, Spanish-American War, Civil War, Philippine insurrection, Boxer rebellion, and Mexican expedition. This variable enables us to study World War I veterans apart from veterans of other wars and non-wartime veterans, a distinction most other studies cannot make as later censuses and other surveys, such as the CPS, do not report conflict served in or wartime versus peacetime service. The 1920 U.S. population census did not record veteran status. The 1940 and 1950 censuses recorded veteran status, but due to location on the questionnaire, reporting was too inconsistent and nonreporting was too high to produce a reliable variable (Ruggles et al., 2010). Additionally, names are not yet publically available for IPUMS census samples after 1930, so I cannot link them to draft records, which is the main strategy I take in this dissertation.

I attempted to manually match 15,071 men from the Integrated Public Use Microdata Series (IPUMS) 1% sample of 1930 Census records to 1917 Draft Records on time-invariant characteristics (Ruggles et al., 2010). I used name, estimated birth year, state of birth, and race to search for the 1917 records in an online database and then recorded the information from the draft cards (Ancestry.com, 2005). Once I found a successful match, I manually recorded the information from the 1917 Draft Record into an electronic file.

The 1930 IPUMS sample, from which men are randomly drawn, is restricted to native-born Whites and Blacks who would have been draft age, 21 through 30, in 1917. The 1930 IPUMS sample was restricted to these races because of the difficulty in successfully linking immigrants of any origins and native-born men of Chinese or

Japanese ancestry during testing. Although the match rate of Native Americans was comparable to that of Whites, their numbers were too few to be meaningfully included.

I matched a census record to a draft record if the draft record was the closest in name and birth year to the census record, was an exact match on race and state of birth, and was a reasonable match on name. The search mechanism in the online database uses a standard Soundex algorithm for names, which matches names to proximate alternatives. I matched common nicknames and abbreviations to the corresponding name, e.g., "Bill" or "Wm" to "William" and vice-versa. I only matched a record if no other potential matches one year before or one year after the estimated birth year existed.

Black men and men of both races who left the Southern census region between birth and 1930 were oversampled. This creates, in effect, four subsamples: Whites (who are not Southern interregional migrants), Blacks (who are not Southern interregional migrants), White Southern interregional migrants, and Black Southern interregional migrants. Oversampling Blacks and Southern out-migrants of both races allows us to better explore the impacts of race and the migration choices of Southerners. The analyses use sample weights to combine these subsamples.

Table 2.1 reports the success rates of linking the 1930 records to the 1917 record within each subsample. In total, I successfully linked 6,848 records. Across all subsamples, I linked about one-half of White records attempted, but only about one-third Blacks records attempted. These rates are lower than those in Maloney (2001), which linked Cincinnati residents in the 1920 IPUMS sample to their selective service records at linkage rates of 58% for Whites and 40% for Blacks (p. 154). The discrepancy in linkage

rates is likely due to the geographic scope of each sample. Fewer alternatives are likely to exist when linking within one city versus the country as a whole.

Variables

I coded information from the 1917 Draft Cards and the 1930 IPUMS Sample by hand into variables to use for the analyses (Ancenstry.com, 2005; Ruggles et al., 2010). First name and last name popularity for each man is measured by the number of men in the restricted 1930 IPUMS sample with the exact same first name or last name as recorded in the 1930 census, respectively. Many times, the first name string variable from the 1930 IPUMS sample contained a middle initial. When available, I used middle initials in linking and included in the first name popularity calculations, i.e., I counted the first name "John" as separate from the first name and middle initial "John A". First name popularity is measured with a simple count of how many men have the same first name string in the black and white 1930 IPUMS draft-age cohort. Last name popularity is measured in the same way.

I used the 1930 census records to code many other variables related to personal characteristics. The 1917 records did not record literacy. As a substitute, I use a binary variable for literacy in 1930. I use a binary variable for WWI veteran status, derived from the categorical variable available in the 1930 IPUMS sample. I created two binary variables for race, White and Black, from race as recorded in the 1930 records.

I created binary variables for state, region, and urban status, indicating location at birth, in 1917, and 1930, using the corresponding records. The Northeast census region for each time includes Connecticut, Massachusetts, Maine, New Hampshire, New Jersey,

New York, Pennsylvania, Rhode Island, and Vermont. The Midwest census region includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. The Southern census region includes Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma/Indian Territory, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Finally, the Western census region includes Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. I measure interstate and interregional migration with binary variables indicating a change in state or census region over three periods, between birth and 1930, between birth and 1917, and between 1917 and 1930.

A binary variable taking a value of one if the location population in 1930 exceeded 2,499 residents as recorded in the 1930 IPUMS sample measures urban status in 1930. I created a similar binary variable taking the value of one for urban status in 1917 by using location information from the draft records to look up whether a man was living in an incorporated place with a population exceeding 2,499 residents by 1920, the nearest census year (U.S. Bureau of the Census, 1921, pp. 178-331). For Southern-born men only, I created a third urban status variable, measuring urban status at birth. It takes a value of one if the town of birth recorded in the 1917 Draft Records was an incorporated place with more than 2,499 residents in 1890 (U.S. Census Office, 1895, pp. 378-392). I chose this date because 95% of the linked sample was born between 1886 and 1895. The average birth year was about 1891 and the median birth year was approximately 1892. At any time men who were living or born in an unincorporated

place, listed a county but not a town or city, reported living "near" a town or city, or only listed a state of origin were assumed to have been born in a rural area.

Both sets of records contain detailed information about family status. A variable indicating marriage in 1917 takes a value of 1 if a man reports being married in the 1917 record. Similarly, a 1930 binary variable takes a value of one if a man was married in 1930. For both years, men who were divorced, engaged, widowed, single, or never married never count as married. A continuous variable for number of children is infeasible because many registrants did not report the number of children in 1917, only that they had children. Instead, I measure having children with a binary variable for having children in 1917 and one for having children in 1930. Only children under 12 could be reported on the WWI Draft Cards as dependents, so if a man had a child before the age of 18 (having a child older than 12 at age 30, the maximum age for the draft), that goes uncounted in the variable for children in 1917. The 1917 Draft Registration Cards allowed men to claim other dependents. By far, the most frequently claimed non-spouse, non-child dependent was a parent, e.g., mother, father, or both. A binary variable for claiming a dependent parent in 1917 captures the effect of having a dependent paren. I created an additional binary variable for other types of dependents in 1917, e.g. nieces, nephews, or siblings.

The 1917 Draft Registration Cards are unique resources because they contain information on both health and health history. The draft questionnaire gave registrants the opportunity on the cards to claim health problems and disabilities for exemptions from the draft. They were also required to report any missing limbs or appendages. Because of the heterogeneity of health problems and the lack of detail in some reports,

e.g. reporting "physical disability" is common, I coded a variable for ill health in 1917 as one if a man had any health problem or amputation and zero otherwise. The 1917 records recorded registrants' stature and build in 1917 into three categories each. Statures were classified into tall, medium, or short. In classifies builds into slender, medium, or stout. I use corresponding binary variables for each category. In a few records, different classifications are used. I assume that men classified as "very short," "small," or "low" are short. I assume men classified as "fat" or "heavy" are stout and men classified as "light," "slight," "slim," or "thin" are slender. Roughly 3.4% of records report stature in inches, rather than categories, or did not record it at all and about 2.6% of records report are missing build classifications or record a weight instead. I classify such men as stature or build unknown and they receive zero values in their stature and build binary variables.

The men in both records reported hundreds of different types of occupations. Occupations in each period are aggregated into broader groups, based on the 1950 occupational classifications used by IPUMS, which are then, at times, aggregated into even larger groups of occupations by skill-level and type (Ruggles et al., 2010). I created binary variables for each occupational category and the aggregated categories. I coded 1917 occupations using the 1930 IPUMS sample, which IPUMS already coded, as a guide (Ruggles et al., 2010). When men reported multiple occupations in the 1917 record, I used the first occupation reported. For a few occupations, I used employer information to infer occupational classification. For example, I classify railroad firemen as craft workers who are skilled blue-collar, stationary firemen as operators who are semiskilled blue-collar, and firemen, i.e., firefighters, as service workers. I use reported employer in 1917 to differentiate these. A fireman working for a railroad is a railroad

fireman, for example. If a man reported "self" as the employer, I used this information to infer whether the man was the proprietor of a firm. For example, a man listing occupation as "coal operator" and employer as "self" is likely the owner and operator of a coal mine or a man listing "grocer" as occupation and "self" as employer is a proprietor of a grocery store.

The professional and technical occupational category includes occupations such as accountants, assayers, attorneys, teachers, or physicians. The managerial, official, and proprietor group includes occupations such as managers, merchants, buyers, store owners, and corporate officials. Examples of occupations included in the clerical group include secretaries, bookkeepers, stenographers, clerks, and mail carriers. Sales occupations include salesmen, retail clerks, insurance agents, and real estate brokers. The craft and apprentice grouping includes occupations such as auto mechanics, carpenters, engineers, railroad firemen, foremen, overseers, machinists, printers, and tool makers. The operative group includes nondescript factory workers, railroad brakemen, automobile drivers, miners, machine operators, stationary fireman, and packers. Service occupations include barbers, policemen, porters, cooks, and waiters. Laborer occupations include common laborers, day laborers not in agriculture, laborers, and teamsters. The farm labor group includes farm, nursery, and ranch laborers. The farmers group includes those that reported being a farmer, farm manager, diary man, grower, or rancher. The other category includes men in school, incarcerated, already in the military, or hospitalized. Men whose occupation is unlisted, illegible, or missing from the 1917 Draft Cards are also included in the other category.

When broader categories are needed, I aggregate these occupational groups. The white-collar occupation group includes professional and technical workers; managers, officials, and proprietors; clerical workers; and sales workers. The skilled blue-collar group includes craftsmen and apprentices. The semiskilled blue-collar group includes operatives and service workers. The unskilled blue-collar group includes laborers. Finally, the agriculture group includes farmers and farm laborers.

Unfortunately, the 1930 census did not record information on earnings or educational attainment. However, assuming no large changes in relative earnings or educational attainment between occupations for the draft cohort, comparing the earnings and education levels of these same occupational groups in 1940 is informative. Table 2.2 illustrates that workers of each occupation group within each aggregate occupation group have roughly similar skill accumulations by 1940. Using the 1940 census, which reports education and earnings, it reports the educational attainment and wage and salary earnings for each occupation group in 1940 for men who were draft-age in 1917 (Ruggles et al., 2010). White-collar workers clearly have higher earnings and more education. Although skilled blue-collar and semiskilled blue-collar workers have similar educational attainments, skilled blue-collar workers have learned a trade and have higher average earnings. Aggregating operatives and service workers into the semiskilled blue-collar group is justified because, in 1940, draft cohort men in these occupations had very similar educational attainment and wage earnings. Nonfarm laborers in the unskilled blue-collar group have lower levels of education and lower earnings compared to semiskilled blue-collar workers. I sometimes aggregate farmers and farm laborers into a single group,

despite obvious differences in property ownership, because they have similar earnings and education levels in 1940.

Representativeness

All historical samples have biases, but, as a whole, the linked sample is a representative national sample of this cohort of men. Table 2.3 compares the linked subsample to the 1930 IPUMS sample. Comparing the means of most variables between samples, the linked sample is representative of the 1930 IPUMS sample from which it is drawn. The greatest difference is that 27% of Blacks in the linked sample are WWI veterans, but only 20% of Blacks in the restricted IPUMS sample are veterans.

Table 2.4 formally tests the determinants of a successful link from a 1930 record to a 1917 record for each of the four subsamples. It reports the results of logistic regressions of successful linking on 1930 variables for each subsample for all attempted links. For all subsamples, men with more popular first or last names were less likely to be linked[1]. Among the Black and White subsamples of men who were not Southern interregional migrants, the probability of linking was higher for men who are younger, have children, are literate, and who stayed in their state of birth. Urban nonmigrant Blacks are also more likely to be included.

In both Black subsamples, the linking mechanism tends to link WWI veterans more often. Family variables are insignificant in determining the link probability of Black Southern interregional migrants. The linking process is more likely to link White Southern interregional migrants who were married or had children. There are some minor occupational effects. In most of the subsamples, I was less likely to link men who

were from the lower ends of the occupational ladder, service workers, laborers, and farm laborers, than I was farmers (the base group). Among Southern-born Black interregional migrants, the opposite is true, though not statistically significant. Again, however, Table 2.3 indicates that the magnitudes of these biases are small.

The differences between the 1930 IPUMS sample and the linked sample arise because the two samples have differing populations. The IPUMS sample is representative of 1930 census participants, whereas the population of the linked subsample is, in effect, the pool of persons appearing in both the 1930 census and 1917 draft records. If a man failed to register for the draft in 1917, I cannot link him to his 1917 Draft Registration Card. Chambers (1987) speculates that, based on Army estimates of a registration evasion rate of between 10% and 15% for the June 1918 registration drive, between 2% and 10% of draft eligible men failed to register in the 1917 drive (p. 221). Generalizing from arrest records of nonregistrants, he concludes that most nonregistrants were "poorer men: agriculture or industrial laborers, isolated and alienated from the larger society… because of geographical location or their economic, ethnic, or racial status" (Chambers, 1987, pp. 211-212). The characteristics of men that made them likely draft evaders mirror those that predict linking failure: illiteracy, unmarried status, migration, rural residency, and low-skilled occupation.[2] Such men are more difficult to successfully link simply because of the increased probability that they failed to register in 1917.

There may also be differences between the 1930 IPUMS Census sample and the actual, underlying population. The census has historically undercounted racial minorities (Coale and Rives, 1973). Although oversampling Blacks in the linked sample overcomes

this, there may still be biases if the 1930 Census undercounts persons of low socio-economic status. The 1930 Census may contain men who were holding higher-paying occupations, be more literate, and more likely to have families than nonparticipants. This might create a bias if large, systematic differences between the low socio-economic status men observed and linked in the 1930 census and low socio-economic status unobserved men exist, i.e., low socio-economic status men in the sample are unrepresentative of low socio-economic status men that I could not observe. Unfortunately, due to data limitations, the size of these biases is unknown, but it is unlikely to be very large.

Mortality creates another source of potential bias in the linked sample. The sample observes only men who lived until 1930. Because of mortality varies with individual characteristics, the surviving men who are observable may be unrepresentative of the unobservable (i.e. dead) men in their birth cohort. For men born in the 1890s, there were substantial mortality differentials: rural-born men lived longer than urban-born men did, White men lived longer than Black men did, and there was a slight socio-economic gradient in survival rates (Haines, 1996). The problem is further compounded in measuring the effect of veterans status on postservice outcomes because exposure to combat, which increases the probability of death during the service is a function of preservice socio-economic characteristics. MacLean (2011) found that during the mid to late 20th century, a serviceman's probability of seeing combat was a function of class and human capital accumulations; men from well-off backgrounds and men with high levels of skills are less likely to see combat. That same is likely true for WWI military service, meaning that the linked sample likely overestimates the socio-economic status and skill accumulations of WWI veterans. Again, the size of this bias is a function of the

differences between observed low socio-economic status men soldiers who died and low socio-economic status soldiers who lived.

If, all else equal, low-skilled men are more likely to serve in combat and die during the war and high-skilled men are less likely to serve in combat and die, then the characteristics of survivors differ from unobserved nonsurvivor. Fortunately, the size of this bias is not likely to be large. Of the 4.7 million service personnel who service during WWI, a relatively small number, 53,000, died in combat. Even under the pessimistic assumption that all of those combat deaths were low-skilled nonfarm or farm laborers, the distribution of draftees in unskilled jobs would have not differed much from that of veterans. About 11.4% of White veterans were in such jobs before the war. Assuming all combat deaths are only among white, drafted, previously low-skilled workers, I estimate that 13.4% of all draftees would have been such workers.[3] The small size of this difference under the most pessimistic assumption suggests that the distribution of veterans across skill levels is representative of that of draftees.

Conclusion

This chapter has discussed the construction of a new, longitudinal dataset that is representative of draft-age Black and White, native-born American men who registered for the draft in 1917 and participated in the 1930 U.S. Population Census. Because of its nature, this dataset provides unique insight into the central research questions of this dissertation. It observes veterans and nonveterans before military service, so I can use it to examine the characteristics of men who were drafted. It observes veterans and nonveterans before and after military service, giving it the ability to answer the question

of how WWI military service affected labor mobility while controlling for the nonrandom assignment of veteran status. Finally, it observes Southern out-migrants and nonmigrants before and after potential migration, so it can answer the question of who left the South during the Great Migration.

Notes

1 The sizes of the estimated odds-ratios for the coefficients on name popularities in Table 2.4 are deceptively small. First and last name popularities measure how many men in the restricted 1930 IPUMS sample had the same first or last name. The results imply that every additional man with the same first or last name reduces an observation's odds of being successfully linked by 1-2%. The average first name in the 1930 IPUMS sample cohort had a popularity of about 31 and the average last name a popularity score of 7. Blacks are much more likely to have common names (Table 2.3).

2 Keith (2001) contends that Southern rural White resisters to the WWI were as important as the traditional list of draft dissenters: immigrants, socialists, and pacifists.

3 This estimate is calculated in the following manner. There were about 2,436,000 white draftees and 53,000 combat deaths. Among the 2,383,000 White draftee survivors, whom I observe, 11.39% are low-skilled workers in nonagricultural or agricultural jobs. This implies 271,424 white, drafted, low-skilled survivors. Adding to these the 53,000 combat deaths, which are pessimistically assumed to be white, drafted, low-skilled, gives a pessimistic estimate of the number of White, low-skilled workers drafted, which is 324,423. This is 13.4% of all White draftees.

Table 2.1

Linking success by subsample

Subsample	Successful links	Attempts	Linkage rate
Not Southern-born regional migrants			
Whites	3,943	7,275	0.54
Blacks	1,175	3,644	0.32
Southern-born regional migrants			
Whites	1,223	2,557	0.48
Blacks	507	1,595	0.32
Total	6,848	15,071	0.45

Table 2.2

Educational attainment and mean earnings for draft-age cohort occupational groupings in 1940, sample weighted

	Distribution of educational attainment				
	<= 8th grade	9th-11th grade	12th grade	Some College+	Mean wage & salary income
White-collar					
Professional	0.13	0.07	0.12	0.68	$2,470.26
Managerial	0.47	0.16	0.20	0.17	$2,631.00
Sales	0.39	0.19	0.23	0.19	$1,894.92
Clerical	0.38	0.21	0.24	0.17	$1,801.98
Skilled Blue-collar					
Craft/Apprentice	0.73	0.15	0.09	0.03	$1,436.95
Semiskilled Blue-collar					
Operative	0.83	0.10	0.05	0.02	$1,166.01
Service	0.77	0.12	0.08	0.03	$1,083.70
Unskilled Blue-collar					
Laborer	0.89	0.06	0.03	0.01	$705.98
Agriculture					
Farmer	0.82	0.11	0.04	0.04	$526.23
Farm Labor	0.89	0.06	0.03	0.02	$397.87
Other					
Other	0.77	0.10	0.06	0.06	n/a

Note: Occupational category definitions are explained in the text. The 1940 sample is restricted to black and white males who were draft-age in 1917. Top-coded and bottom-coded observations are removed.

