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U.S. internal migration and occupational attainment: Assessing absolute and relative outcomes by region and race

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Abstract

This paper investigates the occupational implications of contemporary migration flows by region and race. Even though the expectation of a positive link between geographic and social mobility is a central tenet in the stratification literature, empirical assessments are rare and have produced inconsistent results. Our analysis departs from traditional frameworks by integrating both absolute and relative notions of occupational standing for evaluating migration outcomes, comparing migrants against non-migrant peers both at origin and destination. Results document that for whites migration is associated with higher occupational attainment both in absolute and relative terms, irrespective of the regional direction of the move. For blacks, on the other hand, absolute occupational gains are markedly absent for migration to the South, which is instead characterized by significant improvement in relative terms. The differences in absolute and relative gains by race and direction of the move helps contextualize the considerable black over representation in north-south migration and highlights the implications of current internal mobility for racial stratification.

Keywords

internal migration; occupational attainment; racial stratification; social mobility

Both sociological and economic perspectives on migration center on the idea that geographic and social mobility are tightly linked. Human capital and status attainment models regard migration as an investment undertaken to maximize socioeconomic returns and posit that migrants move, on average, from lower- to higher-opportunity settings (Sjaastad, 1962). Numerous classical studies, including the seminal work of Blau and Duncan (1967), conform to this view, and document considerable social mobility associated with migration (Lieberson, 1978; Lieberson and Wilkinson, 1976). More recently, though, a number of studies have failed to demonstrate significant gains to internal migration, especially among minorities (Greenwood, 1997; Jacobsen and Levin, 1997; Maxwell, 1988; Smits, 2001; Tienda and Wilson, 1992). The apparent lack of immediate socioeconomic returns to contemporary internal migration represents an important puzzle for migration scholars (Cushing and Poot, 2004), particularly because the U.S. is so highly mobile, with

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8.4 percent of the population, or 22 million people, changing states between 1995 and 2000 alone (Schachter, 2003).

The need for a better understanding of the socioeconomic consequences of internal migration is made even starker by two important reversals of long-standing trends. The first is the change in the regional direction of migration flows. While for most of the 20th century the South was characterized by net out-migration, since the 1970s the flow of population reversed directions and the South became a magnet for in-migration. Second, while the United States has long been marked by racial variation in internal migration patterns, these too have dramatically changed in recent years. While both blacks and whites left the South in large numbers prior to World War II, the exodus for blacks was so pronounced and long-lasting as to be dubbed the Great Migration (Falk, Hunt, and Hunt, 2004). Today, however, these racial disparities in regional migration flows have also reversed, with blacks significantly more likely than whites to move south (Frey, 2004).

Taken together, the recent upending of historical trends and inconsistent findings as to the relationship between social and geographic mobility calls attention to the need to re-examine the personal socioeconomic consequences of internal migration. And yet, in a review of the literature Cushing and Poot documented a serious “dearth of research on migration's consequences [which] is troubling given its practical importance” to both individuals and geographic areas (2004:330). This analysis, which draws on data from the 2000 Census, contributes to our understanding of the consequences of migration in a number of ways. First, we examine in detail the relationship between migration and occupational attainment, a critical aspect of social mobility that was central to classical studies on the topic but that has more recently been neglected in favor of earnings outcomes. Occupational attainment arguably captures long-term labor market opportunities and life-chances more precisely than short-term earnings gains, and has the added benefit that it is not affected by the differences in cost of living that frequently stymie wage comparisons across locales. Second, we systematically investigate migration outcomes according to both the direction of the move and race, comparing occupational attainment for different regions of origin and destination among black and white men. And finally, a central contribution of the study is to broaden the conceptualization of social mobility to include both absolute and relative aspects of occupational attainment. The dominant theoretical paradigm and vast majority of empirical analyses focus on the expected gains to absolute occupational attainment accruing to migration. However, building on relative deprivation theory, we argue that migration can also affect social mobility by improving a person's occupational standing relative to their peers. Integrating absolute and relative considerations together with the regional direction of migration flows and racial variation holds the potential to enhance our understanding of both the impact of internal migration on occupational attainment and the implications of contemporary trends for racial stratification.

Background and theoretical considerations

The first half of the 20th century was marked by a massive redistribution of the U.S. population, with millions leaving the rural South in favor of industrial centers in the Northeast, Midwest, and West. Blacks were not only over-represented in the northern flow,

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but their Great Migration had an enduring impact on the geographic distribution of the black population (Tolnay, 2003). And, while white out-migration from the South tapered off by the 1950s, black migration out of the South exceeded black in-migration to the region as late as 1965-1970 (Frey, 2004).