Table 2.3

Mean characteristics, 1930 IPUMS restricted sample and linked sample, weighted

	Both races		Whites		Blacks	
Variable	IPUMS Sample N=68,935	Linked Sample N=6,848	IPUMS Sample N=61,483	Linked Sample N=5,166	IPUMS Sample N=7,452	Linked Sample N=1,682
Personal Characteristics						
Age, 1930	38.27	38.16	38.28	38.18	38.22	38.01
	(0.01)	(0.04)	(0.01)	(0.04)	(0.03)	(0.07)
Married, 1930	0.82	0.84	0.82	0.85	0.80	0.82
	(0.001)	(0.005)	(0.002)	(0.006)	(0.005)	(0.01)
Children, 1930	0.65	0.68	0.67	0.70	0.49	0.52
	(0.002)	(0.006)	(0.002)	(0.007)	(0.006)	(0.01)
Literate, 1930	0.97	0.97	0.98	0.99	0.83	0.86
	(0.0007)	(0.002)	(0.0005)	(0.002)	(0.004)	(0.009)
White	0.89	0.89				
	(0.001)	(0.003)				
Black	0.11	0.11				
	(0.001)	(0.003)				
WWI Vet	0.29	0.31	0.30	0.31	0.20	0.27
	(0.002)	(0.006)	(0.002)	(0.007)	(0.005)	(0.01)
Northeast birth	0.24	0.23	0.27	0.25	0.03	0.03
	(0.002)	(0.006)	(0.002)	(0.007)	(0.002)	(0.005)
Midwest birth	0.36	0.38	0.40	0.42	0.05	0.06
	(0.002)	(0.007)	(0.002)	(0.007)	(0.002)	(0.006)
South birth	0.35	0.34	0.28	0.27	0.92	0.90
	(0.002)	(0.006)	(0.002)	(0.007)	(0.003)	(0.008)

Table 2.3 continued

	Both races		Whites		Blacks	
Variable	IPUMS Sample	Linked Sample	IPUMS Sample	Linked Sample	IPUMS Sample	Linked Sample
West birth	0.04	0.05	0.05	0.06	0.003	0.003
	(0.0008)	(0.003)	(0.0009)	(0.004)	(0.0007)	(0.001)
First name popularity	31.32	26.37	29.46	24.58	46.67	41.08
	(0.23)	(0.70)	(0.23)	(0.76)	(0.80)	(1.58)
Last name popularity	7.34	5.00	6.55	4.45	13.82	9.51
	(0.07)	(0.18)	(0.07)	(0.20)	(0.29)	(0.45)
Residency & Migration						
Urban, 1930	0.55	0.56	0.56	0.56	0.54	0.56
	(0.002)	(0.007)	(0.002)	(0.008)	(0.006)	(0.01)
Northeast, 1930	0.24	0.23	0.25	0.24	0.12	0.13
	(0.002)	(0.006)	(0.002)	(0.007)	(0.004)	(0.008)
Midwest, 1930	0.34	0.37	0.36	0.40	0.15	0.17
	(0.002)	(0.007)	(0.002)	(0.007)	(0.004)	(0.009)
South, 1930	0.32	0.30	0.27	0.25	0.71	0.69
	(0.002)	(0.006)	(0.002)	(0.007)	(0.005)	(0.01)
West, 1930	0.10	0.11	0.11	0.12	0.02	0.02
	(0.001)	(0.004)	(0.001)	(0.005)	(0.001)	(0.003)
Interstate move birth-1930	0.34	0.32	0.33	0.32	0.42	0.39
	(0.002)	(0.006)	(0.002)	(0.007)	(0.006)	(0.01)
Interregional move birth-1930	0.17	0.16	0.16	0.15	0.23	0.22
	(0.001)	(0.004)	(0.001)	(0.005)	(0.005)	(0.01)
Employment Status (1930)						
Unemployed, 1930	0.07	0.06	0.06	0.06	0.08	0.09
	(0.0009)	(0.003)	(0.001)	(0.004)	(0.003)	(0.007)

Table 2.3 continued

	Both races		Whites		Blacks	
Variable	IPUMS Sample	Linked Sample	IPUMS Sample	Linked Sample	IPUMS Sample	Linked Sample
Not in labor force, 1930	0.02	0.01	0.02	0.01	0.02	0.02
	(0.0005)	(0.002)	(0.0006)	(0.002)	(0.002)	(0.003)
Occupation (1930)						
Professional, 1930	0.06	0.06	0.06	0.07	0.02	0.02
	(0.0009)	(0.003)	(0.001)	(0.004)	(0.002)	(0.004)
Farmer, 1930	0.18	0.19	0.18	0.18	0.22	0.23
	(0.001)	(0.005)	(0.0006)	(0.006)	(0.004)	(0.01)
Managerial, 1930	0.11	0.12	0.12	0.13	0.01	0.02
	(0.001)	(0.005)	(0.001)	(0.005)	(0.001)	(0.004)
Clerical, 1930	0.05	0.06	0.06	0.06	0.01	0.02
	(0.0008)	(0.003)	(0.0009)	(0.004)	(0.001)	(0.003)
Sales, 1930	0.07	0.07	0.08	0.08	0.006	0.003
	(0.001)	(0.003)	(0.001)	(0.004)	(0.009)	(0.001)
Craft, 1930	0.18	0.18	0.20	0.20	0.06	0.06
	(0.001)	(0.005)	(0.002)	(0.006)	(0.003)	(0.006)
Operative, 1930	0.13	0.13	0.13	0.13	0.12	0.13
	(0.001)	(0.004)	(0.13)	(0.005)	(0.004)	(0.008)
Service, 1930	0.04	0.04	0.03	0.03	0.12	0.12
	(0.0008)	(0.002)	(0.03)	(0.003)	(0.004)	(0.008)
Farm Labor, 1930	0.05	0.04	0.04	0.03	0.08	0.07
	(0.0008)	(0.003)	(0.04)	(0.003)	(0.003)	(0.006)
Labor,1930	0.10	0.10	0.08	0.07	0.32	0.29
	(0.001)	(0.004)	(0.08)	(0.004)	(0.005)	(0.01)

Table 2.3 continued

	Both races		Whites		Blacks	
Variable	IPUMS Sample	Linked Sample	IPUMS Sample	Linked Sample	IPUMS Sample	Linked Sample
Other, 1930	0.02	0.02	0.02	0.01	0.03	0.02
	(0.0006)	(0.002)	(0.02)	(0.002)	(0.002)	(0.004)

Note: The 1930 IPUMS sample is restricted to draft-age, native-born Black and White men. Robust standard errors in parentheses.

Table 2.4

Determinants of a successful link by subsample

	Not Southern out-migrants		Southern out-migrants	
	Whites	Blacks	Whites	Blacks
Variable	Model 1	Model 2	Model 3	Model 4
First name popularity	0.99***	0.99***	0.99***	0.99**
	(0.00)	(0.00)	(0.00)	(0.00)
Last name popularity	0.98***	0.99***	0.98***	0.99***
	(0.00)	(0.00)	(0.00)	(0.00)
Age, 1930	0.98*	0.99	0.99	0.96**
	(0.01)	(0.01)	(0.02)	(0.02)
Married, 1930	0.99	1.14	1.37**	1.11
	(0.08)	(0.12)	(0.18)	(0.16)
Child, 1930	1.31***	1.26***	1.37***	1.05
	(0.08)	(0.10)	(0.14)	(0.13)
Literate, 1930	1.53**	1.25**	0.89	1.26
	(0.30)	(0.12)	(0.41)	(0.37)
WWI Veteran	1.09	1.75***	0.93	1.70***
	(0.06)	(0.16)	(0.09)	(0.22)
Urban, 1930	1.10	1.22**	1.07	1.00
	(0.07)	(0.12)	(0.11)	(0.22)
Northeast, 1930	0.90	0.71	0.84	1.16
	(0.11)	(0.36)	(0.10)	(0.13)
South, 1930	0.84	0.36		
	(0.15)	(0.32)		
West, 1930	1.11	1.93	0.99	1.04
	(0.15)	(1.46)	(0.09)	(0.27)

Table 2.4 continued

	Non-Southern migrants		Southern migrants	
	Whites	Blacks	Whites	Blacks
Variable	Model 1	Model 2	Model 3	Model 4
Northeast birth	0.87	1.26		
	(0.11)	(0.63)		
South birth	0.79	1.36		
	(0.15)	(1.20)		
West birth	1.07	0.40		
	(0.17)	(0.37)		
Interstate move, birth-1930	0.87**	0.77***		
	(0.06)	(0.07)		
Interregional move, birth-1930	0.76**	0.21***		
	(0.10)	(0.10)		
Unemployed, 1930	1.08	1.14	0.98	1.08
	(0.11)	(0.18)	(0.16)	(0.17)
Not in labor force, 1930	1.39	1.01	0.76	0.36
	(0.70)	(0.63)	(0.62)	(0.27)
Professional, 1930	1.10	0.69	0.87	2.82
	(0.13)	(0.20)	(0.21)	(1.92)
Managerial, 1930	1.11	1.59	0.88	1.43
	(0.11)	(0.50)	(0.19)	(1.08)
Clerical, 1930	1.01	1.08	1.21	3.86*
	(0.13)	(0.38)	(0.31)	(2.71)
Sales, 1930[a]	0.93	0.41	0.86	
	(0.11)	(0.24)	(0.19)	
Craft, 1930	0.96	0.82	0.73*	2.58
	(0.09)	(0.16)	(0.14)	(1.61)
Operative, 1930	0.90	0.97	0.73	2.43
	(0.09)	(0.14)	(0.14)	(1.49)

Table 2.4 continued

	Non-Southern migrants		Southern migrants	
	Whites	Blacks	Whites	Blacks
Variable	Model 1	Model 2	Model 3	Model 4
Service, 1930	0.76*	0.85	0.43***	1.84
	(0.11)	(0.14)	(0.12)	(1.13)
Labor, 1930	0.83*	0.79**	0.53***	1.65
	(0.09)	(0.09)	(0.11)	(1.00)
Farm labor, 1930	0.66***	0.85	0.76	3.35
	(0.09)	(0.12)	(0.18)	(2.57)
Other, 1930	0.66	0.83	0.85	2.83
	(0.31)	(0.48)	(0.67)	(2.47)
Observations	7,275	3,644	2,557	1,581
χ^2	336.9***	210.6***	163.9***	80.92***

Note: Odds ratios reported. Standard errors in parentheses. Base occupational group is farmers.
[a] No Southern-born, out-migrant, black sales workers attempted (N=14) were linked. These observations are subsequently absent from the regression equation.
*** p<0.01, ** p<0.05, * p<0.1

CHAPTER 3

"I DIDN'T RAISE MY BOY TO BE A SOLDIER:"

WWI DRAFT SELECTION

The answer to the question of WWI draft selection is important on two fronts. First, it is an important question with respect to social justice; how societies choose who serves in their militaries, in effect, selects who shoulders the cost of war (Cooper, 1977). The characteristics of conscripts have shifted over the course of American history. The conscription system during the Civil War allowed wealthy men to buy their way out of service. The flagrant unfairness of this led to riots and mob violence. During WWII, to draft positively selected inductees. The sheer number of troops required drove the rate of military service as high as 75% in some cohorts (Angrist & Krueger, 1994). The only men from these cohorts that did not serve were men who were in some way unfit for service. By contrast, the limited commitment in Vietnam required fewer troops and the burden of service fell on low-income young men, with educated men and men from wealthy backgrounds able to avoid service (Angrist & Krueger, 1994; Baskir & Strauss, 1978; Cooper, 1977). In structuring a draft, a government can share the costs of war by socio-economic class evenly or unevenly.

Second, the question of draft selection is an important technical point in estimating the treatment effect of military service on subsequent labor market outcomes.

If military service were a randomly assigned variable, then it would be a trivial exercise to identify the effect of military service on the treatment group. However, the assignment of military service is the result of a complex selection process (Imbens & van der Klaauw, 1995). Individuals who want to join the military are fundamentally different from the control group of individuals who do not want to join the military. The military only wants to induct certain types of people and screens out undesirable candidates. Because of these selection biases, the identification of the effect of military service on postservice outcomes is nontrivial (Angrist, 1990; Angrist & Krueger, 1994). One must separate differences in outcomes between veterans and nonveterans from the true effect of military service and the effect of variables that are unrelated to the true effect of military service but affect both selection into service and postservice outcomes.

The WWI Draft

Because of its potential economic, political, and social impacts, the WWI Selective Service system was the result of multiple overlapping political compromises (Chambers, 1987). It balanced national, regional, and local interests; military staffing, industrial, and agricultural interests; business interests with labor interests; and the interests of racial and immigrant groups. In order to win the political support of Southern states and in accordance with prevailing racial norms, the WWI military was a segregated institution. The vast majority of Black men received no training in the use of weaponry or military tactics. Although the military wanted a wide draft pool, it wanted to leave what it deemed as essential wartime industry and agriculture labor supplies intact. The issue of federalism was also a factor in the draft structure. The federal government

controlled whom the draft selected by setting exemption and deferment rules and overseeing their implementation, while local draft boards controlled whom the draft selected by issuing exemptions and deferments. The result was a system in which a man's probability of conscription was nonrandom because his probability of receiving a draft exemption was nonrandom.

The draft system divided the 24 million men who registered for the WWI draft into several classes that determined draft eligibility. Class I individuals, who composed the only group drafted during the war, included the following: unskilled workers engaged in unessential industrial or agricultural pursuits, unmarried men, and married men who were unable to provide for their families. The draft classified the following types of men were into Class II, Class III, or Class IV, who received deferments throughout the war: employed married men, industrial and agricultural workers in essential pursuits, skilled workers, married men whose families had no other means of support, conscientious objectors, men who were physically or mentally unfit, and government officials (Chambers, 1987). This classification system insulated men in classes other than Class I from the draft.

However, wanting a wide draft pool, the army fought most exemptions and deferments, resulting in low rates of agricultural and industrial deferments (Keene, 2001). Although only married men received blanket deferment from the draft, local draft boards had the primary responsibility of raising the wartime army and had some leeway in issuing deferments. Many local draft boards were biased in their issuance of exemptions and deferments, e.g., by deferring desirable registrants and sending undesirable registrants to war. There were many concerns about the quality of recruits, both

conscripts and volunteers. Low deferment rates for medical conditions or physical disabilities were a concern of medical officers, who judged new inductees as physically inadequate and in poor health (Keene, 2001). Psychologists from the War Department's Psychological Division estimated the illiteracy rate for White troops at 21.5% and the illiteracy rate for Black troops at 50.6% (Keene, 2001).

There were racial differences in the draft mechanism. The requests of Black men for occupational or dependency deferments were denied by local draft boards at a higher rate than those of Whites (Chambers, 1987). This may be because discriminatory local boards or the socio-economic structure put more Black men in Class I. Discriminatory rulings by local draft boards were rampant. A local draft board near Atlanta, Georgia, for example, gave deferments to 3% of Black men but 65% of White men (Chambers, 1987). Although the federal government intervened in this case, it highlights the problem. On the other hand, Black men were, relative to White men, concentrated in low-skilled jobs and had working spouses, putting them in Class I. Additionally, Southern states had separate quotas of Black and White men to fill. Because Black men were disproportionately concentrated in agriculture, they may not have received as many agricultural deferments in order to fill the ranks.

Thus, the question of whether WWI draft positively or negatively selected inductees is a priori ambiguous. On the one hand, married men, skilled workers, and men in managerial occupations received deferments. Contemporaries, however, decried the physical and academic abilities of inductees. This implies that the WWI draft negatively selected veterans. On the other hand, the military screened out men in poor mental and physical health, implying positive selection.

Unfortunately, the sample cannot separate conscripts from volunteers. It is likely that volunteers self-selected on characteristics different from those on which the draft selected conscripts. However, the majority of veterans in the linked sample are likely conscripts. After the passage of the Selective Service Act creating the draft in 1917, the Wilson administration actively sought to curb volunteers, eventually prohibiting the volunteering by draft-eligible men by December 1917 (Chambers, 1987). We observe veterans and nonveterans who registered for the draft, which is a strong indication that they did not want to serve voluntarily. Keene (2001) reports that around 72% of Army soldiers during WWI were conscripts. About 92% of Blacks who served in the wartime army were conscripts.

Data

Again, what makes the dataset constructed for this dissertation distinctive is that it observes veterans and nonveterans before the draft. I use it here to explain differences in the probability of military service with differences in prewar characteristics. Chapter 2 describes the data construction process.

This chapter uses a few additional variables. Draft registrants in 1917 had the opportunity to report a claim otherwise not reported in the questionnaire. Most replied that they had none or that they had families to support, which the variables for marriage, dependent children, dependent parents, and other dependents cover. Several men explained that their employers were working on government contracts; worked in vital public utilities such as mail, railroad, or telephone services; or that their business would fail if drafted. I coded these nonagricultural employment-related draft exemption claims

into a binary variable taking a value of one if a man made such a claim. About 2.7% of White men made a nonagricultural employment exemption claim, compared with only 0.9% of Black men. Some men reported philosophical or religious objections to being drafted or fighting. I coded their objections into a binary variable that took a value of one if a man claimed a philosophical objection to the draft or fighting. Very few men made such a claim. Only 0.9% of White men made such a claim and only one Black man in the entire sample made a philosophical claim of draft exemption. The WWI draft may have tried to keep men of German ancestry out of the military, for fear of sabotage or spying. To test this, I created a binary variable taking the value of one if a man's father was born in Germany. Approximately 7.3% of White men had a German-born father, but no Black men in the sample did.

In examining differences in the application of agricultural draft exemptions within the South, I employ two additional variables, which I pulled from the 1920 county-level census tabulations (Haines & Inter-university Consortium for Political and Social Research, 2010). The first is the percentage of males in a man's county of draft registration who are Black. The second is the percentage of residents in a man's county of draft registration who live in a rural area. I interacted this variable with agricultural occupations, farm occupations, and farm labor occupations.

Within the South, it is possible that property relations influenced a man's probability of military service. In some Southern regions, White planters could request their Black sharecroppers from from the draft (Chambers, 1987). The 1917 Draft Cards do not record land ownership of farmers, so I instead use an innovative proxy for property ownership of farmers. Although most farmers report "self" as their employer,

many instead reported the name of a third party where the draft card asks for the name of the employer. These employers are either landlords or the farmers that report them may in fact be farm laborers instead. Regardless, there is s potential difference in military service probability between farmers who report an "employer" and those that do not, especially within the South. I coded a binary variable that takes a value of one if a farmer reports any other name and a value of zero if the farmer reports self-employment or the employment question was blank. About 26% of White farmers listed an employer, compared with 60% of Black farmers.

Selectivity into WWI Service

Any observed difference between the postwar mobility of veterans and nonveterans is subject to a potential bias, because the characteristics that predict veteran status may also influence mobility. Studies need to account for this selectivity into service. Table 3.1 reports the results of several logistic regression models for the assignment of veteran status as a function of various observable characteristics in 1917. It reports coefficients as odds ratios. The first two columns report estimates for Whites, the third and fourth columns report the estimates for Blacks, and the final three columns report the estimates for both races. I report the estimates of two models for each race, one that aggregates farming occupations into the general agricultural occupation group and one that disaggregates farming occupations into farmers and farm laborers. Table 3.2 reports the predicted probabilities of service implied by race for men of various characteristics, giving a sense of the magnitude of the coefficients reported in Table 3.1.

The evidence presented in Table 3.1 and Table 3.2 suggests that the WWI draft mechanism worked reasonably well, but because of draft deferments and exemptions, the probability of service was nonrandom. Most of the strong negative determinants of the probability of veteran status are those clearly related to draft deferments. Married men generally received deferments, as did men with children under the age of 12 or other dependents. In these regression models, men who reported marriage, dependent children, or dependent parents on their 1917 draft registration cards had drastically reduced odds of service. Unmarried men with no children had a 54% predicted probability of service if they were White and a 42% probability of service if they were Black. Dependents also dramatically reduce the odds of a man's service. A married White man with children had only a 5% probability of service and a married Black man with children had a 10% probability of service. Because family structure may influence a man's future occupational or geographic mobility, it is advantageous that I can control for these biases in the assignment of veteran status.

There are interesting anthropometric and health biases in the assignment of veteran status. Men classified as short or slender on their registration card were significantly less likely to be WWI veterans. Using short and slender classifications as proxies for poor health and poor health history, the veteran assignment mechanism screened out men with a history of malnutrition, ill-health, and physical unfitness. Men of both races who were short had a reduction in the odds of service by about 20 to 25%; men who were slender had a reduction in their odds of service of approximately 25-30%. Men with a reported health problem or disability on their 1917 registration card had nearly half the odds of serving as healthy men (or those with unreported health

problems). The effects on the predicted probabilities of service implied by these health and anthropometric effects in Table 3.2 are large, implying that the concerns of contemporaries about the health and fitness of inductees may have been overblown. This suggests that WWI draft positively selected inductees in terms of health, which was expected. Veterans were healthier than nonveterans were. Again, an advantage of the longitudinal sample is that I can control for these effects. Stature and health are correlated with socioeconomic success and mobility (Lee, 2005, 2008; Steckel, 1995).

Fears of contemporaries about the mental unfitness of inductees seem to have also been overblown. Literate men of both races were more likely to have served, however effect of literacy on the probability of service for Whites is statistically insignificant at the 10% level, although the magnitude implied is very large. Nonetheless, the coefficients imply that White literate men and White illiterate men had probabilities of service of 22% and 11%, respectively. Literate Black men and illiterate Black men had had probabilities of service of 24% and 19%, respectively. Controlling for biased assignment of veteran status by literacy is important, because literacy affects mobility.

A few peculiarities in the draft are worthy of brief note. Employment-related nonagricultural draft claims made by Whites reduced their probability of service. Too few Blacks made such an exemption claim. Draft boards seem to have respected philosophical objections to fighting made by Whites. Men of recent German heritage were less likely to have served, perhaps because of fears of infiltration and sabotage.

The biased assignment of veteran status by occupation is a concern because later outcomes attributed to veteran status may instead be outcomes attributable to prewar occupation, e.g., veterans may have been more likely to hold certain jobs in 1930 because

they were more likely to hold those jobs in 1917. The results of Table 3.1 suggest that White professional workers in 1917 had 65% greater odds of serving in WWI than White nonfarm common laborers. This might be because the military actively sought out and recruited professionals or that local draft boards deemed professional workers unnecessary for the war effort in issuing exemptions. The predicted probabilities implied by estimates of the effects of occupation on the probability of service of Whites implied by the coefficients, reported in Table 3.2, are large. Other types of nonfarm workers were no more or no less likely to serve than nonfarm common laborers. This implies that, all else equal, managers, craftsmen, operators, service workers, and nonfarm common laborers had similar rates of service. Among nonfarm occupations, the probability of service seems was equal across socio-economic class as proxied by occupation. Since previous occupation influences the choice of future occupation, it is advantageous that we can control for the prewar occupation of veterans.

Agricultural workers and farmers received general deferments. As anticipated, White workers in the agricultural sector have a diminished probability of service in Table 3.1; both White farmers and farm laborers have reduced odds of service by about one third. The coefficients imply that whereas a White nonfarm common laborer of otherwise average characteristics had a 23% predicted probability of service, a White man with an agricultural occupation had a 17% predicted probability of service.

Importantly, however, Black agricultural workers did not have reduced odds of service. Model number 6 of Table 3.1 interacts agricultural occupation with being Black. The positive, large, significant coefficient on this interaction term shows that the effect of agricultural exemptions varied by race -- they were not applied to Black men. This racial

difference exists even after controlling for the percentage of men who were Black and the percentage of the population living in rural areas in a registrant's county. The racially biased application of the agricultural exemption may occur as the result of choices made by local draft boards, which had power to deny exemptions and did so based on race (Chambers, 1987). The fact that Blacks were concentrated in agricultural areas and local draft boards only had a limited number of deferments to issue may also explain why agricultural occupation in 1917 does not reduce the likelihood of Black WWI military service. States had different draft quotas of Whites and Blacks to fill, which would create differential selection of Blacks and Whites (Chambers, 1987).

Table 3.3 tests the quota-filling hypothesis as an explanation for the absence of a negative agricultural occupation affect on Black service probability. It examines the determinants of draft probability for workers exclusively in the Southern states. It reports the results of variously-specified regressions of the determinants of WWI veteran status for men in the U.S. South, where Black men in agricultural pursuits are concentrated, by race. There are four models for each race. The first aggregates agricultural occupations into one variable. The second disaggregates agricultural occupations into farmers and farm laborers and adds the proxy for land ownership, the variable indicating farmers reporting an employer. The third interacts the aggregated agricultural occupation variable with the percentage of county inhabitants who live in rural areas. The fourth model for each race interacts both of the disaggregated farm occupations with the percentage of county residents who are rural.

The results of Table 3.3 may explain why, nationwide, Whites in agricultural occupations are less likely to serve, whereas Blacks in agricultural occupations were not.

Property relations within the South do not have explanatory power. The proxy for farm ownership is never significant, implying that differences in Black and White farmer draft probabilities do not result from differences in land ownership. In the models without rural county interactions, although the coefficients on White agricultural occupations, White farmers, and White farm laborers are of similar magnitude to those estimated nationwide, they are not statistically significant in the U.S. South. For Blacks, agricultural occupation odds ratios are never significant and are close to one.

After controlling for variation in the effect of agricultural occupation on service by the percentage of rural residents in a county, these effects remain insignificant, but there are changes in the magnitude of the agricultural effect for Black farmers, Black farm laborers, and White farm laborers. Although not statistically significant, the results imply that Black agricultural workers in rural areas are more likely to have been drafted and that, after controlling for this variation, Black agricultural workers had a reduced odds of service. This provides some mild evidence for the quota-filling hypothesis. Rural Southern draft boards might have refused Black agricultural workers agricultural deferments in order to fill racial quotas. This result does not deny the fact that conscious discrimination by local draft boards took place (Chambers, 1987).

Model 8 of Table 3.3 also suggests that after controlling for the fact that White farm laborers in very rural counties were less likely to have served, White farm laborers were more likely to have served than White nonfarm common laborers, though this result is statistically insignificant. This suggests that, in the South, the burden of conscription not only fell upon Blacks disproportionately, it also fell on poor White farm laborers

disproportionately. Draft boards in nonrural counties may have been eager to send these low-skilled, low-income White workers to war.

Conclusion

The assignment of WWI military service was nonrandom. For the most part, the Selective Service System positively selected WWI servicemen. Veterans tended to be more literate and healthier than the average draft registrant was. Among Whites, veterans tended to be nonagricultural workers and were slightly more likely to have been professional workers before the war. Draft boards were less likely to have conscripted Whites claiming philosophical exemptions, exemption on grounds of nonagricultural employment, and Whites of German ancestry. Black agricultural workers were just as likely as Black nonagricultural workers to have served, owing to the discrimination of local draft boards and the concentration of Blacks in agricultural occupations in the rural areas of the South. Because WWI veterans differed from nonveterans on a number of preservice characteristics that may affect labor market mobility, it is essential that any analysis of the effect of WWI military service on labor mobility consider this.

Table 3.1

Determinants of WWI military service, weighted

	Whites		Blacks		Both races		
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Black					1.05	0.82	0.89
					(0.65)	(0.12)	(0.37)
Age, 1930	0.90***	0.90***	0.89***	0.89***	0.90***	0.90***	0.90***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Literate, 1930	2.26	2.25	1.41*	1.41*	1.67**	1.72**	1.64**
	(0.14)	(0.14)	(0.09)	(0.09)	(0.02)	(0.01)	(0.03)
Married, 1917	0.13***	0.13***	0.41***	0.41***	0.16***	0.15***	0.15***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Children, 1917	0.35***	0.35***	0.39***	0.39***	0.35***	0.35***	0.34***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Parent, 1917	0.65***	0.65***	0.70**	0.70**	0.65***	0.66***	0.65***
	(0.00)	(0.00)	(0.03)	(0.03)	(0.00)	(0.00)	(0.00)
Other dep., 1917	0.83	0.83	0.74	0.74	0.80	0.80	0.81
	(0.33)	(0.34)	(0.25)	(0.25)	(0.19)	(0.20)	(0.22)
Professional, 1917	1.66**	1.66**	0.63	0.63	1.59**	1.48*	1.49*
	(0.03)	(0.03)	(0.32)	(0.32)	(0.02)	(0.06)	(0.05)
Managerial, 1917	1.28	1.28	0.90	0.90	1.29	1.19	1.20
	(0.26)	(0.26)	(0.90)	(0.90)	(0.19)	(0.38)	(0.35)
Clerical, 1917	1.28	1.27	1.36	1.36	1.31	1.21	1.23
	(0.22)	(0.22)	(0.60)	(0.60)	(0.11)	(0.28)	(0.23)
Sales, 1917	1.28	1.28	1.03	1.03	1.30	1.19	1.22
	(0.29)	(0.29)	(0.97)	(0.97)	(0.21)	(0.41)	(0.36)
Craft, 1917	1.15	1.15	0.82	0.82	1.14	1.06	1.06
	(0.44)	(0.44)	(0.54)	(0.54)	(0.36)	(0.72)	(0.69)

Table 3.1 continued

	Whites		Blacks		Both races		
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Operative, 1917	1.20	1.19	0.83	0.83	1.17	1.10	1.11
	(0.33)	(0.33)	(0.37)	(0.37)	(0.28)	(0.52)	(0.48)
Service, 1917	1.48	1.48	1.01	1.01	1.25	1.29	1.29
	(0.29)	(0.29)	(0.96)	(0.96)	(0.33)	(0.28)	(0.27)
Agricultural, 1917	0.59***		0.87		0.64***	0.56***	0.55***
	(0.00)		(0.41)		(0.00)	(0.00)	(0.00)
Farmer, 1917		0.58***		0.86			
		(0.00)		(0.40)			
Farm labor, 1917		0.62**		0.90			
		(0.05)		(0.66)			
Other, 1917	1.08	1.08	0.99	0.99	1.07	1.01	1.02
	(0.77)	(0.77)	(0.97)	(0.97)	(0.76)	(0.97)	(0.94)
Health	0.53***	0.53***	0.55**	0.55**	0.54***	0.54***	0.54***
	(0.00)	(0.00)	(0.02)	(0.02)	(0.00)	(0.00)	(0.00)
Tall	0.98	0.98	0.98	0.98	0.99	0.98	0.98
	(0.86)	(0.86)	(0.85)	(0.86)	(0.86)	(0.82)	(0.84)
Short	0.78*	0.78*	0.67**	0.67**	0.77**	0.77**	0.76**
	(0.06)	(0.06)	(0.05)	(0.05)	(0.03)	(0.03)	(0.02)
Stout	1.02	1.02	1.14	1.14	1.03	1.02	1.02
	(0.90)	(0.91)	(0.47)	(0.47)	(0.79)	(0.86)	(0.87)
Slender	0.76***	0.76***	0.60***	0.60***	0.74***	0.74***	0.75***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Urban, 1917	1.00	1.00	0.87	0.87	0.99	0.99	0.99
	(0.96)	(0.96)	(0.34)	(0.34)	(0.91)	(0.91)	(0.93)
Northeast, 1917	0.75***	0.75***	1.29	1.29	0.79**	0.78**	0.78**
	(0.01)	(0.01)	(0.31)	(0.31)	(0.01)	(0.01)	(0.01)

Table 3.1 continued

	Whites		Blacks		Both races		
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
South, 1917	1.03	1.03	0.76	0.77	0.99	0.98	1.19
	(0.77)	(0.76)	(0.18)	(0.18)	(0.94)	(0.86)	(0.13)
West, 1917	1.37**	1.36**	0.88	0.88	1.35**	1.35**	1.33**
	(0.03)	(0.03)	(0.88)	(0.88)	(0.03)	(0.03)	(0.04)
German father	0.68***	0.68***			0.69***	0.69***	0.69***
	(0.01)	(0.01)			(0.01)	(0.01)	(0.01)
Employment claim	0.67*	0.67*	1.09	1.09	0.70*	0.69*	0.68*
	(0.08)	(0.08)	(0.90)	(0.90)	(0.10)	(0.09)	(0.09)
Philosophical claim	0.43**	0.43**			0.43**	0.43**	0.42**
	(0.04)	(0.04)			(0.04)	(0.04)	(0.04)
Black*Agricultural, 1917						2.00***	2.32***
						(0.00)	(0.00)
Pct black male							0.37***
							(0.00)
Pct rural							1.01
							(0.95)
Observations	5,166	5,166	1,682	1,682	6,848	6,848	6,848
χ^2	920.5***	920.4***	200.1***	200.2***	1125***	1123***	1121***

Note: Odds ratios reported. Robust *p*-values in parentheses. Base occupational group is nonfarm common labor.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 3.2

Predicted probabilities of WWI military service

Characteristics	White	Black
Average characteristics	0.22 [0.21, 0.24]	0.24 [0.21, 0.26]
Literate, 1930	0.22 [0.21, 0.24]	0.24 [0.22, 0.26]
Illiterate, 1930	0.11 [0.01, 0.22]	0.19 [0.13, 0.24]
Nonmarried, no children 1917	0.54 [0.52, 0.57]	0.42 [0.38, 0.46]
Married, no children 1917	0.13 [0.11, 0.16]	0.23 [0.19, 0.27]
Married with children 1917	0.05 [0.04, 0.06]	0.10 [0.08, 0.13]
Professional, 1917	0.32 [0.22, 0.41]	0.16 [0.04, 0.28]
Laborer, 1917	0.23 [0.18, 0.28]	0.25 [0.21, 0.30]
Agriculture, 1917	0.17 [0.13, 0.20]	0.22 [0.18, 0.26]
Health Problem	0.14 [0.11, 0.17]	0.15 [0.09, 0.22]
Short	0.19 [0.15, 0.22]	0.18 [0.12, 0.23]
Slender	0.19 [0.16, 0.22]	0.17 [0.13, 0.21]
German-born father	0.17 [0.13, 0.21]	
Employment claim, nonagri.	0.16 [0.10, 0.22]	
Philosophical claim	0.11 [0.03, 0.19]	

Note: 95% confidence intervals in brackets. Predictions made using race-separate equations from Models 1 and 3 of Table 3.1 for Whites and Blacks, respectively. Mean characteristics used for other variables.

Table 3.3

Determinants of WWI service, southerners by race

	Blacks				Whites			
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Age, 1930	0.88***	0.88***	0.88***	0.88***	0.89***	0.89***	0.89***	0.89***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Literate, 1930	1.32	1.32	1.34	1.34	1.22	1.22	1.22	1.22
	(0.18)	(0.19)	(0.17)	(0.18)	(0.76)	(0.77)	(0.77)	(0.77)
Married, 1917	0.41***	0.42***	0.41***	0.41***	0.12***	0.11***	0.12***	0.11***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Children, 1917	0.37***	0.37***	0.37***	0.37***	0.32***	0.31***	0.32***	0.32***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Parent, 1917	0.88	0.89	0.88	0.88	0.61**	0.60**	0.61**	0.60**
	(0.54)	(0.54)	(0.51)	(0.53)	(0.03)	(0.03)	(0.03)	(0.03)
Other dep., 1917	0.68	0.68	0.67	0.67	1.33	1.33	1.33	1.33
	(0.22)	(0.22)	(0.22)	(0.22)	(0.48)	(0.48)	(0.48)	(0.48)
Professional, 1917	0.77	0.77	0.75	0.75	1.14	1.14	1.14	1.14
	(0.61)	(0.61)	(0.58)	(0.58)	(0.84)	(0.84)	(0.84)	(0.84)
Managerial, 1917	0.58	0.58	0.59	0.59	0.80	0.80	0.79	0.80
	(0.65)	(0.65)	(0.66)	(0.66)	(0.61)	(0.61)	(0.61)	(0.61)
Clerical, 1917	1.33	1.33	1.27	1.27	0.81	0.81	0.81	0.81
	(0.79)	(0.79)	(0.83)	(0.83)	(0.65)	(0.65)	(0.65)	(0.65)
Sales, 1917	1.99	1.99	1.93	1.94	1.42	1.41	1.42	1.41
	(0.39)	(0.39)	(0.41)	(0.41)	(0.50)	(0.50)	(0.50)	(0.50)
Craft, 1917	1.01	1.01	0.99	0.99	0.81	0.81	0.81	0.81
	(0.98)	(0.98)	(0.98)	(0.98)	(0.58)	(0.58)	(0.58)	(0.58)
Operative, 1917	0.72	0.72	0.72	0.71	1.21	1.21	1.21	1.21
	(0.20)	(0.20)	(0.20)	(0.20)	(0.64)	(0.64)	(0.64)	(0.64)

Table 3.3 continued

	Blacks				Whites			
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Service, 1917	1.13	1.13	1.11	1.11	2.80	2.79	2.79	2.79
	(0.67)	(0.67)	(0.72)	(0.72)	(0.19)	(0.20)	(0.20)	(0.20)
Agricultural, 1917	0.93		0.39		0.58		0.55	
	(0.71)		(0.15)		(0.13)		(0.39)	
Farmer, 1917		0.92		0.48		0.61		0.50
		(0.74)		(0.34)		(0.18)		(0.35)
Farm labor, 1917		0.97		0.20		0.43		2.10
		(0.90)		(0.17)		(0.17)		(0.70)
Farmer*Employer, 1917		1.00		0.99		0.94		0.94
		(1.00)		(0.97)		(0.83)		(0.83)
Other, 1917	0.90	0.90	0.91	0.91	0.61	0.60	0.61	0.60
	(0.80)	(0.80)	(0.83)	(0.83)	(0.53)	(0.52)	(0.53)	(0.52)
Health	0.55**	0.55**	0.55**	0.55**	0.79	0.79	0.79	0.78
	(0.03)	(0.04)	(0.04)	(0.04)	(0.37)	(0.35)	(0.37)	(0.35)
Tall	1.01	1.01	1.00	1.00	1.20	1.20	1.20	1.20
	(0.97)	(0.97)	(1.00)	(0.99)	(0.32)	(0.31)	(0.31)	(0.32)
Short	0.70	0.70	0.70	0.70	0.76	0.77	0.76	0.78
	(0.15)	(0.15)	(0.15)	(0.15)	(0.37)	(0.41)	(0.37)	(0.42)
Stout	1.12	1.13	1.15	1.15	0.78	0.79	0.78	0.79
	(0.57)	(0.56)	(0.49)	(0.49)	(0.37)	(0.39)	(0.37)	(0.39)
Slender	0.63**	0.63**	0.63**	0.63**	0.71*	0.71*	0.71*	0.71*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.07)	(0.08)	(0.07)	(0.08)
Urban, 1917	0.78	0.78	0.76	0.76	0.81	0.82	0.81	0.81
	(0.17)	(0.17)	(0.15)	(0.15)	(0.36)	(0.39)	(0.36)	(0.38)
German father					0.34*	0.33**	0.34*	0.34*
					(0.05)	(0.05)	(0.05)	(0.05)
Employment claim	1.52	1.53	1.55	1.56	0.65	0.65	0.65	0.65
	(0.67)	(0.66)	(0.66)	(0.66)	(0.41)	(0.40)	(0.41)	(0.40)

Table 3.3 continued

	Blacks				Whites			
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Philosophical claim					0.30	0.30	0.30	0.30
					(0.31)	(0.31)	(0.31)	(0.31)
Pct. Black male	0.50*	0.50*	0.47**	0.46**	0.34**	0.35**	0.34**	0.35**
	(0.07)	(0.07)	(0.05)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Pct. rural	0.77	0.77	0.64	0.64	0.79	0.79	0.78	0.78
	(0.37)	(0.37)	(0.16)	(0.16)	(0.46)	(0.49)	(0.48)	(0.49)
Pct. rural*Agricultural, 1917			2.85				1.07	
			(0.16)				(0.92)	
Pct. rural*Farmer, 1917				2.21				1.24
				(0.35)				(0.78)
Pct. rural*Farm labor, 1917				6.50				0.17
				(0.16)				(0.46)
Observations	1,306	1,306	1,306	1,306	1,514	1,514	1,514	1,514
χ^2	159.1***	159.2***	160.9***	162.4***	260.9***	262.1***	260.9***	262.5***

Note: Odds ratios reported. Robust *p*-values in parentheses. Base occupational group is nonfarm common labor.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

CHAPTER 4

AFTER IT WAS OVER, OVER THERE: DID WWI VETERANS NEED A BONUS?

The costs of war, denominated in lost opportunity as well as in blood and treasure, are large and inequitably distributed throughout society. Soldiers pay the brunt of these costs during conflict through an increased risk of death, physical injury, and psychological damage. Although military service may provide some soldiers with valuable skills transferrable to civilian labor markets, several factors may adversely affect a returning veteran's subsequent labor market performance. Upon return, veterans continue to shoulder the costs of war in terms of forgone labor market opportunities that influence their future earnings and socioeconomic advancement.

Modern public programs such as the GI Bill or the Helmets to Hardhats program may partially or fully offset some of these losses with formal education; however, the availability of such benefits today makes it difficult to evaluate the intrinsic effect of war on the labor market outcomes of veterans, as any observable labor market outcome conflates benefits received with losses incurred. Instead, to detect the long-term effects of war on veterans' socioeconomic mobility, a historical examination of a period when veterans had sparse benefits is required. This paper provides the first estimates of the

costs of war in terms of World War I (WWI) veterans' socioeconomic mobility using a new, original sample.

Despite the political importance of postwar labor market experiences of WWI veterans in shaping the modern veterans' compensation regime (Daniels, 1971; Keene, 2001), there have been no modern empirical studies comparing the socio-economic outcomes of WWI veterans to nonveterans. I offer a step towards a better empirical understanding of the effect of WWI service through the creation and analysis of a new longitudinal microdata sample that observes WWI veterans and nonveterans before wartime service, in 1917, and on the cusp of the Great Depression, in 1930. These data allow me to measure the treatment effect of WWI veteran status on occupational attainment, occupational mobility, and geographic mobility, while controlling for selectivity into service, prewar work experience, family structure, residency, health, and stature. Because WWI veterans received sparse direct Federal benefits over this period, this paper identifies the occupational and geographic mobility of veterans in a context of paltry postservice benefits.

The results suggest that military service sans generous benefits perpetuated the status quo. The WWI conscription and recruitment mechanism functioned rather well; registrants with characteristics that received draft exemptions and deferments were less likely to have served. WWI veterans were, for the most part, a positively selected group. However, because of selection for skill assignments within the military and segregation, the effect of service differed by race and skill level. By 1930, WWI veterans were slightly more likely than nonveterans to hold white-collar or skilled blue-collar occupations. This is because White veterans who were skilled before the war were more

likely to hold skilled positions after the war relative to skilled Whites who did not serve. Service did not offer Black veterans who held skill positions before the war such an advantage. WWI military service did not offer advancement out of low-skilled or agricultural work. Although White veterans had increased rates of geographic mobility, Black veterans had rates of geographic mobility similar to their nonveteran peers. By the onset of the Great Depression, White WWI veterans performed similarly to White nonveterans in the labor market, and may White skilled workers may have even held slight advantages -- exacerbating already existing inequalities in the labor market structure. Black veterans, however, enjoyed no such advantages.

WWI Veterans and Labor Mobility

The experience of returning WWI veterans provides a useful historic analogy against which to measure the costs of war borne by veterans of modern conflicts. Like many of today's veterans, World War I veterans returned to a largely indifferent public (Severo & Milford, 1989). Like many veterans in the early 21st century, WWI veterans returned to a boom period, the 1920s, followed by a deep cyclical downturn, the Great Depression. Unlike modern veterans, however, World War I veterans faced these conditions without Federal education benefits or direct monetary compensation.

Although returning veterans requiring medical care as the result of their service received it, Congress was reluctant to grant additional compensation (Rockoff, 2006). Veterans' groups lobbied hard for "bonus" compensation, which Congress finally issued in 1924, 6 years after the Armistice ending the war (Daniels, 1971; Dickson & Allen, 2004). However, the "Bonus Bill" lacked the vocational, farm, or housing aid lobbied for

by veterans groups (Daniels, 1971). Instead, compensation amounted to what one historian described as "essentially a postdated check" (Daniels, 1917) and another "a twenty-one-year endowment life insurance policy payable at death or in 1945, whichever came first" (Dickson & Allen, 2004).

WWI veterans received postservice compensation in the form of "Bonus Bonds" that would be paid in full with interest in 1945 to veterans or their beneficiaries. The value of a veteran's adjusted service certificate varied with length and location of service: service within the United States was valued at $1.00 per day and had a cap of $500 while overseas service was valued at $1.25 per day, with a maximum $625, plus a 25% premium (Rockoff, 2006). The average bond would pay a little over $1000 in 1945 (Dickson & Allen, 2004). By comparison, in 1940, the average yearly wages for a male factory operative in the WWI draft age cohort amounted to around $1,200 (Ruggles et al., 2010). Although veterans could borrow against the value of the bonds, loan privileges did not begin until 1927 and the interest rates paid were steep, around 7% (Daniels, 1971; Rockoff, 2006). The eventual response of veterans to the Great Depression underscores what they saw as the insufficiency of such compensation. In 1932, thousands of impoverished WWI veterans marched on Washington, DC, demanding immediate cash payment of their compensation bonds (Daniels, 1971; Dickson & Allen, 2004; Douglas, 1934; Keene, 2001).[1] Congress finally provided cash redemption of the bonds in 1936, over President Roosevelt's veto (Rockoff, 2006).

Testing for differences in the labor market earnings of WWI veterans and nonveterans would be the clearest way to measure the effect of military service absent postservice compensation on the socioeconomic outcomes of veterans. Unfortunately,

data on individual wages, earnings, or wealth are unavailable in the U.S. population censuses or other sources immediately after WWI. The population census did not record wage and salary earnings until 1940, which is after WWI veterans received their cash payments. Additionally, individual names in the 1940 census are currently unavailable, making it impossible to link individuals in 1940 to their WWI draft records to control for selectivity, the strategy undertaken in this paper. Therefore, this paper uses alternative measures of labor market success before 1930—occupational and geographic mobility. Before the advent of mass education and wider access to college, occupational and geographic mobility were the primary mechanisms by which individuals could improve their socioeconomic standing in the 19th and early 20th centuries (Ferrie, 1999; Fishback, 1998; Thernstrom, 1973).