Since the 1970s, though, this long-standing trend has reversed and the South has become a magnet for population, again with important differences by race. Hunt and colleagues (2008) estimate that during the 1970s out-migration from the South slowed and in-migration increased, more so for whites than blacks (with the percent of northern-born whites and blacks moving south being 2.2 and 1.4, respectively). During the 1980s black in-migration grew more rapidly than white, and by 1990 the share of northerners moving south (2.7) was roughly comparable for both groups. After 1990 black migration to the South exceeded that of whites, with the percentage of northern blacks moving south reaching 3.5 by 2000, compared to only 2.5 for whites. These disparities are even more dramatic when looked at from the perspective of migration rates: between 1995 and 2000 the Net Migration Rate (NMR) for whites in the Northeast was -22.2 per thousand but the loss was nearly double (-41.6) for blacks; in the West the NMR was 6.7 for whites and -18.0 for blacks; and the southern NMR was 18.7 for whites and 20.8 for blacks (Schachter, 2003).

Migration and social mobility

The dominant theoretical paradigms for understanding the personal social mobility consequences of migration view it as a mechanism for attaining higher absolute earnings or occupational status (Clark 1986; DaVanzo, 1981; Sjaastad 1962). Blau and Duncan, for instance, regarded internal migration as an integral component of their status attainment model. Their classic analysis of the U.S. occupational structure during the post-World War II economic boom showed that migrants averaged greater occupational attainment and experienced more upward mobility than non-migrants and that the effect remained even net of social background, education, and prior work experience (1967). Since then migration has been generally framed as a central mechanism fostering occupational attainment and social mobility.

However, while occupational attainment figured prominently in the classic formulation of the connection between geographic and social mobility current evaluations in the United States are rare (Cushing and Poot, 2004). Wilson (1985), drawing on data from the 1960s, found that migration resulted in considerable occupational gains and that the gains were comparable for whites and blacks. Most other studies that examined the link between migration and occupation, however, have tended to do so only tangentially, in order to better address other issues. Schlottmann and Herzog (1984), for instance, were interested in the age-selectivity of migration and noted that people who changed occupations were also more likely to migrate. Likewise, Krieg (1997) was principally concerned with the impact of migration on wages, and argued that migration-related changes in occupation and employer needed to be taken into account. While it was not his primary focus, he questioned whether migration resulted in positive gains to occupational attainment, noting that migrants often fared worse than non-migrants in occupational status (Krieg, 1997:9). Other recent studies have approached the connection in terms of status inconsistency, defined as a mismatch

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between occupational and educational attainment. For instance, Buchel and van Ham (2003) showed that workers who are less able to migrate (such as married women) and work in smaller labor markets suffer increased risk of being over-educated for their jobs. Lee and colleagues (2009) also showed that migration did not uniformly improve occupational status; while in many cases status inconsistencies were reduced after migration, the analysis also reported considerable changes in the opposite direction. The limited body of research that examines occupational outcomes undermines our understanding of internal migration, particularly given the number of recent studies that failed to find significant wage gains associated with migration.

A relative deprivation perspective on migration and occupational mobility

An important limitation of prior studies connecting migration with social mobility stems from their exclusive concentration on absolute gains to the relative neglect of broader notions of social mobility. The dominant expectation guiding most empirical analyses is that migrants should experience higher absolute occupational attainment as a result of migration. However, a broader notion of social mobility connects social standing not only with absolute position but also with relative considerations.

The salience of relative considerations for understanding migration outcomes can be traced back to the notion of relative deprivation developed in Stouffer and colleague's 1949 examination of adjustment to army life in *The American Soldier*. An unexpected finding in this work was that despite their resentment of local racial discrimination, northern black soldiers stationed in the South were as well or even better adjusted than their black peers stationed in the North. They argued that the black soldiers stationed in the South compared themselves to local black civilians and found themselves to be better off, and thus experienced less distress than their counterparts in the North, who enjoyed a similar or higher absolute but lower relative social position. Stouffer's emphasis on the comparison with local area residents illuminated the salience of reference group considerations for understanding migration outcomes.

Stark and colleagues were the first to operationalize and systematically apply relative deprivation theory to migration within and across countries. Stark argued that at any given level of earnings or occupational status individuals will vary in their level of satisfaction depending on their position in the local social hierarchy. Individuals who feel more relatively deprived are more likely to migrate than otherwise similar individuals who feel less deprived (Quinn, 2006; Stark and Taylor 1989; Stark and Wang, 2000). While Stark applied the theory to explaining the migration decision itself, the same reasoning can be applied to assessing migrant *outcomes*, which can include both absolute and relative changes in social position.[2]

[2]A difference between the international and internal migration case is worth highlighting. For international migrants cultural, language, and other social discontinuities across societies are argued to prevent, or at least significantly delay, immigrants from comparing themselves to members of the host community. As a result, the community of origin remains the salient reference group. In the case of internal migration, on the other hand, the absence of language and rigid cultural barriers within most national boundaries means that internal migrants quickly substitute the reference group from origin to host communities (Stark and Taylor, 1991). This reference group substitution is also implicit in Stouffer's classic elaboration of relative deprivation.