There is ample precedent in the economic history literature for using occupational and geographic mobility to measure opportunity, labor market performance, and, ultimately, changes in material living conditions (Ferrie, 2005; Long & Ferrie, 2007; Thernstrom, 1973). Such measures are especially enlightening for measuring the advancement, or lack thereof, of Black workers in the early 20th century (Collins, 2000; Maloney, 2001, 2002). Exit opportunities during this era helped protect workers and raised living standards through upward pressure on wages, encouraging compensating wage differentials for workplace disamenities, eroding discriminatory employer practices, narrowing the wage-gap between skilled and unskilled labor, and checking employer monopsony power in isolated locales (Fishback, 1998). Opportunities for work elsewhere are associated with upward pressure on wages and reduced work effort (Lazonick & Brush, 1985). Finding differentials in occupational and geographic mobility

between veterans and nonveterans would indicate important differentials in labor market performance and living conditions.

I use a simple, straightforward model of occupational choice. Let V be the expected present value of switching from initial occupation i to another occupation j. Adapting the model of occupational change of Ferrie (1999, p. 92), the expected present value of occupational mobility is

$$V = E\left(\int_0^T \left[Y_{jt} - Y_{it}\right] e^{-rt}\, dt - C\right)$$

where T is the expected time of retirement or death (whichever comes first), r is the discount rate, Y_j is the income from occupation j, Y_i is the income from initial occupation i, and C is the cost of switching from occupation i to occupation j. If the expected net benefit of switching occupational groups is positive, an individual is likely to switch occupations.

Consider an individual making the decision whether to move between occupations such that the earnings gain is positive, $Y = Y_{jt} - Y_{it}$ and $Y > 0$ for any time period t. Let the probability of switching from the lower-paying to the higher-paying occupation, θ, be a function increasing in the expected value of switching occupations. The equation for the probability of switching occupations, again following Ferrie (1999, p. 92), is

$$\theta = f\big(E(V)\big)$$

$$= f(T, Y, r, C)$$

where,

$$\frac{\partial\theta}{\partial T} > 0, \frac{\partial\theta}{\partial Y} > 0, \frac{\partial\theta}{\partial r} < 0, \frac{\partial\theta}{dC} < 0$$

Younger individuals and individuals expecting a long work life have more time to reap the rewards of occupational change, increasing their probability of occupational change. As the benefits of occupational change increase, the likelihood of switching increases. A higher discount rate lowers the probability of switching, because the higher the discount rate, the greater future benefits must be to recoup immediate costs. Moreover, most importantly, the probability of switching decreases as the costs of switching increase. How WWI veteran status simultaneously affects *T*, *Y*, *r*, and *C* will determine its net impact on the probability of switching occupations. Switching occupations entails retraining costs. Veteran status impacts the cost of switching occupations (*C*) through its impact on skill accumulations--veterans may receive training during service, making it relatively easier to switch afterwards, or may lose out on training, making it relatively more difficult to switch. Differentials in training between veterans and nonveterans may also create differentials in expected relative incomes between certain occupations (*Y*), affecting the probability of switching. Through adverse health effects on skill accumulations, military service may also change expected relative incomes of certain occupations (*Y*), e.g., forcing physically disabled veterans out of physically rigorous occupations.[2]

The literature largely attributes differences in the earnings between veterans and nonveterans in the post-World War II (WWII) era to differences between veterans and nonveterans in skills accumulations (Berger & Hirsch, 1983; Bound & Turner, 2002; Cohen, Segal, & Temme, 1992; Fredland & Little, 1985; Lee, 2007; Teachman & Tedrow, 2004). Veterans have different skill accumulations than nonveterans due to postwar educational benefits, skills accumulated during service that are transferrable to civilian labor markets that would not have otherwise been accumulated, and forgone opportunities to accumulate skills rewarded in civilian labor markets. In addition to technical skills, there may also be differences between veterans and nonveterans in soft skills (Kleykamp, 2009). In the postwar period, the effects of skill differences between veterans and nonveterans often varied substantially by race (Angrist 1990, 1998; Bryant, Samaranayake, & White, 1993; Fredland & Little 1985; Hirsh & Mehay 2003). Similarly, differences in skill accumulations between WWI veterans and nonveterans should shape differences in occupational mobility. Strong racial differences in this effect are also expected.

The narrative historians who have examined the experience of WWI veterans have been universally pessimistic about the war's effect on veterans' socioeconomic status, largely inferred from contemporary accounts of impoverished veterans and veterans' civil unrest (Daniels, 1971; Douglas, 1934; Severo & Milford, 1989). Keene (2001) sums up this pessimistic argument, writing that veterans returned

> in 1919 to find 'foreigners' in their factory jobs, women in clerical positions, the chance to learn a skill gone, a postwar recession in the farming community… an incapacitating sensitivity to noise, 'jumpy nerves,' or struggles of hard work and thrift to acquire a small house and garden. (p. 182)

Less civilian work experience and education; the opportunity costs of participating in the tight wartime labor market; discontinuities in work experience and education; physical, social, and psychological dysfunction; differences in soft skills; difficulties attaining well-matched jobs and a recessionary labor market upon return; may have led WWI veterans to have lower rates of occupational mobility than comparable nonveterans by increasing their relative costs of switching occupations. Because of such missed opportunities, veterans would have to spend comparatively more to catch up to nonveterans of similar characteristics.

Black veterans likely fared worse than White veterans. The segregated WWI army, in which commanders actively adopted Jim Crow-style regulations to appease Southern Whites, assigned most Black recruits to menial labor tasks in which no higher skills could be accumulated (Lentz-Smith, 2009). WWI did not provide Blacks an opportunity to advance up the industrial ladder, although tight labor markets at home provided such opportunities to Black nonveterans (Whatley, 1990). Assignment to unskilled tasks during service while those at home advanced likely increased the costs of occupational change by creating a relatively larger skill-gap between Black veterans and Black nonveterans. A return to heightened discrimination is likely to have further hampered the occupational mobility of Black veterans relative to other Blacks and other veterans. Upon returning from Europe, Southern Whites stigmatized Black veterans as revolutionaries and lynched many of them (Keene, 2001).

In addition to racial variations in the veteran effect, there may also be variations in the effect of service by preservice skill level. Veterans who had skills before service may have had different outcomes than veterans who were unskilled before service. The

effect of WWI service on veterans may also vary by preservice skills. There are two levels of screening in military service. The first is for service and the second for assignment within service. Through aptitude tests, militaries assign skilled soldiers to skilled jobs within the military and unskilled soldiers to unskilled jobs or combat (MacLean, 2010, 2011). Models below attempt to isolate variations in the effect of veteran status by skilled level by examining the downward mobility of workers who were skilled before service by veteran status and the upward mobility of workers holding unskilled jobs before service.

I model migration choice as an investment choice among potential locations in which individuals maximize the present value of net expected monetary and nonmonetary returns. Following Sjaastad (1962), individual i chooses to reside in the location j that satisfies

$$\max_j Y_{ij} + N_{ij} - c_{ij} - p_{ij}$$

where Y_{ij} is expected present value of future income at location j. Expected future income is a function of individual characteristics (e.g., skills or race) and local labor market conditions at location j. N_{ij} is individual i's monetary valuation of the expected present value of the nonmonetary characteristics of location j. These returns are offset by the monetary costs of moving to location,c_{ij}, and the nonmonetary costs of moving, p_{ij}. Let k be the current location of individual i. If $j = k$ the costs of moving are, naturally, zero. An individual will move to location j only if the expected present value of

monetary and nonmonetary returns at location *j* net the monetary and nonmonetary costs of moving to location *j* are greater than those at location *k*, that is,

$$Y_{ij} + N_{ij} - c_{ij} - p_{ij} > Y_{ik} + N_{ik}$$

Veteran status is expected to affect migration decisions through its impact on the costs of moving and through its effect on relative skills and, therefore, earnings.

Military service may lower the costs of migration by introducing veterans into new locations and giving them access to new, broader information networks. This decreases the cost of moving (c_{ij}) and increases the quality of information about potential locations. Empirical studies of the geographic mobility of Civil War veterans indicated that these forces shaped veterans' migration decisions. Lee (2008) found that the further a company moved south or west, the greater the probability of a company member making a move to a different region because of exposure to greater information. Costa and Kahn (2006) explore how social capital and diversity within Black Union companies affected Black Civil War veterans, finding that the destination choice of Black, veteran interstate migrants was influenced by the proportion of their company hailing from the destination state or passing through the destination state while in the service. In the late 20th century, Bailey (2011) found higher rates of migration among veterans. Over this period, White veterans are more likely than White nonveterans to have migrated, but Black veterans do not have increased rates of migration relative to Black nonveterans until after the Great Migration ends (Bailey, 2011). It seems likely that WWI soldiers

would have had a similar experience. Soldiers during WWI were geographically mobile and met fellow soldiers hailing from all parts of the country (Keene, 2001).

Skill differentials between veterans and nonveterans could lead to differentials in internal migrations by veteran status, because skilled workers are more likely to migrate. Military service may increase skills, increasing (Y_{ij}) for certain locations. Black migrants leaving the South during the early 20th century were positively selected on literacy, because educated migrants may have had higher returns to migration, been better able to finance migration costs, had increased dissatisfaction with the Southern racial climate, or had better access to information (Margo, 1990; Vigdor, 2002). In these ways, differentials in skills by veteran status should create differentials in migration, especially among Blacks. Service may also change veterans' nonmonetary preferences about a location (N_{ij}), which might be especially important for returning Black veterans, many of whom experienced life outside Jim Crow during their service (Lentz-Smith, 2009).

In assessing the impact of WWI military service on postwar occupational and geographic mobility, there is an important caveat: veterans are always a nonrandomly selected group. The military wants only certain people and only certain people want to join the military. Unobserved quality differences between veterans and nonveterans may explain differences in labor market outcomes (Berger & Hirsch, 1983). Selectivity may bias estimated effects of skill differences between veterans and nonveterans (Angrist, 1990). Indeed, positive selection explains why WWII veterans were relatively more successful than nonveterans (Angrist & Krueger, 1994). This problem is a problem of omitted variable bias. Any estimates of the relationship between military service and

postservice mobility are biased if characteristics that both determine service and influence postservice mobility are not controlled for.

Although all men between the ages of 21 and 30 had to register for the draft in 1917, as indicated in Chapter 3, the WWI draft mechanism was clearly nonrandom. The Selective Service System deferred draft registrants who were married, had dependents, or were employed in industry or agriculture important for the war effort, based on answers given in each registrant's 1917 Draft Registration Card (Chambers, 1987). The strategy I adopt to control for selectivity into WWI military service involves the construction of a longitudinal dataset that observes veterans and nonveterans before and after wartime service. This study uses information from the 1917 Draft Registration Card and the 1930 U.S. Census entry for 6,848 Black and White draft registrants. Therefore, I can control for selectivity into service by using the variables used to determine draft exemption and deferment. This allows me to avoid biased estimates of the effect of service by controlling for variables that are both determinants of mobility and WWI military service, but are unobservable in traditional cross-sectional sets used to compare veterans and nonveterans.

Data on Veterans and Nonveterans

Using the new, longitudinal dataset detailed in Chapter 2 has a number of advantages. First, I can control for occupation, family status, health, and location before the war, removing omitted variable bias from the estimates of the effect of veteran status. Second, the data are unique because they observe the socioeconomic status of veterans before the cash payment of their deferred compensations bonds and because of how it

recorded veteran status, reporting only those who served during a war or in military expedition as veterans. Third, the 1917 Draft Registration Card for each man is his registration questionnaire that local registration boards used to determine his draft eligibility, allowing me to control for the issuing of draft deferments (Chambers, 1987).

Table 4.1 reports the means for 1917 and select 1930 variables by race and veteran status for the 6,848 men in the linked sample. Around 30% of Whites and 27% of Blacks in the linked sample are WWI veterans. The Draft Registration Cards did not record literacy, but the 1930 U.S. Census did, so a binary variable for literacy in 1930 is used. The 1917 Draft Registration Records contain rich information on social and economic status of veterans and nonveterans. Registrants reported marital status, dependent children under the age of 12, and any other dependents, the most frequent of whom were parents. I created binary variables for marriage, having dependent children, having a dependent parent, and having other dependents in 1917. I created corresponding variables for marriage and having children in 1930.

Registrants had to report town and state of birth on their 1917 draft records. I created binary variables indicating census region of birth. Detailed residency information in 1917 is recorded and urban status in 1917 was assigned to individuals living in an incorporated place with more than 2,499 residents in 1920 (U.S. Bureau of the Census, 1921, pp. 178-331). I created a similar variable for urban status in 1930 from the 1930 IPUMS records (Ruggles et al., 2010). I created binary variables for census region of residence in 1917 and 1930. The analysis uses two measures of migration. A binary variable indicates men who changed states between birth and 1917, 1917 and 1930, and

birth and 1930. Another binary variable indicates men who moved between census regions over these same periods.

The 1917 registration records give us a picture of health conditions and health history for each registrant. Registrants had the opportunity to claim a health problem as a draft exemption. Because of the heterogeneity of conditions reported, I coded these into a single binary variable that takes a value of one if a man reported any health problem. For identification purposes, the 1917 records report stature and build in three different categories. Draft Cards classify men's statures as tall, medium, or short and their builds as slender, medium, or stout. I created binary variables for each stature and build category. Stature is an important variable to control for because of its strong association with socioeconomic status (Steckel, 1995).

The 1917 Draft Registration Cards also record detailed occupation and employer information. I coded and sorted occupations in 1917 into the following ten groups, based on the 1950 occupational classification schema used by IPUMS: professional and technical workers; farmers; managers, officials, and proprietors; clerical workers; sales workers; craftsmen and apprentices; operators; service workers; nonfarm laborers; and farm laborers (Ruggles et al., 2010). The final occupation category, "other," includes those in prison, in school, institutionalized, or reporting no occupation. I created comparable occupational categories for 1930 occupation from the 1930 IPUMS records (Ruggles et al., 2010). For many of the regressions below, if further aggregate these ten occupation groups into five broader groups. The white-collar group includes professionals, technical workers, managers, professionals, proprietors, clerical workers, and sales workers. The skilled blue-collar group includes craftsmen and apprentices.

The semiskilled blue-collar group aggregates operators and service workers. Nonfarm common laborers have their own group, unskilled blue-collar. Finally, farmers and farm laborers comprise the agricultural occupation group.

The Postwar Mobility of WWI Veterans

In order to determine differences in occupational attainment between veterans and nonveterans by 1930, I estimated the determinants of 1930 occupation with a multinomial logistic model where 1930 occupation is the dependent variable. The coefficient estimates for the model are contained in Table 4.2 as relative risk ratios, with unskilled blue-collar as the base occupation. The probability of a veteran having a white-collar occupation versus an unskilled blue-collar occupation in 1930 is 53% greater than for nonveterans, controlling for prewar occupation and other biases inherent in the assignment of veteran status. Veterans were also 39% more likely to end up in skilled blue-collar occupations versus unskilled occupations. There is some weak support that veterans may have been more likely to end up in semiskilled occupations versus unskilled occupations, albeit at a low level of statistical significance. WWI veteran status passes the joint χ^2 test for significance, indicating that it played a role in determining 1930 occupation. The interaction between Black and veteran, however, is statistically insignificant, suggesting no difference between Black veterans and White veterans in how veteran status influences 1930 occupational choice.

Blacks were much less likely than Whites to end up in white-collar, blue-collar skilled, blue-collar semiskilled, or agricultural occupations in 1930 versus unskilled blue-collar occupations. Being married in 1917 significantly increases the odds of having a

white-collar, skilled, or semiskilled blue-collar occupation versus an unskilled blue-collar occupation by 1930, probably because marriage screens out observations with unobserved low-quality characteristics. Prewar work experience is a very important factor in determining 1930 occupational attainment. The coefficients suggest a high rate of occupational persistence; men who in 1917 were white-collar workers were more likely to end up as white-collar workers than unskilled blue-collar workers were in 1930, and so on. The probability for workers who were out of the labor force in 1917 having a white-collar or skilled blue-collar occupation in 1930 versus a low-skilled occupation is very large and significant because most of these men were in postsecondary schooling or training in 1917. Urban residence in 1917 significantly increases the probability of having a white-collar or skilled blue-collar occupation versus having an unskilled blue-collar occupation, but decreases the odds of working in the agricultural sector.

Using this model, Table 4.3 enumerates the estimated relative risk ratios of WWI veterans attaining any 1930 occupational outcome versus any base outcome. It reports the estimated veteran effect on occupational attainment for every occupation group versus every other occupation group. Veteran status increases the probability of attaining a white-collar or a skilled blue-collar occupation in 1930 versus attaining an unskilled or farmer occupation, suggesting that WWI service may have provided some veterans with a chance to accumulate valuable skills. Also of note is that veteran status does not increase an observation's risk of exiting the labor force by 1930; WWI veterans did not systematically drop out of the labor force.

However, Table 4.4 reveals that any such advantages veterans had were small. It reports the estimated probabilities for attaining each occupational classification by race

and veteran status groupings, using the sample's mean characteristics. The size of these estimated differences suggests that WWI service seems to have only minimally influenced 1930 occupational choice. Whereas the model predicts that 29% of veterans were white-collar in 1930, only 25% of nonveterans should be white-collar. The model implies that 11% of veterans should be unskilled blue-collar workers in 1930, versus 15% for nonveterans. The small magnitude of these differences suggests that WWI service may have given only a few veterans an advantage in attaining a job higher on the occupational ladder in 1930.

How did WWI military service affect occupational mobility? It is important to take into account the direction of occupational changes. If military service offered low-skilled veterans a chance to accumulate useful skills, then veterans who were previously low-skilled workers may be more likely to attain higher occupations than nonveterans who were previously low-skilled. If however, the second screen within service assigned already skilled soldiers to skilled tasks and unskilled soldiers to unskilled tasks or combat, there should be no such effects. I defined a binomial variable indicating upward mobility that takes a value of one if a nonfarm common laborer or farm laborer in 1917 attained a semiskilled blue-collar, skilled blue-collar, or white-collar occupation by 1930. I regress this on veteran status, race, the interaction of veteran status and race, and other possible determinants of upward mobility for low-skilled workers.

Table 4.5 indicates that service during WWI did not significantly increase the probability of an upward move for either Black or White low-skilled workers. Instead, literacy played a major role in determining the probability of upward movement; all else equal, a literate man's odds of upward movement were about three times greater for

nonfarm laborers and ten times greater for farm laborers than an illiterate man's odds. Black workers were much less likely to move up. The large, significant odds ratio for health problems indicates that ill-health may have forced workers in physically-demanding, low-skilled farming occupations to find employment more amenable to their condition elsewhere. Although farm laborers were less upwardly mobile than nonfarm laborers, farm laborers who changed their state of residence between 1917 and 1930 were more likely to move up in occupation. The evidence suggests that WWI service did not give low-skilled veterans an opportunity to learn skills necessary for occupational advancement. On the other hand, service did not hamper the opportunities for occupational advancement of veterans in low-skill occupations.[3]

Military service may have enabled agricultural workers to move out of agriculture and into other pursuits. Table 4.6 tests this possibility, reporting the results of logistic regressions of a binary variable indicating a move out of agriculture on possible determinants for farmers and farm laborers. Veteran status neither increases the probability of leaving agriculture nor prevents workers from leaving agriculture. Instead, literacy makes farmers and farm laborers more likely to leave agriculture for other pursuits. Migration is also strongly associated with leaving agriculture, as would be expected. Older men and men with families are less likely to leave the agricultural sector.

Although service did not offer upward mobility out of low-skilled occupations or mobility out of agriculture, it may have created downward mobility in skilled workers through physical or psychological trauma or lost skill accumulation. Table 4.7 uses logistic models to examine the determinants of the probability of white-collar workers,

skilled blue-collar workers, and semiskilled blue-collar workers in 1917 becoming nonfarm common laborers by 1930. Unexpectedly, there is some evidence that WWI military service may have had a slight protective effect on skilled workers of all types, shielding them from downward mobility. Although the effect of veteran status on downward mobility is insignificant when estimated separately for white-collar, skilled blue-collar, and semiskilled blue-collar workers, it becomes significant when all three groups are pooled into a larger sample. This suggests that, for previously skilled workers, military service may have provided extra experience, exposure to new techniques or technologies, and wider professional networks that may have been helpful in sustaining a skilled career after service. The interaction of veteran status and race behaves similarly, becoming only statistically significant in the larger sample. Black men, as a whole, were much more likely to move downward than Whites. Literate men were less likely to move downward, as were tall men and men that moved between states. Compared to semiskilled blue-collar workers, both white-collar and skilled blue-collar workers were less downwardly mobile as a whole.

Together these estimates suggest that service may have prevented the downward mobility of skilled White veterans, but not of Black veterans. This helps explain why veterans were slightly more likely to hold white-collar or skilled blue-collar jobs after the war--White veterans in these jobs were slightly less likely to move downward. Race entirely cancels out this effect of Black veterans who were white-collar, skilled, and semiskilled workers in 1917. The odds of downward mobility for White veterans are 60% those of White nonveterans, but the odds of downward mobility for Black veterans are 120% those of Black nonveterans.[4] The estimated veteran effect on downward

mobility is statistically insignificant when estimated separately for Blacks. The large coefficient for the effect of military service on white-collar Blacks suggests strong downward pressure on these men, although this estimate is statistically insignificant. Yet, the magnitude of the protective effect for White veterans is minor. The predicted probability of downward mobility out of a white-collar, skilled blue-collar or semiskilled job, for a White nonveteran of otherwise average characteristics, is 5.3%. That for a White veteran of otherwise average characteristics is 3.3%. By contrast, the predicted probability of downward mobility for an average Black white-collar, skilled blue-collar or semiskilled worker is 14.6%.

Table 4.8 tests the hypothesis that WWI veterans were more geographically mobile. Binary variables for interstate migration and interregional migration between 1917 and 1930 are regressed on possible determinants.[5] The first three columns of Table 4.8 contain the results for interstate migration for both races, Whites, and Blacks. The last three columns contain the results for interregional migration. Table 4.9 contains the predicted probabilities of interstate and interregional migration implied by the estimates by race and veteran status, using the coefficients from the models estimated using both races. The results indicate that Blacks were much more mobile than Whites, especially if they lived in the South in 1917. Literate men were also more likely to migrate, although this effect is not statistically significant for Whites. Migration was insensitive to family structure. There are some minor differences in migration by occupation, the strongest of which is that Blacks with agricultural occupations were less likely to move. Men who had previously made an interstate move, i.e., between birth and 1917, were more likely to

move in the 1917-1930 period than those who had not. Men classified as short were less likely to be interstate migrants.