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Relative deprivation theory has also been successfully applied to a wide range of social phenomena, including occupational attainment. Job and income satisfaction, in particular, have been shown to relate to both absolute position and relative deprivation. Sweeney and colleagues (1990) showed that when individuals felt that similar others earned more, dissatisfaction with income and pay increased. Similarly, Feldman and colleagues (2002) showed that among re-employed executives job satisfaction was much lower among those who believed they were qualified for a higher status position. The theory has also been extended to explain higher job satisfaction among female than male workers (Hodson, 1989). The underlying insight in these empirical examples is that job satisfaction and notions of social standing are inversely related to the absolute conditions of the reference group. Irrespective of their absolute position, when individuals perceive their situation to be relatively superior to those in their reference group subjective well-being increases, and vice versa. Relative considerations also have concrete implications for well-being, with lower relative position associated with stress-related health conditions (Pham-Kanter, 2009) and lower levels of self-reported happiness, even after controlling for absolute income (Luttmer, 2005).

In spite of the plethora of studies documenting the importance of relative deprivation to international migration, job satisfaction, and health, the concept has not been systematically applied to contemporary inter-regional migration outcomes in the United States, or their variation across racial groups. The central difference between absolute and relative deprivation assessments of the socioeconomic consequences of internal migration is the comparison group used to assess its effect. From an absolute perspective the emphasis is on comparing occupational positions with and without migration. Empirically, this implies that migrants should exhibit higher occupational status than comparable *non-migrants at origin*. A relative deprivation perspective, on the other hand, expects migration to result in improvement in individuals' occupational position relative to their peers in the local area. Empirically, this implies that migrants should exhibit higher occupational status than comparable *residents at destination*. The purpose of this analysis is not to definitively adjudicate between these two perspectives, which are not inherently contradictory, but rather to examine variation across dimensions in order to provide a more nuanced assessment of the connection between geographic and social mobility.

Incorporating regional and racial differences in migration flows

Another limitation of recent studies is their lack of elaboration on regional and racial differences in migration outcomes. An implicit assumption in status attainment models is that economic opportunities are unevenly distributed across regions. These regional differences connect geographic and social mobility since individuals must often move in order to attain higher occupational status. In historical studies of geographic and social mobility in the United States there were stark contrasts between the South and other regions in terms of both economic and social context. During the Great Migration, wages and occupational opportunities were markedly lower in the South, and the environment was particularly inhospitable to blacks. As a result, studies of migration during this period often explicitly considered both region and race when assessing migrant outcomes. For instance, numerous studies showed that black participants in migration out of the South fared

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relatively well in their destinations, at least compared to non-migrant blacks (Lieberson, 1978; Lieberson and Wilkinson, 1976; Tolnay, 2003). Blau and Duncan (1967) also examined the issue explicitly. Emphasizing the disparate position of racial groups in the North and South, they concluded that:

> "Regional migration has different implications for the ultimate achievement of southern whites and blacks. The white profits by remaining south, where he need not compete with the superior background, education, and experience of northerners, and where stronger discriminations in employment against blacks favors him. The southern black, on the other hand, profits by moving north accepting the handicap of inferior education in exchange for escaping from the more rigorous racial discrimination in the south" (p. 219).

More recently, Eichenlaub and colleagues (2010) reassessed the impact of the Great Migration on social mobility. They too concluded that blacks benefited more than whites by leaving the South in favor of the North, both in terms of earnings and occupational status. However, they emphasized that these gains disappeared once contextual forces are taken into account, suggesting that not even black migrants benefitted in relative terms from migration.

In spite of the importance of region and race to assessments of migration outcomes during the Great Migration and post-war period, examinations of U.S. internal migration in more recent decades has surprisingly turned away from these kinds of analyses. While Wilson (1985) provided direct examination of racial differences in the implications of internal migration for occupational attainment, the study drew on data from the 1960s and did not explicitly consider regional variation in migration outcomes.

This lack of attention to region and race is problematic for a number of reasons. First, recent research outside the United States has shown the continued relevance of regional migration to occupational mobility. For the case of England, for instance, Fielding (1992) coined the term "escalator region" as a metaphor to refer to the Southeast, which attracts young people with promotion potential at the start of their working lives looking to "step on the escalator" to upward occupational mobility (see also Champion 2011). Similar regional patterns connecting migration and socioeconomic outcomes were found for the Paris area in France (Lelièvre and Bonvalet, 1994).

Second, unlike during the period of the Great Migration, when migrants were leaving the South in favor of regions with substantially higher incomes and occupational opportunities, today's migrants are not obviously moving from low- to high-opportunity environments. In fact, in 2000 average wages in the South were more than $7,000 lower than in the Northeast ($45,106 relative to $38,410). While there has been considerable convergence in regional wage disparities over time, most of it occurred between 1929 and 1979, before the southward shift in population gained momentum. Since then, wage convergence essentially stalled (Bernat 2001; Nissan and Carter 1993). The vast majority of studies of regional inequality in the United States focus on income, and far less is known about regional imbalances in occupational opportunities. In 2000 a smaller share of the working population was engaged in professional or service occupations in the South than in the North (47 vs. 52

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percent), potentially dampening the occupational benefits of southern migration. Moreover, there is no clear rationale for the higher representation of blacks than whites in southern flows, as there is no indication that occupational opportunities are greater for blacks in the South than they are for whites.

The main objective of this analysis is thus to address these shortcomings in the recent literature on migration outcomes, integrating absolute and relative mobility considerations together with regional direction of the move and race. Given prevailing regional variation in occupations, we expect the absolute and relative consequences of migration to vary according to region of origin and destination. As the North still tends to concentrate better employment options than the South, we expect absolute occupational gains to be more prominent in migration into the North than in the opposite direction. For the same reasons we expect relative occupational attainment to be more pronounced in north-south migration. Likewise, because northern black residents enjoy higher occupational status than their southern peers, migrating south might result in greater relative gains for black men than their white counterparts.

Data and Methods

We test these expectations using data from the 5 percent sample of the 2000 Census (Ruggles et al., 2010). We limit the sample to the civilian, non-institutionalized native born non-Hispanic black and white male population between the ages of 25 to 59, to eliminate involuntary moves and those related to education and retirement that do not directly connect with labor market outcomes.[3] The current analysis focuses on men for several reasons. Scholars of stratification increasingly emphasize that multiple dimensions of inequality interact to produce disparate outcomes by race and gender simultaneously (Collins, 2000), and that women's experience is not a simple extension of the male case. Racial disparities in occupational attainment are less pronounced among women than men, with important implications for the potential for migration to influence social mobility. Moreover, while the growing number of unmarried and dual-career households has given women greater stakes in mobility decisions, gender inequality within families render women more likely to defer to their partner's career needs than men. Thus there remain pronounced gender disparities in migration outcomes that interact with marital status (Geist and McManus, 2012; Jacobsen and Levin, 1997; Mincer 1978). A thorough incorporation of women into the analysis would therefore have to take into consideration interactions between race and gender *and* between race, gender, and marital status, and as such warrants its own careful theoretical and empirical exposition (Cebula, 2005).

Dependent variables

Three dependent variables assess the relationship between occupational attainment and migration. The first is employment itself, constructed as a dummy variable that equals 1 if a person is employed and 0 otherwise. The second dependent variable is type of occupation among those employed, which is constructed as a set of 5 mutually exclusive dummy

[3]To facilitate estimation the white sample was further reduced to a quarter of the 5 percent sample, which yields a sample size comparable to the black sample (approximately 600,000).

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variables that follow the broad 1990 Census occupational classification: managerial and professional; technical, sales, and administrative; service; precision production, craft, and repair; and operatives and laborers. We exclude persons employed in farming, forestry, and fishing due to their small representation. And finally, because these broad occupational classes can mask upgrading within categories we also investigate the consequences of migration for occupational prestige. We use the Duncan Socioeconomic Index (SEI), one of the most commonly used measures of occupational prestige (Duncan, 1961) that has also been applied to internal migration in previous studies (Eichenlaub et al., 2010). Duncan's SEI is a composite measure that assigns a score to occupations based on occupational prestige and the average income and educational attainment of job holders. Scores range from 4 to 96, with higher scores indicating greater prestige. To test the sensitivity of findings to the measure of occupational status we also ran models using the Nakao-Teas prestige score (also available in the IPUMS-USA data set). Aside from differences in scale, the two measures produced very similar findings.

Independent variables

The main explanatory variables in the analysis relate to migration status and the regional direction of the move. Following the theoretical discussion our main concern is with movements between the North and South. Our regional definitions are based on historical as well as present-day considerations that maximize comparability with research on the Great Migration. The North/Midwest/West includes 13 states that were historical places of destination during the Great Migration, including: California, Connecticut, Illinois, Indiana, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, and Wisconsin. For simplicity we refer to this region as “the North.” The South includes 13 states of the Confederacy (Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia); Washington, DC; and Kentucky and Oklahoma, which recent surveys have found increasingly identified with the South (Reed, 1999). Finally, we also include an “other” region that captures the 5 percent of the black population residing in states not included in the North or South.[4]

Using information on place of residence five years prior to the census, migrants were defined as those reporting a different region of residence in 1995 and 2000.[5] Specifically, three pairs of dummy variables were generated. The first pair of dummies index north-south and north-other migration and equal 1 if a person was residing in the North in 1995 and in the South or other region in 2000. The second pair of dummies indexes south-north and south-other migration and equals 1 if a person was residing in the South in 1995 and in the North or other region in 2000. The third pair similarly indexes other-north and other-south migration. Three additional dummy variables capture region of origin in 1995, and an additional three dummy variables capture region of destination or residence in 2000. As

[4]Our historically grounded definitions are in fact very similar to the Census’ regional classifications, though our definition of the South excludes Maryland, West Virginia, and Delaware. While there has been considerable black mobility into Maryland between 1995 and 2000 it is not currently regarded as a southern state. West Virginia and Delaware have relatively small black populations and were never historical areas of black settlement. We tested models employing conventional Census Bureau definitions of regions and found substantive findings, particularly for the North-South comparison, did not vary across specifications.

[5]It is important to note that this classification results in a heterogeneous group that combines primary, return, and repeat migrants; migration outcomes could vary across these groups.