Clearly, WWI military service increased the probability of interstate and interregional migration for White veterans. White veterans had odds of interstate migration 44% greater than White nonveterans and odds of interregional migration 74% greater than White nonveterans. The predicted probabilities illustrate the magnitude of this effect. Whereas only 18% of White nonveterans made an interstate move and 7% made an interregional move, 24% of White veterans made an interstate move and 11% of White veterans made an interregional move, all else equal. The interaction between Black and veteran cancels out the positive effect of veteran status on interstate and interregional migration probability in the models estimated for both races. When the models include only Blacks, the effect of veteran status on migration probability is statistically insignificant.

One reason military service may have had no effect on the migration probability of Black veterans is that Blacks were already much more likely to migrate during this period. Indeed, the 1920s were the first phase in the Great Migration of Blacks and Whites out of the South, the largest and most important internal migratory movement during the 20th century (Gregory 2005). Table 4.10 explores the migration choices of Southern-born Whites and Blacks living in the South in 1917. It reports the results of a multinomial logit model that gives Southerners three migration choices: not moving (the base outcome), interstate migration within the South, and migration out of the South.

Southern Blacks are 50% more likely than Southern Whites to move within the South (rather than not move) and nearly three times more likely than Whites to move out

of the South instead of not moving. Southern White veterans are roughly 70% more likely than Southern White nonveterans to make either type of move versus not moving. This implies that Southern White veterans have a 13.6% probability of within-South migration and an 8.4% probability of out-of-South migration. Southern White nonveterans, on the other hand, have an 8.8% probability of within-South migration and a 5.5% probability of out-of-South migration. Again, the racial interaction term cancels out the positive veteran effect. Southern Black veterans are no more likely to move than Southern Black nonveterans. Instead, the average Black Southerner has an 11.6% predicted probability of moving within the South and an 18.7% predicted probability of leaving the South altogether, which are far higher than the average White Southerner, veteran or nonveteran.

Aside from already high rates of Black migration, other possible explanations for the absence of a veteran effect on Black geographic mobility exist. First, it is unclear that Black veterans would have larger information networks than those who did not service. The information networks of Blacks on the home front were expanding during the war as well. Responding to tight labor markets in the North, an influx of advertising and labor agents targeting Black workers flooded the South from the start of the war, providing them with information and job opportunities elsewhere (Grossman, 1989; Marks, 1989). The military relegated Blacks to segregated units where they would have only met other Blacks, most likely from the South. Second, increased racial tensions after the war in the South may have reduced Black veterans' movement within the South because they may have viewed an interstate move within the South as too risky. White Southerners were fearful that Black servicemen returning from France were returning as revolutionaries. In

the year following the war, such anxieties were the catalyst for at least 30 race riots and the lynching of at least 10 Black veterans (Keene, 2001; Lentz-Smith, 2009). Finally, it is unlikely that Black veterans needed wartime service elsewhere to change their preferences about Southern racial segregation and racial violence or widen their vision about what life could be like under a different set of race relations. It is more plausible that Southern Black veterans and nonveterans equally despised Jim Crow and, subsequently, had equal probabilities of leaving.

Conclusion

The postwar experiences of WWI veterans provide an interesting historical experiment in which to test the effect of military service on economic and geographic mobility in the absence of generous Federal veterans' benefits. Exploring the interaction of race and military service in the early 20th century, this study highlights racial differences in the distribution of the costs of war. These results, however, rest on comparisons between occupations. I am unable to detect differences between veterans and nonveterans within occupations due to data limitations. Any future search for a penalty or premium due to WWI service must concentrate on within occupation earnings differences.

Did WWI veterans need a bonus? Absent generous federal benefits, military service perpetuates, and may even exacerbate the status quo. Skilled White veterans fared slightly better than skilled White nonveterans in terms of downward occupational mobility, although any advantages were minor. WWI military service did not affect the upward mobility of low-skilled workers or the transition of agricultural workers and

farmers into nonagricultural work for either race. Controlling for prewar work experience, WWI veterans were slightly more likely to be white-collar, skilled blue-collar or semiskilled blue-collar workers in 1930. This is because White veteran white-collar, skilled blue-collar and semiskilled blue-collar workers were slightly less likely to experience downward occupational mobility over this period. Such workers received skilled jobs in the military, which would help them maintain their careers. Black veterans experienced no such protections from downward mobility. More generous compensation might have helped insulate Black veterans from downward mobility, although it is doubtful that this would have been effective, given deep occupational segregation in the North and South at the time (Sundstrom, 1994).

WWI military service had a much larger effect on the postwar migration of White veterans, with wartime connections opening up migration opportunities that would not have been available otherwise. White veterans were substantially more likely to be interstate or interregional migrants after the war. In contrast, Black veterans had the same migration rates as Black nonveterans. There is no veteran effect on Black geographic mobility because, during the early 20th century, Blacks were already highly mobile. The information networks provided by military service were apparently unneeded by or unuseful to the millions of Black Americans leaving the South.

Notes

1 Troops led by General MacArthur violently evicted the protesting veterans from their encampment in Washington, DC.

2 Although WWI military service may have reduced an individual's lifespan after the war, it is not obvious that it would affect *T*, i.e., it is also not clear that WWI veterans making decisions after the war would do so expecting to work less over their lifetimes. It is also unclear how service would systematically affect the time discount rates of veterans.

3 The large, but statistically insignificant coefficient on the interaction between Black and veteran suggests service may have prevented upward mobility of Black farm laborers.

4 The effect of veterans status on the downward mobility of Blacks is calculated by multiplying the odds-ratio implied by the coefficient of the veteran effect by the odds ratio estimate for the interaction of Black and veteran, or $0.62 \times 1.94 = 1.20$.

5 All interregional migrants are, by definition, interstate migrants as well.

Table 4.1

Linked sample mean characteristics by race and WWI veteran status, weighted

	Whites		Blacks	
Variable	Nonveterans N=3,534	Veterans N=1,632	Nonveterans N=1,221	Veterans N=461
Personal Characteristics				
Age, 1917	25.87	24.37	25.32	24.43
	(0.05)	(0.07)	(0.08)	(0.13)
Literate, 1930	0.98	0.99	0.85	0.89
	(0.002)	(0.002)	(0.01)	(0.02)
Married, 1917	0.68	0.14	0.69	0.37
	(0.009)	(0.009)	(0.01)	(0.03)
Children, 1917	0.47	0.06	0.43	0.15
	(0.009)	(0.006)	(0.01)	(0.02)
Parent, 1917	0.13	0.19	0.17	0.19
	(0.006)	(0.01)	(0.01)	(0.02)
Other dep., 1917	0.03	0.05	0.05	0.06
	(0.003)	(0.006)	(0.007)	(0.02)
Married, 1930	0.87	0.80	0.84	0.77
	(0.006)	(0.01)	(0.01)	(0.02)
Children, 1930	0.75	0.58	0.55	0.44
	(0.008)	(0.01)	(0.01)	(0.02)
Northeast birth	0.25	0.25	0.03	0.05
	(0.008)	(0.01)	(0.005)	(0.01)
Midwest birth	0.42	0.44	0.05	0.08
	(0.009)	(0.01)	(0.007)	(0.01)
South birth	0.28	0.24	0.91	0.87
	(0.008)	(0.01)	(0.008)	(0.02)

Table 4.1 continued

	Whites		Blacks	
Variable	Nonveterans	Veterans	Nonveterans	Veterans
West birth	0.05	0.07	0.002	0.002
	(0.004)	(0.007)	(0.001)	(0.002)
German father	0.09	0.08		
	(0.005)	(0.07)		
Health				
Health problem	0.12	0.09	0.08	0.06
	(0.006)	(0.008)	(0.008)	(0.01)
Tall	0.32	0.32	0.34	0.34
	(0.009)	(0.01)	(0.01)	(0.02)
Short	0.10	0.09	0.12	0.09
	(0.006)	(0.007)	(0.009)	(0.01)
Slender	0.28	0.26	0.25	0.18
	(0.008)	(0.01)	(0.01)	(0.01)
Stout	0.11	0.10	0.14	0.15
	(0.006)	(0.008)	(0.01)	(0.01)
Residency				
Urban, 1917	0.53	0.60	0.48	0.50
	(0.009)	(0.01)	(0.01)	(0.02)
Urban, 1930	0.53	0.63	0.54	0.62
	(0.009)	(0.01)	(0.01)	(0.02)
Northeast, 1917	0.25	0.25	0.08	0.12
	(0.008)	(0.01)	(0.007)	(0.01)
Midwest, 1917	0.39	0.41	0.10	0.12
	(0.009)	(0.01)	(0.009)	(0.02)
South, 1917	0.27	0.23	0.81	0.75
	(0.008)	(0.01)	(0.01)	(0.02)

Table 4.1 continued

	Whites		Blacks	
Variable	Nonveterans	Veterans	Nonveterans	Veterans
West, 1917	0.09	0.12	0.006	0.008
	(0.005)	(0.009)	(0.002)	(0.004)
Northeast, 1930	0.24	0.24	0.12	0.17
	(0.008)	(0.01)	(0.008)	(0.02)
Midwest, 1930	0.39	0.39	0.15	0.20
	(0.009)	(0.01)	(0.01)	(0.02)
South, 1930	0.27	0.22	0.72	0.62
	(0.008)	(0.01)	(0.01)	(0.02)
West, 1930	0.10	0.15	0.01	0.02
	(0.005)	(0.01)	(0.003)	(0.006)
Migration				
Interstate move birth-1917	0.24	0.24	0.24	0.28
	(0.008)	(0.01)	(0.01)	(0.02)
Interregional move birth-1917	0.10	0.11	0.11	0.13
	(0.005)	(0.008)	(0.008)	(0.01)
Interstate move birth-1930	0.31	0.32	0.37	0.44
	(0.008)	(0.01)	(0.01)	(0.02)
Interregional move birth-1930	0.14	0.17	0.21	0.26
	(0.006)	(0.009)	(0.01)	(0.02)
Interstate move 1917-1930	0.18	0.24	0.31	0.31
	(0.007)	(0.01)	(0.01)	(0.02)
Interregional move 1917-1930	0.07	0.12	0.17	0.18
	(0.004)	(0.008)	(0.01)	(0.02)
Employment Status				
Unemployed, 1930	0.06	0.06	0.08	0.09
	(0.004)	(0.006)	(0.008)	(0.01)

Table 4.1 continued

	Whites		Blacks	
Variable	Nonveterans	Veterans	Nonveterans	Veterans
Not in labor force, 1930	0.01	0.01	0.02	0.01
	(0.002)	(0.003)	(0.004)	(0.005)
1917 Occupation				
Professional, 1917	0.05	0.06	0.02	0.01
	(0.004)	(0.007)	(0.004)	(0.005)
Farmer, 1917	0.32	0.20	0.33	0.25
	(0.009)	(0.01)	(0.01)	(0.02)
Managerial, 1917	0.07	0.06	0.005	0.005
	(0.005)	(0.007)	(0.002)	(0.003)
Clerical, 1917	0.09	0.12	0.007	0.01
	(0.005)	(0.009)	(0.002)	(0.005)
Sales, 1917	0.04	0.05	0.002	0.002
	(0.004)	(0.006)	(0.001)	(0.002)
Craft, 1917	0.18	0.19	0.04	0.03
	(0.007)	(0.01)	(0.006)	(0.009)
Operative, 1917	0.14	0.15	0.13	0.12
	(0.006)	(0.01)	(0.01)	(0.02)
Service, 1917	0.01	0.02	0.10	0.11
	(0.002)	(0.004)	(0.008)	(0.01)
Labor, 1917	0.06	0.07	0.27	0.32
	(0.004)	(0.007)	(0.01)	(0.02)
Farm labor, 1917	0.03	0.04	0.09	0.09
	(0.003)	(0.005)	(0.008)	(0.01)
Other, 1917	0.02	0.04	0.02	0.03
	(0.002)	(0.005)	(0.004)	(0.008)

Table 4.1 continued

	Whites		Blacks	
Variable	Nonveterans	Veterans	Nonveterans	Veterans
1930 Occupation				
Professional, 1930	0.06	0.10	0.02	0.02
	(0.004)	(0.008)	(0.004)	(0.006)
Farmer, 1930	0.21	0.13	0.25	0.17
	(0.008)	(0.009)	(0.01)	(0.02)
Managerial, 1930	0.12	0.15	0.02	0.03
	(0.006)	(0.01)	(0.004)	(0.008)
Clerical, 1930	0.05	0.08	0.02	0.02
	(0.004)	(0.007)	(0.004)	(0.007)
Sales, 1930	0.08	0.03	0.002	0.005
	(0.005)	(0.008)	(0.001)	(0.004)
Craft, 1930	0.19	0.21	0.06	0.07
	(0.007)	(0.01)	(0.007)	(0.01)
Operative, 1930	0.13	0.13	0.13	0.15
	(0.006)	(0.009)	(0.01)	(0.02)
Service, 1930	0.03	0.03	0.12	0.13
	(0.003)	(0.005)	(0.009)	(0.02)
Labor, 1930	0.08	0.06	0.28	0.33
	(0.005)	(0.007)	(0.01)	(0.02)
Farm labor, 1930	0.04	0.04	0.07	0.06
	(0.003)	(0.004)	(0.008)	(0.01)
Other, 1930	0.01	0.01	0.03	0.01
	(0.002)	(0.003)	(0.005)	(0.004)

Note: Robust standard errors in parentheses.

Table 4.2

Multinomial model of the determinants of 1930 occupational attainment versus unskilled blue-collar, weighted

Variables	White-collar	Skilled BC	Semiskilled BC	Agricultural	Other	χ^2
WWI Veteran	1.53***	1.39**	1.34*	1.11	0.86	11.55**
	(0.25)	(0.23)	(0.22)	(0.19)	(0.28)	
Black*WWI Vet	0.74	0.85	0.79	0.68	0.40*	4.62
	(0.20)	(0.23)	(0.17)	(0.15)	(0.21)	
Black	0.11***	0.14***	0.49***	0.42***	0.81	207.64***
	(0.02)	(0.02)	(0.06)	(0.06)	(0.24)	
Age, 1930	1.02	0.99	1.01	1.06***	1.08*	16.59***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.05)	
Married, 1917	1.33*	1.33*	1.50***	1.21	0.43**	16.21***
	(0.21)	(0.21)	(0.22)	(0.18)	(0.16)	
Child, 1917	0.71**	0.91	0.81	1.01	0.89	7.42
	(0.11)	(0.15)	(0.12)	(0.15)	(0.37)	
White-collar, 1917	32.58***	3.18***	2.73***	1.80**	5.56***	288.40***
	(8.24)	(0.84)	(0.68)	(0.52)	(2.39)	
Skilled blue- collar, 1917	4.58***	9.77***	1.97***	1.34	3.15***	149.27***
	(1.07)	(2.15)	(0.43)	(0.35)	(1.35)	
Semiskilled blue-collar, 1917	2.59***	1.87***	3.51***	1.03	1.18	80.95***
	(0.53)	(0.37)	(0.56)	(0.21)	(0.49)	
Agricultural, 1917	1.66**	1.29	1.16	6.27***	1.57	153.85***
	(0.33)	(0.25)	(0.19)	(1.07)	(0.57)	
Other, 1917	15.59***	2.70**	2.38*	1.62	10.07***	74.61***
	(6.84)	(1.32)	(1.11)	(0.95)	(5.95)	
Health	1.08	1.39	1.11	0.86	1.18	7.93
	(0.21)	(0.27)	(0.21)	(0.17)	(0.40)	

Table 4.2 continued

Variables	White-collar	Skilled BC	Semiskilled BC	Agricultural	Other	χ^2
Tall	1.20	1.04	1.07	1.01	1.56*	5.63
	(0.14)	(0.13)	(0.13)	(0.12)	(0.40)	
Short	0.84	0.86	0.93	0.84	0.41*	3.65
	(0.16)	(0.17)	(0.17)	(0.16)	(0.20)	
Stout	0.83	0.66**	0.91	0.70**	1.17	9.00
	(0.14)	(0.12)	(0.15)	(0.11)	(0.43)	
Slender	0.92	0.82	0.81	0.89	1.05	4.21
	(0.12)	(0.11)	(0.10)	(0.12)	(0.29)	
Urban, 1917	1.33**	1.38**	1.16	0.67***	1.34	40.91***
	(0.17)	(0.18)	(0.14)	(0.09)	(0.39)	
Northeast, 1917	0.87	0.79	1.02	0.48***	0.96	24.12***
	(0.14)	(0.13)	(0.17)	(0.09)	(0.30)	
South 1917	0.84	0.73**	0.87	1.06	0.85	9.04
	(0.12)	(0.11)	(0.12)	(0.15)	(0.27)	
West, 1917	0.83	0.58**	0.70	0.62**	0.65	8.80
	(0.17)	(0.13)	(0.16)	(0.13)	(0.32)	
Interstate move, 1917-1930	0.90	0.97	0.89	0.33***	0.61*	78.08***
	(0.11)	(0.12)	(0.10)	(0.04)	(0.15)	
Observations	6,848					
χ^2	3299.27***					

Note: Relative risk ratios reported. Robust standard errors in parentheses. Base occupational group is unskilled blue-collar.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 4.3

Estimated effect of WWI military service on 1930 occupational attainment, weighted

1930 Outcome	vs. White-collar	vs. Skilled BC	vs. Semiskilled BC	vs. Unskilled BC	vs. Agricultural	vs. Other
White-collar		1.09	1.14	1.53***	1.37**	1.77*
		(0.13)	(0.14)	(0.25)	(0.19)	(0.54)
Skilled BC	0.91		1.03	1.39**	1.25	1.61
	(0.11)		(0.13)	(0.23)	(0.18)	(0.50)
Semiskilled BC	0.87	0.96		1.34*	1.20	1.55
	(0.11)	(0.12)		(0.22)	(0.17)	(0.49)
Unskilled BC	0.65***	0.71**	0.74*		0.89	0.15
	(0.10)	(0.11)	(0.12)		(0.15)	(0.38)
Agricultural	0.72**	0.79	0.82	1.11		1.29
	(0.10)	(0.11)	(0.12)	(0.19)		(0.41)
Other	0.56*	0.61	0.64	0.86	0.77	
	(0.17)	(0.19)	(0.20)	(0.28)	(0.24)	

Note: Relative risk ratios reported. This reports estimates of the veteran effect from the model in Table 4.2. Other covariates are unreported. It should be read as the relative risk of attaining the row occupation in 1930 versus the column occupation. Robust standard errors in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 4.4

Predicted probabilities of 1930 occupational attainment

Characteristic	Average	Veteran	Nonveteran
White-collar	0.26 [0.24-0.28]	0.29 [0.26-0.32]	0.25 [0.23-0.27]
Skilled BC	0.18 [0.17-0.20]	0.19 [0.16-0.22]	0.18 [0.16-0.19]
Semiskilled BC	0.24 [0.22-0.25]	0.24 [0.21-0.27]	0.24 [0.21-0.25]
Unskilled BC	0.13 [0.12-0.15]	0.11 [0.09-0.13]	0.15 [0.13-0.16]
Agricultural	0.17 [0.15-0.18]	0.15 [0.12-0.18]	0.17 [0.15-0.19]
Other	0.02 [0.02-0.03]	0.01 [0.007-0.02]	0.02 [0.02-0.03]

Note: Predictions made model from in Table 4.2. 95% confidence intervals in parentheses. Mean characteristics used for other variables.

Table 4.5

Determinants of upward mobility out of low-skilled labor by 1930, weighted

Variables	Labor Model 1	Farm labor Model 2	Labor & farm labor Model 3
WWI Veteran	0.85	1.50	1.06
	(0.24)	(0.62)	(0.24)
Black*WWI Vet	1.05	0.50	0.85
	(0.36)	(0.31)	(0.25)
Black	0.33***	0.50	0.37***
	(0.08)	(0.25)	(0.08)
Literate, 1930	3.18***	10.70**	3.41***
	(1.13)	(10.66)	(1.12)
Age, 1930	0.96	0.99	0.97
	(0.04)	(0.06)	(0.03)
Married, 1917	0.98	2.32*	1.30
	(0.23)	(1.03)	(0.27)
Child, 1917	0.78	0.65	0.75
	(0.20)	(0.31)	(0.17)
Farm labor, 1917			0.55***
			(0.11)
Health	1.56	3.03*	1.86**
	(0.50)	(1.73)	(0.51)
Tall	0.94	0.87	0.90
	(0.19)	(0.32)	(0.16)
Short	0.91	0.95	0.90
	(0.28)	(0.47)	(0.23)

Table 4.5 continued

Variables	Labor Model 1	Farm labor Model 2	Labor & farm labor Model 3
Stout	0.85	0.49	0.67
	(0.26)	(0.23)	(0.17)
Slender	0.76	0.75	0.77
	(0.17)	(0.29)	(0.15)
Urban, 1917	2.19***	0.59	1.56***
	(0.43)	(0.25)	(0.27)
Northeast, 1917	0.95	1.60	1.11
	(0.27)	(0.81)	(0.27)
South, 1917	0.91	0.70	0.82
	(0.22)	(0.32)	(0.17)
West, 1917	0.59	0.87	0.67
	(0.22)	(0.43)	(0.20)
Interstate move, 1917-1930	1.21	2.62**	1.62***
	(0.23)	(1.04)	(0.28)
Observations	830	328	1,158
χ^2	81.07***	40.96***	114.9***

Note: Odds ratios reported. Robust standard errors in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 4.6

Determinants of mobility out of agricultural sector by 1930, weighted

Variables	Farmer Model 1	Farm labor Model 2	Farmer & farm labor Model 3
WWI Veteran	1.26	1.07	1.13
	(0.51)	(0.18)	(0.18)
Black*WWI Vet	0.78	1.08	0.93
	(0.44)	(0.30)	(0.23)
Black	0.88	1.24	1.19
	(0.40)	(0.19)	(0.17)
Literate, 1930	7.48***	2.83***	3.12***
	(5.12)	(0.83)	(0.84)
Age, 1930	0.96	0.93***	0.93***
	(0.06)	(0.02)	(0.02)
Married, 1917	1.54	1.21	1.25
	(0.63)	(0.20)	(0.19)
Child, 1917	0.88	0.73*	0.75*
	(0.38)	(0.12)	(0.11)
Farm labor, 1917			1.52***
			(0.24)
Health	2.08	1.25	1.32
	(1.17)	(0.24)	(0.23)
Tall	0.75	1.08	1.03
	(0.25)	(0.14)	(0.12)
Short	0.93	1.34	1.26
	(0.42)	(0.28)	(0.24)

Table 4.6 continued

Variables	Farmer Model 1	Farm labor Model 2	Farmer & farm labor Model 3
Stout	1.01	1.27	1.23
	(0.42)	(0.22)	(0.20)
Slender	0.93	0.96	0.95
	(0.33)	(0.14)	(0.13)
Urban, 1917	0.83	1.34*	1.26
	(0.31)	(0.21)	(0.18)
Northeast, 1917	1.51	1.85***	1.78***
	(0.78)	(0.42)	(0.37)
South 1917	1.03	1.01	1.00
	(0.48)	(0.14)	(0.13)
West, 1917	2.25*	1.37	1.50**
	(1.06)	(0.31)	(0.30)
Interstate move, 1917-1930	3.19***	5.07***	4.81***
	(1.33)	(0.74)	(0.66)
Observations	328	1,926	2,254
χ^2	28.13**	183.9***	200.9***

Note: Odds ratios reported. Robust standard errors in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 4.7

Determinants of the downward mobility of skilled workers into non-farm, unskilled labor by 1930, weighted

	Both Races				Blacks	Whites
Variables	White-collar Model 1	Skilled BC Model 2	Semiskilled BC Model 3	All skilled[a] Model 4	All skilled Model 5	All skilled Model 6
WWI Veteran	0.62	0.52	0.65	0.62**	1.37	0.58**
	(0.29)	(0.24)	(0.21)	(0.14)	(0.31)	(0.13)
Black*WWI Vet	4.29	1.64	1.87	1.94**		
	(4.20)	(1.25)	(0.75)	(0.61)		
Black	4.91***	6.20***	2.87***	3.48***		
	(2.90)	(3.00)	(0.65)	(0.69)		
Literate, 1930		0.25	0.70	0.52*	0.46**	0.71
		(0.22)	(0.25)	(0.20)	(0.18)	(0.72)
Age, 1930	0.89	0.99	1.03	0.99	0.99	0.99
	(0.08)	(0.06)	(0.04)	(0.03)	(0.04)	(0.04)
Married, 1917	0.92	0.58	0.89	0.80	1.65	0.78
	(0.47)	(0.25)	(0.24)	(0.16)	(0.23)	(0.20)
Child, 1917	0.99	2.05*	0.85	1.09	0.43*	0.98
	(0.53)	(0.88)	(0.24)	(0.24)	(0.44)	(0.27)
White-collar, 1917				0.27***	0.75**	0.25***
				(0.06)	(0.17)	(0.06)
Skilled blue-collar, 1917				0.57***	0.74	0.52***
				(0.11)	(0.24)	(0.11)
Health	0.53	1.53	0.89	0.95	0.33**	1.07
	(0.41)	(0.79)	(0.33)	(0.26)	(0.18)	(0.31)
Tall	0.59	0.83	0.73	0.75*	1.28	0.64**
	(0.27)	(0.30)	(0.16)	(0.13)	(0.31)	(0.14)

Table 4.7 continued

	Both Races				Blacks	Whites
Variables	White-collar Model 1	Skilled BC Model 2	Semiskilled BC Model 3	All skilled Model 4	All skilled Model 5	All skilled Model 6
Short	1.28	0.60	0.96	0.92	0.99	0.88
	(0.72)	(0.32)	(0.33)	(0.24)	(0.38)	(0.26)
Stout	1.10	1.10	1.26	1.20	1.38	1.15
	(0.63)	(0.56)	(0.39)	(0.28)	(0.43)	(0.35)
Slender	1.37	0.90	0.83	0.95	0.66	1.05
	(0.58)	(0.35)	(0.20)	(0.17)	(0.18)	(0.22)
Urban, 1917	0.70	0.70	1.09	0.90	0.88	0.87
	(0.28)	(0.24)	(0.25)	(0.16)	(0.22)	(0.18)
Northeast, 1917	0.75	2.19**	1.04	1.17	0.78	1.22
	(0.37)	(0.81)	(0.29)	(0.23)	(0.31)	(0.26)
South, 1917	0.52	1.20	1.09	0.96	1.50	0.78
	(0.25)	(0.58)	(0.29)	(0.20)	(0.49)	(0.21)
West, 1917	1.02	1.47	0.46	0.85	2.06	0.81
	(0.67)	(0.91)	(0.30)	(0.31)	(1.52)	(0.31)
Interstate move, 1917-1930	1.95*	1.04	1.40	1.38*	1.27	1.42
	(0.75)	(0.38)	(0.32)	(0.24)	(0.29)	(0.30)
Observations	1,369	1,011	1,231	3,612	520	3092
χ^2	46.02***	50.78***	77.56***	237.8***	32.33**	52.38***

Note: Odds ratios reported. Robust standard errors in parentheses.

[a] All skilled includes white-collar, skilled blue-collar, semiskilled blue-collar, and service workers.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 4.8

Determinants of interstate and interregional migration, 1917-1930, weighted

	Interstate move, 1917-1930			Interregional move, 1917-1930		
	Both	Whites	Blacks	Both	Whites	Blacks
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
WWI Veteran	1.41***	1.44***	0.89	1.67***	1.74***	0.90
	(0.14)	(0.14)	(0.12)	(0.21)	(0.24)	(0.13)
Black*WWI Vet	0.64***			0.59***		
	(0.10)			(0.11)		
Black	2.08***			2.65***		
	(0.20)			(0.30)		
Age, 1930	0.99	0.99	0.99	0.99	0.98	1.00
	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Literate, 1930	1.59**	1.43	1.79***	3.20***	2.05	3.91***
	(0.29)	(0.61)	(0.32)	(0.91)	(1.28)	(1.14)
Married, 1917	1.08	1.13	0.91	1.00	1.07	0.81
	(0.11)	(0.13)	(0.13)	(0.13)	(0.17)	(0.13)
Child, 1917	0.93	0.92	1.00	1.06	1.07	0.97
	(0.09)	(0.10)	(0.15)	(0.13)	(0.16)	(0.16)
White-collar, 1917	1.24*	1.24	1.75*	1.13	1.14	1.35
	(0.15)	(0.19)	(0.53)	(0.17)	(0.23)	(0.42)
Skilled blue-collar, 1917	1.04	1.03	1.55	0.97	0.95	1.38
	(0.14)	(0.17)	(0.42)	(0.16)	(0.20)	(0.38)
Semiskilled blue-collar, 1917	0.84	0.86	0.71*	0.74*	0.74	0.70*
	(0.11)	(0.15)	(0.13)	(0.12)	(0.17)	(0.14)
Agricultural, 1917	0.88	0.91	0.72**	0.74**	0.77	0.55***
	(0.10)	(0.14)	(0.10)	(0.10)	(0.15)	(0.09)

Table 4.8 continued

	Interstate move, 1917-1930			Interregional move, 1917-1930		
	Both	Whites	Blacks	Both	Whites	Blacks
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Other, 1917	1.72**	1.70**	1.94*	1.47	1.54	1.14
	(0.38)	(0.44)	(0.76)	(0.42)	(0.53)	(0.45)
Northeast, 1917	0.87	0.89	0.90	0.67***	0.65***	1.22
	(0.09)	(0.10)	(0.22)	(0.10)	(0.11)	(0.37)
South, 1917	1.18*	1.10	2.13***	1.22*	1.11	2.24***
	(0.10)	(0.10)	(0.42)	(0.12)	(0.12)	(0.51)
West, 1917	0.87	0.85	0.44	0.81	0.77	0.87
	(0.12)	(0.12)	(0.28)	(0.15)	(0.14)	(0.67)
Interstate move, birth-1917	3.61***	3.68***	3.89***	3.14***	3.38***	2.28***
	(0.27)	(0.31)	(0.56)	(0.29)	(0.36)	(0.32)
Health	0.89	0.93	0.59**	1.26*	1.33*	0.88
	(0.10)	(0.12)	(0.14)	(0.17)	(0.20)	(0.21)
Tall	1.13	1.15*	0.96	0.94	0.96	0.84
	(0.09)	(0.10)	(0.12)	(0.09)	(0.11)	(0.12)
Short	0.65***	0.66***	0.59***	0.78	0.83	0.58**
	(0.08)	(0.10)	(0.11)	(0.13)	(0.16)	(0.14)
Stout	1.05	1.04	1.15	0.92	0.90	1.01
	(0.12)	(0.14)	(0.19)	(0.13)	(0.16)	(0.19)
Slender	1.00	0.99	1.09	1.14	1.16	1.05
	(0.08)	(0.09)	(0.15)	(0.11)	(0.13)	(0.16)
Observations	6,848	5,166	1,682	6,848	5,166	1,682
χ^2	439.7***	314.4***	130.2***	344.6***	193.3***	95.93***

Note: Odds ratios reported. Robust standard errors in parentheses. Base occupation group is unskilled blue-collar.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 4.9

Predicted probabilities of geographic mobility by race and veteran status, 1917-1930

Characteristic	Interstate migration	Interregional migration
White		
Average	0.20 [0.19, 0.21]	0.08 [0.07, 0.09]
Veteran	0.24 [0.21, 0.27]	0.11 [0.09, 0.13]
Nonveteran	0.18 [0.17, 0.20]	0.07 [0.06, 0.09]
Black		
Average	0.33 [0.30, 0.37]	0.18 [0.16, 0.21]
Veteran	0.30 [0.25, 0.34]	0.17 [0.14, 0.19]
Nonveteran	0.31 [0.28, 0.35]	0.16 [0.13, 0.20]

Note: Predictions made using Models 1 and 4 from in Table 4.8. 95% confidence intervals in parentheses. Mean characteristics used for other variables.

Table 4.10

Multinomial logit model of the determinants of migration choice for Southern-born men living in the South in 1917, weighted

	Move within South vs. No move	Move out-of-South vs. No move	χ^2
WWI Veteran	1.70**	1.67***	14.73***
	(0.45)	(0.23)	
Black*WWI Vet	0.46**	0.64**	8.75**
	(0.14)	(0.12)	
Black	1.53**	3.78***	125.19***
	(0.29)	(0.44)	
Age, 1930	0.98	0.98	1.03
	(0.03)	(0.01)	
Literate, 1930	1.09	6.04***	37.90***
	(0.25)	(1.76)	
Married, 1917	0.99	0.97	0.05
	(0.22)	(0.12)	
Child, 1917	0.80	0.91	1.33
	(0.16)	(0.11)	
White-collar, 1917	1.11	0.82	1.61
	(0.34)	(0.14)	
Skilled blue-collar, 1917	1.39	1.12	1.13
	(0.46)	(0.21)	
Semiskilled blue-collar, 1917	1.27	0.73*	4.98*
	(0.35)	(0.12)	
Agricultural, 1917	1.06	0.62***	14.56***
	(0.22)	(0.08)	
Other, 1917	2.34*	1.25	3.53
	(1.06)	(0.43)	

Table 4.10 continued

	Move within South vs. No move	Move out-of-South vs. No move	χ^2
Border state, 1917	0.44***	1.64***	70.33***
	(0.07)	(0.15)	
Move state, birth-1917	5.48***	1.81***	90.01***
	(0.99)	(0.23)	
Health problem	0.72	1.17	3.08
	(0.21)	(0.16)	
Tall	1.10	0.96	0.53
	(0.19)	(0.09)	
Short	0.65	0.74*	4.07
	(0.20)	(0.12)	
Stout	1.74**	1.07	5.97*
	(0.39)	(0.15)	
Slender	0.99	0.98	0.02
	(0.19)	(0.10)	
Observations	2,729		
χ^2	430.75***		

Note: Relative risk ratios reported. Robust standard errors in parentheses. Base occupation group is unskilled blue-collar.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

CHAPTER 5

A MIGRATION OF THE "TALENTED TENTH": NEW EVIDENCE ON MIGRANT SELF-SELECTION DURING THE GREAT MIGRATION, 1890 - 1930

In *The Warmth of Other Suns*, Isabel Wilkerson (2010) highlights the stories of three Black migrants who left the South as part of the Great Migration, the mass exodus of American Blacks from the U.S. South over the 20th century. Reflecting the traditional view of the bucolic origins of the Great Migration, one was the wife of a sharecropper and one a farm laborer; the third was a physician (Wilkerson, 2010). Although such case studies are informative, whether we can draw conclusions about the experiences of the broader population from them is uncertain. Are such narratives representative of the backgrounds of the 8 million Black men and women who left the South during the Great Migration? Were the Blacks who left representative of the populations they left behind? How did Black migrants self-select migration and how did their selectivity compare with that of White migrants? This study examines these questions.

Despite the striking magnitude and undoubted importance of the redistribution of the Black and White Southern populations (Gregory, 2005), surprisingly little is known about the premigration characteristics of these migrants during the early phases of this

migration and how such characteristics may have varied by race. Traditional scholarship has assumed that Black emigrants had rural, agricultural origins, but recent work has revised such views, finding positive educational selectivity as early as the 1890s and strong urban differentials after 1930 (Tolnay, 2003). Yet, our understanding of Southern interregional migrants before 1930 has remained limited due to data constraints, particularly the inability to observe migrants before they move. This study addresses the above questions by using a new data set that observes migrants and nonmigrants before and after possible migration choices.

This new longitudinal micro-data sample follows Black and White migrants and nonmigrants from the 1890s to 1930. The sample allows the estimation of the effects of race, urban residency, and occupational experience on the probability of World War I (WWI) draft-registrants leaving the South before 1917 and between 1917 and 1930. These estimates corroborate a revisionist characterization of Southern out-migrants, finding evidence of urban selectivity among Blacks earlier than previously thought and strong educational selection among Blacks and Whites. They question direct rural and agricultural explanations of the Great Migration, finding that Black rural residents, Black farmers, and Black farm laborers were all substantially less likely to migrate. Conversely, White migrants were more representative of their sending population.

Who Left before 1930?

During the first stage of the Great Migration, between 1910 and 1930, the proportion of Southern-born Black men living outside of the South nearly tripled from 5.2% to 13.7% (Ruggles et al., 2010). After a brief slow-down in out-migration during

the Great Depression, the proportion of Southern-born Black men living outside the south increased from 13.5% to 22.4% between 1940 and 1960, the second migratory stage (Ruggles et al., 2010). A comparison with the relative size of the concurrent White Southern out-migration highlights the magnitude of the Great Migration of Southern Blacks. In 1910, 8.0% of White Southern men lived outside the South, increasing to only 10.1% by 1930 (Ruggles et al., 2010). Between 1940 and 1960, the proportion of White Southern men outside the South increased from 10.3% to 15.6% (Ruggles et al., 2010).

Descriptions of the typical Black migrant during the early stages of the Great Migration broadly fall into two loose camps, which I term the "traditional" and "revisionist" views. Traditionally, the literature characterizes Black out-migrants before the 1930s as having low levels of literacy and education, being primarily experienced in agriculture, and hailing from rural areas (Tolnay, 2003). Grossman (1989) cites contemporary characterizations of Black arrivals in Chicago in the 1920s as originating from rural areas, small towns, and farm employment and without skills or literacy (p. 183). These workers were pushed out of the South by flooding and the spread of the boll weevil infestation in the 1910s and 1920s (Gottlieb, 1987; Higgs, 1976; Lange, Olmstead, & Rhode, 2009; Woodson, 1969). Such a view suggests that the northward migration was the concluding phase of a historical process that transformed Black agricultural workers and farmers into an urban, industrial workforce over and within generations (Bodnar, Simon, & Weber, 1982; Gottleib, 1987). That this traditional view of the selection of Southern migrants is common is unsurprising, since it describes the sending population. If this view is correct, we should observe rural and agricultural Blacks disproportionately leaving the South.

A revisionist view challenges this description. Using scattered evidence, Marks (1989) argues that the "composite image" of a typical Black migrant is a male in his late 20s or early 30s with experience in unskilled industrial labor, hailing from a mid-sized Southern city (p. 35). In this view, rather than rural forces pushing Black agricultural workers and farmers out of the South, urban forces pushed out industrial laborers and dispossessed artisans. Indeed, such urban Black workers were under intense pressure from the deep economic and social changes in the early twentieth century South. Increased competition from White rural-to-urban migrants within the South, the resultant redefinition of jobs that had formerly provided a niche for Black labor, and, after the boll weevil outbreak, additional competition from the influx of Blacks into Southern cities all put downward pressure on the socioeconomic status of Black urban workers (Marks, 1989). Observing urban selectivity and nonfarm occupation differentials would confirm this view.

Whatever the "push" forces at work were, most agree that Black workers were at the same time "pulled" to the North by opportunities created by tight wartime labor markets and the immigration controls of the 1920s (Collins, 1997; Maloney, 2002; Woodson, 1969). The skills demanded in Northern industry were very different from the skills held by Southern agricultural workers. This might have created differentials in the type of Black workers leaving. Both views agree that that the political and social repression in the form of "Jim Crow" and mass lynchings in the South were important additional "push" factors (Tolnay & Beck, 1992). This might have contributed to an urban differential in Southern out-migration. The locus of de jure segregation within the South was within urban areas (Rabinowitz, 1978). "Jim Crow" laws disenfranchising

Blacks were often reactions to the education, organization, and independence of Black artisans and the nascent Black middle classes in Southern cities, which posed a threat to White supremacy (Cell, 1989).

As new data becomes available, empirical studies have found increasing evidence that Black migrants were positively selected. As early as the late nineteenth century, both Black and White interregional migrants originating in the South were better educated than their sending populations, although less educated than comparable groups at their destinations (Margo, 1990; Tolnay, 1998, 2001). Robert Margo (1990) suggests that educated Blacks may have been more likely to leave because they faced higher payoffs to interregional migration via higher education returns; had increased dissatisfaction with the Southern racial climate; had access to better information, lowering the costs of migration; or may have been better able to finance transportation (p. 125). Looking at location choices of Black migrants in the mid-20th century to test these hypotheses, Jacob L. Vigdor (2002) shows that differentials in valuation of the Southern racial climate, responsiveness to wage differentials, and ability to pay transportation costs all played a role in creating educational differentials in destination choice. These strong educational selectivity patterns, however, seem to have dampened after the Second World War, perhaps due to decreasing migration costs and the changing Southern racial climate (Margo, 1990; Tolnay, 1998; Vigdor, 2002).

Although the existence of and reasons for education differentials between Southern migrants and nonmigrants in the early phases of the migration are settled, the existence of urban differentials in the early phase of the Great Migration remains unanswered. Using census tabulations, J. Trent Alexander (1998) finds supportive

quantitative evidence that Black migrants to the North between 1935 and 1940 disproportionately hailed from urban areas in the South. Although 65% of Black Southerners were rural in 1940, only 37% of Black migrants to Northern cities were from rural areas (Alexander, 1998). A sample of marriage license applications, which report detailed birthplace, from Allegheny County in the 1930s indicated that Southern Black migrants to Pittsburgh were disproportionately of urban origin (Alexander, 1998).

It is unclear what during the Depression would have caused such a shift in urban selectivity. The general collapse of the agricultural sector during the 1930s should have increased rural out-migration. Urban unemployment and discriminatory unions in the North should have tempered the expected returns of Black urban dwellers in the South contemplating Northward migration, despite immigration controls. Given the economic and social pressures on urban Blacks, urban selectivity likely existed much earlier than the 1930s. The existence of such differentials early on has implications for not only our understanding of who moved, but also for our understanding of "push-pull" forces involved. The existence of early urban differentials would necessitate the reevaluation of how rural forces, such as the boll weevil, acted as catalysts for the Great Migration. Early urban differentials would also imply that migrants were better prepared for Northern urban labor markets and living conditions than previously thought.

Data on Migrants and Nonmigrants

This analysis uses the longitudinal dataset described in Chapter 2, restricted to only Black and White men born in the U.S. South. The draft records contain detailed information on residency and origins. Registrants listed town and state of birth, along

with 1917 residency information. Thus, the resultant linked sample observes detailed geographic location at three different times for each man: at birth, in 1917, and in 1930. Although the specific timing of migration for migrants remains unknown, the sample contains two periods of possible migration, before June 5, 1917 and after June 5, 1917. The 1890 Census Report was used to assign a binary variable for birth in an incorporated urban place to those individuals who were born in a town that was incorporated with a population of more than 2,499 residents in 1890 (U.S. Census Office, 1895, pp. 378-392). Birthplace population in 1890 was chosen because the average birth year in the sample was about 1891, the median birth year was 1892, and 95% of the sample was born between 1886 and 1895. Consistent with Alexander (1998), I assume that men who reported only county or state of birth were born in a rural area. Using the 1920 Census Report and state population bulletins, I assigned a binary variable for urban residency in 1917 to those individuals who, in 1917, were living in an incorporated city with 2,499 residents or more by 1920 (U.S. Bureau of the Census, 1921, pp. 178-331). Correspondingly, I defined a variable for urban residency for 1930 location using variables supplied in the 1930 IPUMS sample. For 1917 and 1930, I created binary variables for census region of residency, i.e., Northeast, Midwest, South, and West. To capture the effect of distance on migrant selection, I created binary variables for men born in a Southern border state and men living in a Southern border state in 1917.