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discussed in the statistical specification below this set of dummy variables indexing migration status and region of residence allows us to compare migrants with non-migrants at origin and at destination.

The analysis also controls for numerous socioeconomic and demographic factors associated with occupation. Specifically, years of labor market experience (computed as current age minus years of schooling minus 6) together with a squared term capture the expected positive effect of work experience on occupational attainment. The role of education is captured by three dummy variables indicating whether a person completed less than high school, high school or some college, and a college degree or more. Demographic controls include three dummy variables for whether a person is married, a household-head, or disabled.[6] Individuals who are better educated, married, household-heads, and non-disabled are expected to average higher occupational attainment. Finally, the model also controls for the size of the local area of residence in 1995 to account for agglomeration effects on socioeconomic outcomes. Appendix A reports descriptive statistics for the explanatory variables.

Analytic strategy and statistical specification

Since both longitudinal and cross-sectional studies alike cannot observe the same individual as a migrant and non-migrant, empirical assessments of migration outcomes frequently rely on comparisons of migrants' status at destination to that of otherwise comparable individuals in the area of origin. This comparison gives a sense for the impact of migration on absolute social position, as it approximates the difference between what an individual would be like if he did and did not move (Greenwood, 1997). This approach is particularly common in analyses of the wage benefit associated with migration where the guiding question is whether migrants earn more than comparable individuals who did not migrate.

As applied to occupational attainment, this implies estimating a model of the following form:

[6]Characteristics such as marital status and disability are measured in 2000, and serve as proxies for pre-migration characteristics, which are unavailable. It is possible that for some respondents, these characteristics changed in the five year interval during which migration is observed.

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$$\begin{aligned} Y = \alpha &+ \beta_1 South \\ &- North \\ &+ \beta_2 South \\ &- Other \\ &+ \beta_3 North \\ &- South \\ &+ \beta_4 North \\ &- Other \\ &+ \beta_5 Other \\ &- North \\ &+ \beta_6 Other \\ &- South \\ &+ \beta_7 South_{95} \\ &+ \beta_8 Other_{95} + \theta_n I_n \end{aligned} \quad (1)$$

where *Y* is the dependent variable (unemployment, type of occupation, or occupational prestige) in year 2000, South-North, South-Other, North-South, North-Other, Other-North, and *Other-South* are dummy variables indicating regional migration and direction of the move between 1995 and 2000, $South_{95}$ and $Other_{95}$ indicates residence in the South and other region in 1995, respectively, and I_n is a vector of the socioeconomic explanatory variables described above. Finally, α, β_n, and θ_n are parameters to be estimated.

Jointly incorporating region of residence in 1995 and direction of migration between 1995 and 2000 technically results in an interaction term between the dummy variable for region of origin and those for migration status and direction of the move that capture the effect of migration to a region of destination as compared to non-migrants from the same region of origin.[7] Except for the effect on unemployment, positive results for $\beta_{1\text{-}6}$ indicate occupational upgrading. To illustrate with occupational types, the model assesses whether statistically equivalent north-south migrants are more likely to work in particular occupational categories than their peers who remained in the North.

The second set of comparisons aims at assessing the relationship between migration and relative social position. From a relative deprivation perspective, the occupational gains of migration are evaluated not against the position migrants would have had in the absence of migration (the reference group in absolute comparisons) but rather in terms of their position relative to others in the host community. For instance, if north-south migrants are more likely to work in professional occupations than otherwise equivalent southerners, then their relative position will have improved; even if migration was not accompanied by an absolute

[7]To illustrate, a resident of the South in 1995 that remains in the South in 2000 has a value of 1 for $South_{95}$ and 0 for both *North-South* and *South-North*. A resident of the South in 1995 who moves north by 2000 has a value of 1 for $South_{95}$ and 1 for the *South-North* mover dummy. A resident of the North in 1995 has 0 for all the variables. Thus, the effect for the *South-North* dummy (β_1) captures the difference in occupational standing associated with migrating south-north relative to southern non-migrants. In turn, a northern resident in 1995 that moves south has 0 for *South-North* and $South_{95}$ but 1 for *North-South*, so the effect for the *North-South* dummy (β_3) captures the difference in occupational standing associated with migrating north-south relative to southern non-migrants. The effect for the $South_{95}$ variable (β_7) captures overall differences in occupational opportunities across regions.

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improvement in occupational attainment, they will now compare more favorably to those around them, lessening relative deprivation. Statistically, this implies estimating an equation similar to (1) but changing the reference group to local residents in 2000 such that:

$$\begin{aligned} Y = \alpha &+ \beta_1 South \\ &- North \\ &+ \beta_2 South \\ &- Other \\ &+ \beta_3 North \\ &- South \\ &+ \beta_4 North \\ &- Other \\ &+ \beta_5 Other \\ &- North \\ &+ \beta_6 Other \\ &- South \\ &+ \beta_7 South_{00} \\ &+ \beta_8 Other_{00} + \theta_n I_n \end{aligned} \quad (2)$$

where *Y* is once again the dependent variable in 2000 and South-North, South-Other, North-South, North-Other, Other-North, and *Other-South* are dummy variables indicating regional migration and the direction of the move. The main difference from the absolute specification is that $South_{00}$ and $Other_{00}$ in this model indicate residence in the South in 2000 instead of 1995. I_n is again a vector of explanatory variables and α, β_n, and θ_n are parameters to be estimated.