In addition to geographic location, the 1917 draft records contain information about family structure, health, stature, and physical build. Registrants were required to report any dependants and marital status, but were only able to report dependent children under the age of 12. I use binary variables for marriage, having children, and having

dependant parents in 1917. Except for the dependent parent variable, I created similar variables for 1930 family structure. Registrants were also able to claim draft exemptions for health reasons, reporting this on the registration card. I use a simple binary variable for claiming any health problem in 1917, because of the heterogeneity and vagueness of health problems reported. The draft cards assigned each applicant to one of three stature categories, tall, medium, or short, and one of three build categories, stout, medium, or slender. The analysis uses corresponding binary variables. I created binary variables for literacy and WWI veteran status from information in the 1930 census records.

The 1917 Draft Cards report specific occupation and current employer of each registrant. I coded occupations were to make them comparable to the coding of occupations in the 1930 IPUMS sample. Occupations in 1917 and 1930 were then aggregated into the following eleven groups and corresponding binary variables were created: professional and technical workers; farmers; managers, proprietors, officials; clerical workers; salesmen; craftsmen and trainees; factory operatives; service workers; farm laborers; common laborers; and other, which includes men out of the labor force or with no occupation reported.

Although the explicit nature of farmers' tenure in 1917 or 1930 is unknown, I use an innovative proxy to test the effect of property relations on the out-migration of farmers. Most men reporting themselves as farmers in 1917 either reported their employer as "self" or listed the name of another individual, which is most likely a landlord. This information is interacted with those with a farming occupation in 1917 to create a binary variable that takes a value of one for farmers who report employers and zero for farmers who report self-employment, farmers who left the employer question

blank, and for nonfarmers. The racial differences among farmers in this variable suggest that it captures a racially-varying component of property relations in the South at this time. About 24% of White farmers list an employer in 1917, whereas about 61% of Black farmers do so. Table 5.1 reports the logistic regression of listing an employer for farmers on the percentage of farms sharecropping in the county, race, and a race interaction with sharecropping for farmers living in the South in 1917 (Haines & Inter-university Consortium for Political and Social Research, 2010). The percentage of farms that are sharecropping in the county, as opposed to other forms of tenure dramatically increases the probability of farmers living in that county reporting an employer. The estimated coefficient implies that a 10% increase proportion of farms sharecropping in a county increases the probability of a farmer reporting an employer by about 6%. Black farmers are also more likely to report an employer. The effect of sharecropping on reporting an employer may be greater for Black farmers, though this result barely misses statistical significance at $p<=0.10$. This suggests that reporting an employer is a useful proxy for agricultural property relations for farmers within the South.

All historical samples have biases, but the linked sample is representative of this cohort as a whole. Table 5.2 compares the 1930 IPUMS subsample of Black and White, draft age, Southern-born men and the weighted linked subsample on characteristics found in the 1930 IPUMS sample. Table 5.3 compares the 1930 IPUMS subsample to the linked sample within the four subsamples and reports the results of two-tailed chi-squared tests for differing proportions between each of the linked subsamples and the 1930 IPUMS subsample to test for representativeness. As expected, the linked subsamples greatly under-represent men with popular first and last names, especially among Blacks.

Men with less popular names are easier to link. The subsamples over-represent men with children among both migrant and nonmigrant Whites. Among Black nonemigrants, literate men, veterans, men born in border states, and men who were managers in 1930 are over-represented. The subsample of Southern Whites living in the non-South contains a disproportionate number of men hailing from border states, who were married, or who had children. The White migrant subsample under-represents nonfarm laborers and service workers in 1930. The Black migrant subsample over-represents WWI veterans and clerical workers in 1930 while under-representing sales workers and nonfarm laborers in 1930. Altogether, the sizes of these biases are not large.[1]

New Evidence on Migrant Self-Selection

Table 5.4 examines the mean characteristics of Southern out-migrants and nonmigrants by examining two migratory periods. The first four columns compare out-migrants and nonmigrants in the first period, before 1917. The last four columns examine the second period, after 1917, comparing out-migrants and nonmigrants by race for the subset of Southerners still living in the South in 1917.

Before WWI, 11% of Whites and 12% of Blacks in the sample left the South. There are several important differences between migrants and nonmigrants by race during this period. First, Black out-migrants are disproportionately literate. Although 83% of nonmigrant Blacks before 1917 are literate, 94% of migrant Blacks were literate. There is no such large discrepancy among Whites. Second, migrants of both races were disproportionately from urban areas, as measured by urban birthplace, before 1917. For Blacks, 16% of nonmigrants before 1917 were of urban birth, but 40% of migrants were

from urban areas. Third, before WWI, Southern out-migrants of both races disproportionately originated from border states, residents of which would have faced lower migration costs in terms of transportation and information.

Table 5.5 formally tests these differences with logistic models regressing whether a man moved before 1917 on age, literacy, race, urban birth, border state birth, stature, and build. I estimated the model for all men as well as Blacks and Whites separately. The fourth model includes race interactions for all variables for the model run on both races. After controlling for racial differences in the effect of urban birth and border state birth on the probability of moving with racial interactions, race is not a strong, significant factor influencing out-migration before 1917. Literate Blacks were much more likely to move than illiterate Blacks. The selection of Whites on literacy is statistically insignificant, though the coefficient is large. Urban birth triples the odds of moving for Blacks and doubles the odds of moving for Whites. The model with interactions confirms this racial difference in urban selectivity as strong and significant. Being born in a border state triples the odds of moving for Whites, but only increases the odds of moving for Blacks by about 45%. Again, the interaction model suggests that the racial difference in the border state birth selection are strong and significant. No stature effects are significant, but within both races, men with a stout build are less likely to move before 1917. The predicted probabilities of moving during this period, which Table 5.6 reports using models 2 and 3 from Table 5.5 for Blacks and Whites, are large in magnitude. For example, Blacks born in an urban place have a 22% predicted probability of leaving, compared with 8% for rural-born Blacks.

Altogether, the evidence presented here is quite strong for urban selectivity and urban differentials in both Black and White out-migration before 1917; however, the degree of this selectivity was stronger for Blacks than that for Whites. This, coupled with the literacy results for Blacks, suggests that the depiction of the Black migration during this period as the "migration of the talented tenth" by Woodson (1969) is accurate (pp. 147-166). Educated, urban Blacks are self-selecting migration and compose a disproportionately large proportion of the migration stream.

For the period after WWI, the data provide many more variables to examine the determinants of the probability of leaving the South. For those living in the South in 1917, the last four columns of Table 5.4 report the mean characteristics of those who remained there in 1930 and who left by 1930. Again, Blacks and Whites who leave after 1917 are much more literate than those who stay. Southern emigrants after 1917 of both races are also more likely to have lived in urban areas in 1917 than nonmovers and to have been living in a border state. Occupationally, among Blacks, movers were much less likely to be engaged in agricultural pursuits before leaving. Over 51% of Black nonmigrants were in agriculture in 1917 (as either farmers or farm laborers), but only 33% of Blacks who left were in agriculture. Also of note is that 4% of Black regional migrants were white-collar professionals, compared with only 1% of nonmigrants.

To test the effects of literacy, urban residency, border state residency, occupation, and other variables on the probability of leaving after 1917, I ran several logistic models regressing whether someone left the South by 1930 on these variables for Blacks and Whites still living in the South in 1917. Table 5.7 reports the results of these regression models by race. The first two models use farmer as the base occupation; the second two

use nonfarm common laborer as the base occupation. Table 5.8 uses the first two models of Table 5.7 to predict the probabilities of leaving the South between 1917 and 1930 for Blacks and Whites of various characteristics.

After 1917, literate men of both races were much more likely to migrate than illiterate men. Literacy raised the predicted probability of moving by nearly 15 percentage points for Blacks and nearly 5 percentage points for Whites versus illiterate men. Urban birth was not significant and border state birth, after controlling for urban and border state residency in 1917, was only significant for Whites. Literacy and urban residency had similar effects after 1917 as before 1917, only with racial differences more pronounced. Although border state residency increased the Black migration probability before 1917, its effect dampened to the point of having no appreciable effect after the war, as more Blacks from the Deep South began leaving. Residence in a border state remained a powerful determinant of White migration probability after the war. Conversely, urban residence increased the odds of moving for Blacks by 60%, but now had no effect on Whites. The predicted probabilities imply that an urban Black male of otherwise average characteristics had a probability of leaving about 5.7 percentage points higher than a similar rural-dweller. These pre- and postwar differences in selectivity imply that, other than drawing more Blacks from the Deep South to the North, WWI did not change selectivity patterns much among Blacks. It instead merely amplified preexisting racial differences in selectivity.

The effects of variables associated with a history of family poverty evidence the positive selection of Black migrants. Although marriage or children had no effect on the probability of moving for Blacks or Whites, having a dependent parent reduced the odds

of Black migration by about 40%. Here, Blacks classified as short have their odds of out-migration after 1917 cut by over half. Short stature is also strongly associated with impoverished origins (Steckel, 1995). There are no stature effects for Whites.

The data allow us to examine occupational effects on migration probability after WWI. Black farmers and farm laborers are much less likely to move than most types of Black nonfarm workers. The farm tenure status proxy has no statistically significant effect on Black farmers, suggesting Black sharecroppers and farm owners alike had reduced probabilities of movement. Skilled Blacks in white-collar professional or blue-collar craft occupations are much more likely than farmers to have left. Black professional workers had nearly quadruple the odds of leaving and Black craftsmen well over double. The implied probabilities by these coefficients for these workers are high, though the confidence intervals are broad. Black service workers and nonfarm common laborers also have increased odds of moving compared with Black farmers. Using unskilled nonfarm labor as the base group, Black farmers had about 64% of the odds of moving as nonfarm common laborers and Black farm laborers had about one-third the odds of nonfarm laborers. Except for professorial workers, who are much more likely to move than nonfarm laborers, probabilities of moving do not vary significantly across nonfarm jobs. Among Whites, no such effects are observed.[2]

There were no significant variations in White out-migration probabilities by occupation. White blue-collar craft workers had a slightly increased odds of leaving compared with White farmers, perhaps indicating that Southern development created new pressures on White Southern artisans as well. However, the difference in the predicted probability of leaving is small and there is no evidence that White craftsmen were more

likely to leave than other types of White nonfarm workers. White farmers and farm laborers were just as likely to leave as other types of White workers. There is slight variation in the likelihood of farmers leaving by tenure arrangement. White farmers who listed an employer had a slightly increased odds of leaving compared to the self-employed.

Although rural, agricultural forces were no doubt important in the migration decision process of many workers, the evidence here implies that the early phases of the Great Migration were not a process that directly pushed Southern Blacks off Southern farms and into Northern factories. That Blacks from urban areas and nonfarm occupations were more likely to move than those from rural areas or farm occupations casts doubt on the importance of rural "push" explanations as a direct causal mechanism of the Great Migration. Rather, this result confirms the argument that Southern Black migrants tended to be part of a growing group of Southern urban laborers and dispossessed artisans before moving (Marks, 1989; Trotter, 2007). This evidence highlights the importance of structural changes due to Southern development, subsequent pressures on Southern labor markets, and urban race relations as important "push" factors (Marks, 1989). Agricultural forces might have had only an indirect impact, pushing rural Blacks and Whites into urban areas where subsequent increased competition pushed Black urban workers out.

Defining urban areas as any census-designated, incorporated place with over 2,499 persons is broad. Table 5.9 examines the size effects of an urban place on the probability of a Southern man moving out between birth and 1917 or 1917 and 1930. It defines a small-size urban place as one with 2,500 to 9,999 residents, a medium-size

urban place as one with 10,000 to 49,999 residents, and a large urban place as one with at least 50,000 residents. Panel A reports the mean number of Black and White men born in each urban place size grouping, the estimated odds ratio of the effect of being born in each urban place size group on leaving by 1917, and the predicted probability of leaving implied by the estimated odds ratio by race. The odds ratio estimates come from models two and three from Table 5.5; I replaced the urban birth variable with binary variables for small, medium, and large urban place birth in the regressions. Birth in any size urban place doubles or triples the odds of out-migration for Black men versus those born in a rural area. White men born in small or medium-sized urban place also have dramatically increased odds of leaving vis-à-vis rural-born men; however, White men born in a large-size urban place do not.

Panel B of Table 5.9 disaggregates the urban effect on moving out of the South by 1930 into small, medium, and large urban areas for men living in the South in 1917 by race. White men from any sized urban area in 1917 have no increased odds of moving relative to rural-dwelling White men. Black men living in small and medium sized urban areas have increased odds of leaving the South versus men living in rural areas. The sizes of the estimates of these effects are equivalent to the regular urban effect. There is no significant effect on out-migration, however, for residency in large urban areas for Black men. The greatest changes in urban labor markets were located in the small and medium-sized towns. It is these cities where changing labor supplies, labor relations, and racial norms are pushing out Black urban workers.

The results also suggest the Great Migration may be a process of Southern "brain drain." Woodson's (1969) "migration of the talented tenth" seems to have continued even

after WWI (pp. 147-166). Although highly-educated Black professionals made up a small proportion of Southern out-migrants, out-migrants made up a large proportion of Southern Black professionals in 1917. I estimate that Black communities in the South lost between one-third and three-quarters of their urban professionals to migration. Comparing Black professionals to Black nonfarm common laborers, the former have an estimated two and a half times odds of leaving as the latter. The estimated probabilities reflect the large magnitude of this difference. It is informative to estimate the probability of a literate, urban-dwelling, professional Black worker leaving the South: 52% within a 95% confidence interval ranging from 29% to 74%. Although the confidence band is wide, the lower is nonetheless a large portion of professional workers. The estimated average probability of an average Black man was 13.6% within a 95% confidence band ranging from 11.7% to 15.6%. Of all of the draft age, Southern-born Black professionals in the 1930 IPUMS sample, 31% lived outside of the South in 1930 (Ruggles et al., 2010).

It is plausible that the same forces driving literate Blacks to leave were amplified for these highly-educated Blacks. Again, Margo (1990) and Vigdor (2002) suggest that educated Blacks enjoyed higher returns from migration because of higher returns to education, increased dissatisfaction with the Southern racial climate, better information, and better ability to finance transportation. These effects, all of which are likely sensitive to education level, were likely even greater for highly-educated Black professionals than for average literate Blacks. Southern Black professionals were also sensitive to the movement of their Black clientele. Because social norms prevented close interactions between the races, Black professionals relied upon Black communities within the

segregated South for business (Sundstrom, 1994). As migrants left and business subsequently dried up, many Black clergy, professionals, and business owners followed their customers to the North (Grossman, 1989). These migrants became an important component of the growing Black middle class arising in Northern cities and composed mainly of business owners and professionals (Gregory, 2005; Trotter, 2007; Osofsky, 1968).

Another explanation for the observed urban selectivity patterns here might focus on the importance of step-migration. Urban selectivity might be because rural Blacks contemplating a move might use Southern cities as a temporary stopping point along their northbound route to accumulate information, skills, or money to finance the remainder of their trip (Alexander, 1998). Such a migration strategy was undoubtedly important for many migrants. Table 5.10 explores this hypothesis by reporting the proportion of southern residents, southern urban residents, out-migrants, and nonmigrants who are candidates for step-migration in 1917 by race. I identify a man as a potential step-migrant if he was born in a rural area but had moved to a different place that was urban within the South in 1917.[3] Men who had previously made a within-South rural-to-urban move did make up a large proportion of out-migrants between 1917 and 1930. About one-third of Black out-migrants and one-quarter of White out-migrants were step-migrants. However, Table 5.10 indicates that this is because a large proportion of Southern urban residents in 1917 had moved there from a rural area. About 60% of all urban out-migrants after 1917 had a rural birthplace, but this is because about 60% of all Southern urban residents in 1917 had a rural birthplace. Rural-born urban residents are just as likely to leave the south as urban-born urban residents. Thus, although step

migration was important for rural migrants and a large part of the migration stream, it cannot explain all of the urban selectivity observed here. Rather, separate urban forces, probably related to the influx of so many rural workers into Southern cities, were also at work.

That Black migrants were urban residents and came from nonfarm occupations adds further pessimism to our understanding the labor market outcomes of Blacks migrants in the North in the mid-20th century. New research suggests that leaving the South did not appreciably increase the incomes, occupational status, or employment of Black migrants compared with equivalent nonmigrants in the South (Eichenlaub, Tolnay, & Alexander, 2010). In terms of occupational mobility, Black migrants in Cincinnati fared similarly to Northern-born Blacks, but both groups were less mobile than Whites (Maloney, 2001). Such failures have been attributed not only to observed education levels, as measured by literacy, but also to inexperience with industrial supervision, discipline, division of labor, standardization, rationalization, and work pace (Grossman, 1989). The results above, which observe literacy and previous work experience, indicate that Black migrants at this time had more experience with both urban life and nonfarm labor than traditionally thought. These nonagricultural skills attained through training and work experience in the Southern service and industrial sectors should have been easily transferrable to the North relative to agricultural skills (Steckel, 1983). That Black migrants fared so poorly, despite having more experience than their sending population in nonagricultural work, suggests a deeply pessimistic view about the effects of migration on the economic status of Southern Blacks and underscores the importance of demand-side forces in limiting opportunities for Black migrants in the North (Sundstrom, 1994).

Conclusion

This study confirmed the positive selection of Southern Black out-migrants during the first decades of the Great Migration. It also found support for a revisionist characterization of the Black migrants before the 1930s, but none for the traditional characterizations. Black migrants were more literate, more likely from urban areas, and more experienced with nonfarm work than their sending population. Among nonfarm workers, Black professionals were most likely to move. Although they were more literate, White migrants were otherwise representative of their sending population. This implies that an emphasis on direct rural causes for the Great Migration may be misplaced and that a future emphasis on urban Southern forces and the interplay between rural and urban Southern labor markets is needed. It also suggests that the average Black migrant may have been better prepared in some respects for life in the North than the average Black nonmigrant, at least in terms of nonagricultural work experience. In light of the limited gains in economic and social status ultimately attained by the growing Black communities of the North, this is a disheartening result.

Notes

1 It is important to note that this cohort is only a slice of all migrants leaving the South during this period. Men aged 34 to 43 in 1930 composed about 19.4% of the total population of all Southern-born men living in the non-South in 1930. Despite only being a proportion of all Southern out-migrants, it is an important proportion, as it is composed of mid-career, mid-life cycle males.

2 Other results are worth briefly noting. Curiously, White men listing a health issue on their draft cards are slightly more likely to move. Among both races, transient men, who had moved previously between states before 1917, had an increased likelihood of moving out of the South. WWI military service should reduce the costs of migration by exposing veterans to a broad information network of former comrades. As expected, military service increased the odds of migration for Whites, but only slightly; it did not do so for Blacks.

3 This definition excludes nonmovers who were born in a rural area that grew into an urban area between 1890 and 1920. About 10% of all rural-born men who lived in an urban area by 1917 were nonmigrants.

Table 5.1

Determinants of reporting an employer, farmers, weighted

Variables	Coefficient estimate
Sharecropping %	10.73***
	(0.002)
Black	2.46***
	(0.000)
Black*Sharecropping %	5.26
	(0.12)
Observations	1,091
χ^2	186.51***

Note: Sample includes farmers living in the South in 1917 who were white and black, Southern-born, and draft-age. A logistic model with dependent variable =1 if a farmer reported an employer and =0 otherwise is used. Robust *p*-values in parentheses.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 5.2

Mean characteristics of draft-age, Southern-born black and white men by sample

	1930 IPUMS	Linked Sample, weighted
Personal characteristics		
First name popularity	28.2	24.0
Last name popularity	46.3	41.0
Age, 1930	38.2	38.1
Black	0.28	0.28
Literate, 1930	0.92	0.93
WWI vet	0.25	0.27
Border state birth	0.48	0.49
Married, 1930	0.85	0.86
Children, 1930	0.67	0.70
Unemployed, 1930	0.06	0.06
Residency & migration		
Urban, 1930	0.44	0.45
South, 1930	0.83	0.83
Northeast, 1930	0.05	0.05
Midwest, 1930	0.09	0.09
West, 1930	0.04	0.04
Interstate move birth-1930	0.35	0.33
Interregional move birth-1930	0.17	0.17
Occupational distribution		
Professional, 1930	0.04	0.04
Managerial, 1930	0.08	0.09
Clerical, 1930	0.04	0.04
Sales, 1930	0.05	0.05
Craft, 1930	0.14	0.13
Operative, 1930	0.12	0.13
Service, 1930	0.05	0.05
Labor, 1930	0.14	0.14
Farm labor, 1930	0.06	0.05
Farmer, 1930	0.26	0.27
Other, 1930	0.02	0.02
N	24,300	3,685

Note: Categories might not add up to one due to rounding.

Table 5.3

Mean characteristics by subsample: 1930 IPUMS vs. Linked Samples, with mean and proportion tests between samples

	Residing in South in 1930				Leave South by 1930			
	Whites		Blacks		Whites		Blacks	
Variable	1930 IPUMS	Linked Sample	1930 IPUMS	Linked Sample	1930 IPUMS	Linked Sample	1930 IPUMS	Linked Sample
Personal characteristics								
First name pop.	19.2	17.3	42.6	37.3**	26.8	19.7***	57.7	50.0**
Last name pop.	55.4	32.0***	94.2	60.6***	54.0	37.1***	92.5	65.4***
Age, 1930	38.3	38.2	38.2	38.0**	38.2	38.2	38.3	38.0**
Black	0	0	1	1	0	0	1	1
Literate, 1930	0.95	0.96	0.78	0.81**	0.99	0.99	0.96	0.97
WWI vet	0.25	0.27	0.18	0.24***	0.35	0.34	0.24	0.32***
Border state birth	0.52	0.52	0.25	0.28**	0.77	0.79*	0.31	0.33
Married, 1930	0.87	0.88	0.82	0.84	0.83	0.87***	0.76	0.78
Children, 1930	0.75	0.78**	0.55	0.58	0.62	0.68***	0.37	0.38
Unemployed, 1930	0.05	0.05	0.06	0.07	0.08	0.07	0.15	0.16
Residency & migration								
Urban, 1930	0.37	0.38	0.40	0.41	0.67	0.67	0.91	0.91
South, 1930	1	1	1	1				
Northeast, 1930	0	0	0	0	0.18	0.16	0.43	0.45
Midwest, 1930	0	0	0	0	0.51	0.52	0.52	0.50
West, 1930	0	0	0	0	0.31	0.31	0.05	0.05
Interstate move, 1930	0.22	0.19	0.24	0.21**	1	1	1	1
Interregional move, 1930	0	0	0	0	1	1	1	1

Table 5.3 continued

	Residing in South in 1930				Leave South by 1930			
	Whites		Blacks		Whites		Blacks	
Variable	1930 IPUMS	Linked Sample	1930 IPUMS	Linked Sample	1930 IPUMS	Linked Sample	1930 IPUMS	Linked Sample
Occupational distribution								
Professional, 1930	0.04	0.05	0.02	0.02	0.06	0.06	0.03	0.04
Managerial, 1930	0.10	0.11	0.01	0.02**	0.11	0.12	0.02	0.01
Clerical, 1930	0.05	0.05	0.01	0.01	0.05	0.06	0.02	0.04*
Sales, 1930	0.06	0.05	0.01	0.004	0.09	0.09	0.008	0**
Craft, 1930	0.15	0.14	0.05	0.05	0.24	0.23	0.09	0.11
Operative, 1930	0.11	0.12	0.11	0.11	0.17	0.16	0.15	0.17
Service, 1930	0.03	0.02	0.08	0.08	0.04	0.03**	0.20	0.20
Labor, 1930	0.07	0.08	0.29	0.27	0.10	0.08**	0.43	0.38*
Farm labor, 1930	0.05	0.04	0.10	0.09	0.05	0.05	0.01	0.01
Farmer, 1930	0.31	0.32	0.31	0.33	0.07	0.09	0.01	0.01
Other, 1930	0.02	0.01**	0.02	0.02	0.02	0.02	0.03	0.03
Linkage rate		0.49		0.31		0.48		0.32
Observations	14,896	926	5,252	1,029	2,557	1,223	1,595	507

Note: Categories might not add up to one due to rounding. Results of two-tailed tests of differing means for continuous variables and two-tailed tests of differing proportions for binary variables between the IPUMS sample and linked subsample within each subpopulation are reported.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 5.4

Weighted mean characteristics of Southern out-migrants and non-migrants by migration period and race, linked sample

	All Southern-born men				Living in the South in 1917			
	Non-migrants		Out-migrants, birth-1917		Non-migrants		Out-migrants, 1917-1930	
Variable	Whites	Blacks	Whites	Blacks	Whites	Blacks	Whites	Blacks
Personal characteristics								
Age, 1930	38.2	37.9	38.4	38.2	38.2	38.0	37.9	37.9
Literate, 1930	0.97	0.83	0.98	0.94	0.96	0.81	0.99	0.97
WWI vet	0.27	0.25	0.33	0.30	0.26	0.24	0.38	0.30
Urban birth	0.16	0.16	0.31	0.40	0.16	0.15	0.19	0.21
Border state birth	0.53	0.28	0.80	0.40	0.52	0.28	0.76	0.31
Married, 1917	0.57	0.62	0.53	0.52	0.58	0.63	0.51	0.55
Children, 1917	0.41	0.38	0.36	0.25	0.41	0.40	0.34	0.31
Dep. parent, 1917	0.14	0.15	0.16	0.32	0.14	0.16	0.15	0.14
Married, 1930	0.88	0.84	0.86	0.74	0.88	0.84	0.85	0.80
Children, 1930	0.78	0.55	0.67	0.39	0.79	0.58	0.65	0.40
Health, 1917	0.12	0.07	0.13	0.06	0.12	0.07	0.16	0.08
Tall	0.32	0.35	0.36	0.33	0.32	0.35	0.33	0.33
Short	0.08	0.11	0.06	0.13	0.08	0.11	0.09	0.07
Stout	0.10	0.15	0.07	0.09	0.10	0.15	0.10	0.13
Slender	0.29	0.21	0.32	0.26	0.29	0.21	0.29	0.22
Unemployed, 1930	0.05	0.08	0.08	0.12	0.05	0.07	0.07	0.17
Farmer*Employer, 1917	0.11	0.23	0.06	0.008	0.11	0.24	0.11	0.18
Residency & migration								
Urban, 1917	0.36	0.40	0.65	0.88	0.36	0.37	0.44	0.55
Urban, 1930	0.40	0.49	0.62	0.81	0.38	0.41	0.69	0.92

Table 5.4 continued

	All Southern-born men				Living in the South in 1917			
	Non-migrants		Out-migrants, birth-1917		Non-migrants		Out-migrants, 1917-1930	
Variable	Whites	Blacks	Whites	Blacks	Whites	Blacks	Whites	Blacks
Border state, 1917	0.55	0.34	0	0	0.54	0.33	0.79	0.40
South, 1917	1	1	0	0	1	1	1	1
Northeast, 1917	0	0	0.15	0.51	0	0	0	0
Midwest, 1917	0	0	0.56	0.45	0	0	0	0
West, 1917	0	0	0.29	0.04	0	0	0	0
South, 1930	0.93	0.84	0.21	0.25	1	1	0	0
Northeast, 1930	0.01	0.07	0.11	0.39	0	0	0.19	0.41
Midwest, 1930	0.04	0.09	0.43	0.34	0	0	0.50	0.53
West, 1930	0.02	0.01	0.25	0.03	0	0	0.31	0.06
Change state, birth-1917	0.15	0.15	1	1	0.14	0.14	0.18	0.22
Change region, 1917-1930	0.19	0.30	0.38	0.45	0.12	0.16	1	1
Occupational distribution, 1917								
Professional, 1917	0.03	0.02	0.04	0.01	0.03	0.01	0.05	0.04
Managerial, 1917	0.07	0.004	0.05	0.006	0.07	0.004	0.05	0.003
Clerical, 1917	0.07	0.004	0.08	0.02	0.07	0.003	0.07	0.01
Sales, 1917	0.04	0.002	0.05	0	0.04	0.002	0.05	0.003
Craft, 1917	0.11	0.04	0.23	0.05	0.11	0.03	0.14	0.06
Operative, 1917	0.12	0.11	0.17	0.18	0.12	0.12	0.13	0.11
Service, 1917	0.01	0.06	0.02	0.20	0.01	0.06	0.02	0.10
Labor, 1917	0.05	0.26	0.10	0.48	0.05	0.25	0.07	0.31
Farm labor, 1917	0.03	0.11	0.05	0.02	0.03	0.12	0.02	0.04
Farmer, 1917	0.45	0.37	0.18	0.02	0.45	0.39	0.39	0.29
Other, 1917	0.01	0.02	0.03	0.02	0.01	0.02	0.02	0.03

Table 5.4 continued

	All Southern-born men				Living in the South in 1917			
	Non-migrants		Out-migrants, birth-1917		Non-migrants		Out-migrants, 1917-1930	
Variable	Whites	Blacks	Whites	Blacks	Whites	Blacks	Whites	Blacks
Occupational distribution, 1930								
Professional, 1930	0.05	0.02	0.06	0.04	0.05	0.01	0.07	0.04
Managerial, 1930	0.11	0.02	0.13	0.03	0.11	0.02	0.10	0.006
Clerical, 1930	0.05	0.01	0.06	0.03	0.05	0.008	0.05	0.04
Sales, 1930	0.06	0.003	0.07	0	0.06	0.004	0.11	0
Craft, 1930	0.15	0.06	0.23	0.13	0.14	0.05	0.22	0.10
Operative, 1930	0.13	0.12	0.14	0.17	0.12	0.11	0.16	0.17
Service, 1930	0.02	0.10	0.02	0.17	0.02	0.08	0.04	0.20
Labor, 1930	0.07	0.30	0.12	0.30	0.07	0.27	0.09	0.42
Farm labor, 1930	0.04	0.08	0.04	0.03	0.04	0.09	0.06	0.01
Farmer, 1930	0.30	0.28	0.12	0.07	0.32	0.33	0.07	0.01
Other, 1930	0.01	0.02	0.01	0.04	0.01	0.02	0.03	0.02
Observations	1,425	1,304	724	232	902	990	523	314

Table 5.5

Determinants of moving out of the South between birth and 1917, weighted

Variables	All Model 1	Blacks Model 2	Whites Model 3	All Model 4
Age, 1930	1.04**	1.05*	1.03	1.03
	(0.04)	(0.06)	(0.19)	(0.19)
Literate, 1930	2.24**	2.71***	1.74	1.74
	(0.01)	(0.00)	(0.38)	(0.38)
Black	1.58***			0.68
	(0.00)			(0.80)
Urban birth	2.38***	3.24***	2.07***	2.07***
	(0.00)	(0.00)	(0.00)	(0.00)
Border state birth	2.48***	1.46**	3.29***	3.29***
	(0.00)	(0.02)	(0.00)	(0.00)
Tall	1.07	1.00	1.11	1.11
	(0.52)	(0.98)	(0.48)	(0.48)
Short	0.99	1.29	0.80	0.80
	(0.96)	(0.29)	(0.36)	(0.36)
Stout	0.66**	0.63*	0.69	0.69
	(0.02)	(0.07)	(0.10)	(0.10)
Slender	1.15	1.18	1.17	1.17
	(0.25)	(0.37)	(0.31)	(0.31)
Black*age				1.02
				(0.61)
Black*literate				1.56
				(0.53)
Black*urban birth				1.56**
				(0.04)

Table 5.5 continued

Variables	All Model 1	Blacks Model 2	Whites Model 3	All Model 4
Black*border state birth				0.44***
				(0.00)
Black*tall				0.91
				(0.66)
Black*short				1.62
				(0.16)
Black*stout				0.91
				(0.77)
Black*slender				1.01
				(0.97)
Observations	3,685	1,536	2,149	3,685
χ^2	165.8***	88.11***	96.67***	186.6***

Note: Odds ratios reported. Robust *p*-values in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 5.6

Predicted probabilities of out-migration before 1917 by race

Variable	Blacks	Whites
Average	0.10 [0.08, 0.11]	0.10 [0.09, 0.11]
Literate	0.11 [0.10, 0.13]	0.10 [0.09, 0.11]
Illiterate	0.04 [0.01, 0.07]	0.06 [-0.01, 0.13]
Urban birth	0.22 [0.10, 0.27]	0.17 [0.13, 0.20]
Rural birth	0.08 [0.06, 0.09]	0.09 [0.07, 0.10]
Border state birth	0.13 [0.10, 0.16]	0.14 [0.12, 0.16]
Nonborder state birth	0.09 [0.07, 0.10]	0.04 [0.03, 0.06]
Stout build	0.07 [0.03, 0.10]	0.07 [0.04, 0.10]
Medium/unknown build	0.10 [0.08, 0.12]	0.10 [0.08, 0.11]
Slender build	0.11 [0.08, 0.14]	0.11 [0.08, 0.13]

Note: Uses Models 2 and 3 from Table 5.5 for Blacks and Whites respectively. For all other variables, means within races are used. 95% confidence intervals reported in brackets.

Table 5.7

Determinants of leaving the South between 1917 and 1930, weighted

	Base group farmers		Base group laborers	
	Blacks	Whites	Blacks	Whites
Variables	Model 1	Model 2	Model 3	Model 4
Age, 1930	0.99	0.97	0.99	0.97
	(0.78)	(0.22)	(0.78)	(0.22)
Literate, 1930	7.16***	3.62**	7.16***	3.62**
	(0.00)	(0.02)	(0.00)	(0.02)
Border state, 1917	0.72	2.02**	0.72	2.02**
	(0.31)	(0.01)	(0.31)	(0.01)
Border state birth	1.35	1.73**	1.35	1.73**
	(0.37)	(0.05)	(0.37)	(0.05)
Urban, 1917	1.60***	1.15	1.60***	1.15
	(0.00)	(0.34)	(0.00)	(0.34)
Urban birth	0.93	0.99	0.93	0.99
	(0.71)	(0.94)	(0.71)	(0.94)
WWI vet	1.06	1.60***	1.06	1.60***
	(0.71)	(0.00)	(0.71)	(0.00)
Professional, 1917	3.87***	1.52	2.49**	1.11
	(0.00)	(0.20)	(0.04)	(0.79)
Managerial, 1917	0.66	0.83	0.43	0.60
	(0.73)	(0.50)	(0.46)	(0.15)
Clerical, 1917	2.76	1.20	1.77	0.87
	(0.27)	(0.51)	(0.52)	(0.69)
Sales, 1917	1.18	1.61	0.75	1.17
	(0.90)	(0.12)	(0.83)	(0.67)

Table 5.7 continued

	Base group farmers		Base group laborers	
	Blacks	Whites	Blacks	Whites
Variables	Model 1	Model 2	Model 3	Model 4
Craft, 1917	2.53**	1.51*	1.62	1.10
	(0.01)	(0.05)	(0.15)	(0.74)
Operative, 1917	1.06	1.24	0.68	0.90
	(0.84)	(0.32)	(0.12)	(0.73)
Service, 1917	1.70*	1.91	1.09	1.39
	(0.09)	(0.20)	(0.74)	(0.54)
Labor, 1917	1.56*	1.37		
	(0.07)	(0.24)		
Farm labor, 1917	0.53*	1.08	0.34***	0.79
	(0.07)	(0.83)	(0.00)	(0.59)
Farmer, 1917			0.64*	0.73
			(0.07)	(0.24)
Farmer*employer, 1917	1.29	1.51*	1.29	1.51*
	(0.32)	(0.05)	(0.32)	(0.05)
Other, 1917	2.13	1.29	1.37	0.94
	(0.12)	(0.61)	(0.49)	(0.90)
Married, 1917	0.79	1.07	0.79	1.07
	(0.18)	(0.70)	(0.18)	(0.70)
Children, 1917	0.92	0.95	0.92	0.95
	(0.66)	(0.76)	(0.66)	(0.76)
Parent, 1917	0.62**	1.01	0.62**	1.01
	(0.02)	(0.96)	(0.02)	(0.96)
Health	0.88	1.37*	0.88	1.37*
	(0.64)	(0.07)	(0.64)	(0.07)
Tall	0.82	1.05	0.82	1.05
	(0.20)	(0.74)	(0.20)	(0.74)

Table 5.7 continued

	Base group farmers		Base group laborers	
	Blacks	Whites	Blacks	Whites
Variables	Model 1	Model 2	Model 3	Model 4
Short	0.45***	1.15	0.45***	1.15
	(0.00)	(0.53)	(0.00)	(0.53)
Slender	1.04	1.01	1.04	1.01
	(0.84)	(0.93)	(0.84)	(0.93)
Stout	1.02	1.03	1.02	1.03
	(0.93)	(0.89)	(0.93)	(0.89)
Change state,birth-1917	1.76***	1.35*	1.76***	1.35*
	(0.01)	(0.07)	(0.01)	(0.07)
Observation	1,304	1,425	1,304	1,425
χ^2	105.2***	131.5***	105.2***	131.5***

Note: Odds ratios reported. Robust *p*-values in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 5.8

Predicted probabilities of out-migration between 1917 and 1930 by race

Characteristic	Black	White
Average	0.13 [0.11, 0.15]	0.06 [0.05, 0.07]
Literate	0.17 [0.15, 0.19]	0.06 [0.05, 0.07]
Illiterate	0.02 [0.01, 0.04]	0.01 [-0.001, 0.03]
Border state 1917	0.11 [0.06, 0.15]	0.08 [0.06, 0.09]
Non-border state 1917	0.14 [0.11, 0.18]	0.04 [0.02, 0.05]
Urban, 1917	0.17 [0.13, 0.20]	0.07 [0.05, 0.08]
Rural, 1917	0.11 [0.09, 0.13]	0.06 [0.05, 0.07]
WWI Vet	0.14 [0.10, 0.17]	0.08 [0.06, 0.10]
Non-vet	0.13 [0.11, 0.15]	0.05 [0.04, 0.06]
Parent dependent	0.09 [0.06, 0.12]	0.06 [0.04, 0.08]
No parent dependent	0.14 [0.12, 0.16]	0.06 [0.05, 0.07]
Short stature	0.07 [0.03, 0.10]	0.07 [0.04, 0.10]
Medium/unknown stature	0.15 [0.12, 0.17]	0.06 [0.05, 0.07]
Tall stature	0.12 [0.09, 0.14]	0.06 [0.05, 0.08]
Professional, 1917	0.37 [0.15, 0.58]	0.09 [0.03, 0.14]
Craft, 1917	0.27 [0.13, 0.42]	0.09 [0.05, 0.12]
Service, 1917	0.20 [0.11, 0.29]	0.11 [0.01, 0.21]
Laborer, 1917	0.17 [0.12, 0.23]	0.08 [0.04, 0.12]
Farm labor, 1917	0.08 [0.03, 0.13]	0.06 [0.02, 0.11]
Farmer 1917, no employer	0.11 [0.07, 0.15]	0.05 [0.04, 0.06]
Farmer 1917, employer	0.13 [0.10, 0.17]	0.07 [0.05, 0.10]
Change state, birth-1917	0.20 [0.14, 0.26]	0.08 [0.06, 0.10]
Same state, birth-1917	0.12 [0.10, 0.14]	0.06 [0.05, 0.06]

Note: Uses Models 1 and 2 from Table 5.7 for Blacks and Whites respectively. For all other variables, means within races are used. 95% confidence intervals reported in brackets.

Table 5.9

Means and estimates of disaggregated urban effects on out-migration by race, weighted

	Blacks			Whites		
	Mean	Est. Odds Ratio	Predicted Prob.	Mean	Est. Odds Ratio	Predicted Prob.
		A. Move birth - 1917				
Small urban, birth (2,500 - 9,999)	0.07	3.84*** (0.00)	0.26	0.06	2.30*** (0.00)	0.22
Medium urban, birth (10,000 - 49,999)	0.05	3.40*** (0.00)	0.24	0.04	3.21*** (0.00)	0.24
Large urban, birth (50,000 +)	0.06	2.55*** (0.00)	0.19	0.08	1.16 (0.50)	0.10
		B. Move 1917 - 1930				
Small urban, 1917 (2,500 - 9,999)	0.13	1.70** (0.01)	0.18	0.13 (0.01)	1.02 (0.90)	0.06
Medium urban, 1917 (10,00 - 49,999)	0.09	1.82** (0.01)	0.19	0.08 (0.008)	1.17 (0.52)	0.07
Large urban, 1917 (50,000 +)	0.18	1.32 (0.21)	0.15	0.16 (0.01)	1.38 (0.14)	0.08

Note: Estimated odds rations use models from Table 5.5 (Panel A) and Table 5.7 (Panel B), disaggregating urban variables by size. Robust *p*-values in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 5.10

Proportion of potential step-migrants in 1917 for various groups by race, weighted means

	Black	White	Both Races
All Southern residents, 1917	0.23	0.21	0.21
All Southern urban residents, 1917	0.58	0.57	0.57
All out-migrants, 1917-1930	0.33	0.25	0.29
All nonmigrants, 1917-1930	0.22	0.20	0.21
All urban out-migrants, 1917-1930	0.60	0.57	0.59
All urban nonmigrants, 1917-1930	0.58	0.57	0.57

CHAPTER 6

CONCLUSION

This dissertation has shown that in the United Sates, during the period from 1890 to 1930, nonmarket institutions deeply affected labor markets. Workers made their decisions in an institutional context that gave some workers opportunities and withheld those same opportunities to others. Conscription during WWI influenced the lives of many workers, affecting their subsequent occupational and geographic mobility. Racial norms interacted with the effect of service. These norms also had direct effect in shaping the out-migration decisions of Southerners.

The WWI draft was a large-scale government intervention into the labor market that had a profound impact on the lives of the nearly three million men it affected. The draft was structured in a way the shifted the burden of conscription to unmarried, literate, and healthy men. There were also racial differences in the assignment of this burden. For White men, the draft structure shifted this burden to workers in the nonagricultural sector, except for, perhaps White farm laborers in nonrural counties in the U.S. South. By contrast, Southern Black agricultural workers and nonagricultural workers had equal probabilities of service.

For those that served, their service had an important impact on their postwar occupation mobility. White skilled veterans who were skilled before the war were

slightly more likely to hold onto their skilled jobs after the war. This is likely a result of their assignment to matching jobs within the military where they gained experience, learned the latest technologies, and built professional networks that helped insulate them from downward mobility pressures. Because of the nature of the segregated military, Black veterans who were skilled before service received no such experiences and, thus, have equal rates of downward mobility as skilled Black nonveterans. WWI military service did not offer advancement for unskilled workers or transition agricultural workers into the nonagricultural sector. Again, this is likely due to the military assigning previously skilled soldiers to skilled jobs in the military, whereas unskilled workers received assignments for combat or unskilled roles in the military.

The larger impact of WWI service was on geographic mobility. Meeting fellow comrades from all over the country, White veterans gained access to large, nationwide information networks during service. After the war, they used these networks to move across states and across regions at markedly higher rates than White nonveterans. By contrast, rates of Black veteran interstate and interregional migration were the same as Black nonveterans. The segregated structure of the WWI military limited the information networks of Black soldiers to the South. Black soldiers were segregated into all-Black units where they would have met only other Black men. Because the only new information contacts for these men to make were other Black Southern men, these networks would not have carried any actionable information for migration. Black soldiers would have just learned how bad things were all over the South.

Although Black migrants leaving the South were not disproportionately veterans, they were fundamentally different that those they left behind on other measures. Black

migrants leaving the South were disproportionately urban residents, more literate, and had more nonagricultural labor market experience than their sending population. Southern Black out-migrant self-selection during this period is vastly different than Southern White out-migrant self-selection. White Southern out-migrants were more literate than their sending population, but otherwise representative. Although these results only speak to the question of who left the South, they have some broader implications for our understanding of the Great Migration. In explaining its causes, the literature may be overemphasizing agricultural explanations as a direct impetus for the Great Migration and underemphasizing the role of urban labor markets and changing racial norms in Southern towns and cities. That Black migrants were better prepared for life in the North adds further pessimism to our understanding of the outcomes resultant from the Great Migration.

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