As in equation 1, jointly incorporating region of residence in 2000 and direction of migration between 1995 and 2000 results in an interaction term between the dummies for region of residence and those for migration status and direction of the move, and thus captures the effect of migration to a particular region of destination compared to non-migrants at the region of destination. Thus, the effect for the *South-North* dummy indicator (β_1) captures the difference in occupational standing associated with in-migration to the North from the South relative to northern non-migrants. To illustrate, a positive coefficient for the likelihood of working in a professional occupation will indicate that south-north migrants are more likely to be professionals than statistically equivalent northern non-migrants.

All models are estimated separately for blacks and whites. Previous research has taken different approaches as to the racial composition of the reference group. Stouffer's classic work and other studies of migration prior to the Civil Rights Era tended to assume that the best reference group was race specific, as blacks were likely to compare themselves to other blacks, as opposed to the population as a whole. Given the fact that race continues to powerfully predict occupational attainment in the United States today, comparing black migrants with similarly situated *blacks* in sending regions arguably offers a better barometer of the impact of migration than comparing them to all men. However, in today's climate of

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race relations it is unlikely that a person's reference group is restricted to co-ethnics, and relying solely on a race-specific reference group could potentially obscure how regional inequality between blacks and whites affects results.

Accordingly, in the presentation of results we compare the impact of migration on occupational standing relative to both the same racial group and the population average. Technically, the population prevalence of employment in a particular type of occupation is the weighted average of the prevalence predicted separately for blacks and whites. Thus, building on the results from race-specific models we estimate predicted occupational standing for blacks and whites and calculate the average for the total population to evaluate the overall impact of migration. An alternative but related approach is to estimate full sample models controlling for race and all the interactions between race and other predictors. This model is a different specification of race-specific models and produces virtually identical results. Since interactions are more difficult to report and interpret than results obtained from separate models, for simplicity we report race-specific estimates and compare predicted values to relate groups to the general population. A comparison of estimates obtained across model specification is reported in Appendix B which documents the similarity in estimates across specifications.

Correction for selection into migration

One difficulty with relying on non-migrants, either at origin or destination, as the comparison group is that individuals are not randomly selected into migration. As such, there is a potential for unobserved characteristics to shape both migration propensities and outcomes in a manner that biases parameter estimates. We address this issue by applying Heckman's two-step selection models (1979) that correct for the potential effect of unobserved covariates. The methodology involves first estimating the likelihood of selection, such that:

$$probit\,(M{=}1) = \pi_0 + \pi_m X_m + \varepsilon_1 \quad (3)$$

where *M* equals 1 if a person changed regions between 1995 and 2000 and 0 otherwise; π are coefficients to be estimated; and *X* is a vector of instrumental variables that affect self-selection into migration. They include age and educational attainment since migrants are expected to be positively selected in terms of human capital considerations. In addition, it is generally recognized that the use of exclusion restrictions or instruments (i.e., variables affecting migration but *not* occupational attainment) enhances the performance of selection models. We therefore also include a number of instrumental variables that have been shown to influence migration more strongly than they influence occupation. Because migration theories expect individuals to leave areas of high unemployment and be attracted to areas with higher wages, better occupational opportunities, and higher agglomeration economies, we include indicators of local economic conditions such as the share of the population that is unemployed, median wages, the share of housing that is owner occupied, and median housing values. We also control for percent black, region, and population size. These local area indicators were computed aggregating information at the metropolitan or consistent puma level from the 1990 Census to capture conditions before migration.

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The π from the probit model is then used to calculate the inverse Mills ratio or lambda (λ) which in our case represents the hazard rate of not migrating (Berk 1983). The second stage involves including the inverse Mills ratio as a predictor in the regression equation estimating the outcome of interest with lambda providing an estimate for the effect of omitted variables on migration outcomes. For the analysis of employment status and type of occupation, where the dependent variable is a dummy indicator, this implies estimating the following model:

$$\begin{aligned} probit\,(E{=}1) = {} & \alpha + \beta_1 South \\ & - North \\ & + \beta_2 South \\ & - Other \\ & + \beta_3 North \\ & - South \\ & + \beta_4 North \\ & - Other \\ & + \beta_5 Other \\ & - North \\ & + \beta_6 Other \\ & - South \\ & + \beta_7 South_{95(00)} \\ & + \beta_8 Other_{95(00)} \\ & + \theta_n I_n + \xi IMR + \varepsilon_2 \end{aligned} \tag{4}$$

where *E* equals 1 if a person is employed or in a particular type of occupation and 0 otherwise and *IMR* is the estimated inverse Mills ratio. For the analysis of occupational prestige where the dependent variable is continuous, we estimate:

$$\begin{aligned} OLS\,(SEI) = {} & \alpha + \beta_1 South \\ & - North \\ & + \beta_2 South \\ & - Other \\ & + \beta_3 North \\ & - South \\ & + \beta_4 North \\ & - Other \\ & + \beta_5 Other \\ & - North \\ & + \beta_6 Other \\ & - South \\ & + \beta_7 South_{95(00)} \\ & + \beta_8 Other_{95(00)} \\ & + \theta_n I_n + \xi IMR + \varepsilon_2 \end{aligned} \tag{5}$$

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where SEI equals the Duncan Socioeconomic Index and *IMR* is the estimated inverse Mills ratio. In both equation 4 and 5, if $\xi=0$ then results that do not correct for selection are appropriate. Since individuals are clustered within metropolitan areas we estimate robust standard errors.

The instrumental variables chosen are always subject to debate since is virtually impossible to identify factors that shape one social behavior but cannot conceivably affect another. In practice, a "good" instrumental variable specification is one that separates selection from outcomes. This can be tested *statistically* by the extent to which the instruments reduce the degree of collinearity between the explanatory regressors in the outcome equation and the inverse Mills ratio for selection (Bushway et al. 2007; Li and Zhang 2013; Madden 2008; Puhani 2000). Leung and Yu (1996) propose as a test to calculate the condition number of the matrix of the regressors in the outcome equation; estimates higher than 20 imply that the instrumental variable specification is inadequate. I estimated the condition number from models predicting SEI including selection correction to be 17.2 and 16.7 for the black and white samples, respectively. Without correction for selection the condition number was 30.1 and 18.1 for blacks and whites, respectively, providing support for our model specification.

For additional support of the instrumental variables, Appendix D reports the Pearson correlation matrix between SEI, overall migrant status, migrant status according to direction of the move, and contextual instruments. Results document considerable variation in the association between SEI, migration, and contextual forces. For instance, for both blacks and whites average median wages are positively associated with SEI (0.136 and 0.166, respectively) and negatively associated with migration (-0.027 and -0.036). However, the pattern varies when we distinguish mobility according to the region of origin and destination; while for both blacks and whites the association between wages and migration is positive for south-north moves (0.062 and 0.046), it is negative for north-south moves (-0.049 and -0.046). Similarly, opposite effects are obtained for other-south and other-north mobility. For both blacks and whites other-south mobility is negatively associated with wages (-0.025 and -0.038) while the opposite holds for other-north moves (0.025 and 0.036). Variation is also evidenced for other contextual forces. Thus, results from the correlation matrix support the argument that our contextual predictors serve as adequate instruments separating migration from employment outcomes.

Descriptive Results

Table 1 reports men's employment status, type of occupation, and occupational prestige score according to inter-regional migration status and race. The top and bottom panels report estimates for men residing in the North and South in 1995, respectively. Among blacks, migration is uniformly associated with a higher likelihood of employment, though the effect is particularly strong in the case of out-migration from the South. While 13.8 percent of southern non-migrants are not working the figure is only 7.2 and 4.8 among migrants to the North and other region, respectively. Black migrants also fare well in relative terms, as they are more likely to be employed than their black peers in receiving areas, irrespective of the direction of the move. For instance, while 10.3 percent of black north-south migrants are not working, the percentage is 13.8 among black non-migrant southerners. For whites, on the

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other hand, migration is not uniformly associated with gains in employment. Like blacks, white men moving south-north or south-other are less likely to be unemployed or not working (3.4 percent) than white non-migrant southerners (6.6 percent). They also compare favorably to their peers in the northern communities that they join, where 5.0 percent of white men are not working. However, for whites, north-south or north-other migration is not associated with higher absolute employment, though in relative terms north-south migrants exhibit lower non- employment rates than the southerners they join (5.3 relative to 6.6 percent).

While human capital and status attainment perspectives expect migrants to average higher occupational attainment than non-migrants, the middle panel in Table 1 demonstrates the complex relationship between race, direction of the move, and occupational outcomes, with important differences between absolute and relative conceptualizations of occupational standing. Beginning with black men's mobility out of the North, results show very little evidence of absolute occupational upgrading but clear relative gains. In absolute terms there are few differences in the type of occupation or occupational prestige between north-south migrants and northern non-migrants. For instance, the share of black men in managerial and professional occupations is barely higher among north-south migrants (20.3 percent) than black northern nonmigrants (18.7 percent) and with the exception of service occupations they are also no less represented in lower status occupations. The similarity in occupational standing between north-south migrants and northern non-migrants is supported by the relatively small differences in Duncan SEI across groups (36.6 vs. 35.4). Similarly few differences emerge between north- other migrants and stationary northerners, again indicating few absolute rewards to migration out of the North.

A different picture emerges from evaluating black north-south migrants' occupational outcomes in relative terms. Compared to the black southern non-migrants that received them, black north-south migrants exhibit much higher occupational standing, with a larger share employed in managerial and professional occupations (20.3 vs. 12.0 percent) and a smaller share employed in lower status occupations such as operatives and laborers (26.8 percent vs. 35.5 percent). Occupational prestige is also higher among black north-south migrants (36.6) than black southern non-migrants (30.0).

For whites on the other hand, migration out of the North is associated with both absolute and relative gains. White north-south migrants are more likely to be employed in managerial and professional occupations (39.3 percent) than both white northern non-migrants (30.3 percent) and southern non-migrants (26.6 percent). Migrants also average higher occupational prestige; the average SEI for white north-south migrants is 49.9, which is 5 and 8 points higher, respectively, than the SEI for white northern (44.5) and southern non-migrants (42.1).

A different pattern in absolute and relative gains emerges from migration out of the south. Among blacks, south-north migration is associated with higher occupational attainment in both absolute and relative terms. For instance, compared to stationary southerners, south-north migrants exhibit greater employment in managerial and professional occupations (27.2 vs. 12 percent) and higher average SEI (41.3 vs. 30.0). The opposite holds for lower status

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occupations. In relative terms, south-north migrants are better represented in higher skilled jobs and average higher SEI scores than black non-migrant northerners (41.3 vs. 35.4).

Among whites, out-migration from the South is also associated with both absolute and relative gains. South-north migrants are more likely to be employed in professional and managerial occupations (40.3 percent) than southern non-migrants (26.6 percent) and the northern non-migrants that receive them (30.3 percent). The opposite finding holds for lower status occupations. In terms of occupational prestige, white south-north migrants average higher SEI (49.5) than white southern non-migrants (42.1) and northern non-migrants (44.5).

Thus, descriptive results show that among blacks migration is associated with both absolute and relative occupational upgrading among south-north migrants, but is only associated with relative upgrading among north-south migrants. For whites, migration is more uniformly associated with positive occupational outcomes, though similar to blacks absolute gains appear to be slightly higher for south-north moves while relative gains are somewhat higher for moves in the opposite direction. Movement to the “other” region supports the uniqueness of the South.

Multivariate results

The next set of analyses assesses migration outcomes net of individual socioeconomic characteristics as well as unobserved factors shaping selection into migration.

Absolute occupational upgrading: Migrants vs. non-migrants at origin

Table 2 reports summary results from the multivariate models predicting absolute employment, occupational type, and Duncan's SEI score, separately by race. Bolded coefficients indicate that difference in parameter estimates between blacks and whites is statistically significant. Results show that after controlling for socioeconomic characteristics migration is no longer consistently associated with enhanced opportunities for employment. While both black and white men who migrate south-north and south-other are less likely to be unemployed or out of the labor force than those who remained in the South (-.234 and -.373 for blacks and -.101 and -1.59 for whites), the effect for north-south and north-other migration is less auspicious. While moving north-other is associated with lower unemployment among blacks, moving north-south has no effect. For whites, both north-south and north-other migration is associated with greater non-participation, possibly reflecting the out-migration of early retirees. Overall, compared to their non-migrant peers at origin, it would seem that south-north migrants enjoy enhanced employment opportunities, while their north-south counterparts do not.

Results for the connection between migration and type of occupation also highlight the variable impact of migration on absolute occupational attainment. Among blacks only migration out of the south, either to the North or other region, clearly connects with higher absolute occupational attainment net of socioeconomic characteristics. Movement out of the North is not associated with higher absolute position. For instance, black south-north migrants are 1.25 (exp(0.222)) and 1.14 (exp(0.128)) more likely to be employed in managerial and technical occupations, respectively, than comparable black southern non-

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migrants. At the other end of the occupational distribution, south-north migrants are also less likely than southern non-migrants to be employed in both precision and operative occupations. These differences are clearly reflected in average occupational prestige scores, which are 3.295 points higher among south-north migrants than non-migrant southerners.

However, while movement from north to south is the most common type of regional migration among black men, it is not associated with greater absolute occupational attainment. The occupational distribution of north-south migrants is largely similar to that of northern nonmigrants, though migrants do average modestly (1.75 points) higher occupational prestige scores. Still, the absolute gain in SEI associated with north-south migration is nearly half that associated with south-north migration (1.75 vs. 3.30).

Among whites, in contrast, migration is more consistently associated with occupational attainment, irrespective of the regional direction of the move. Absolute gains are slightly higher, however, for north-south migration than for moves in the opposite direction. Thus, while white migrants are consistently more likely than their non-migrant counterparts to work in professional occupations and less likely to work in craft/repair, north-south migrants are also more likely to work in technical jobs and less likely to work in services and as laborers than stationary white northerners. These effects are not present for whites moving south-north. The pattern of occupational prestige scores further highlight these differences, as they are significantly higher among those who leave the North (3.737 and 2.802 for those migrating south and to the other region, respectively) and leave the other region (2.304 and 3.509 for those migrating north and south, respectively), but not significantly higher for those who leave the South. Again, this pattern of greater occupational attainment associated with north-south than south-north migration is opposite to that evidenced among blacks, in spite of the greater tendency for blacks to move south today.

Relative occupational upgrading: Migrants vs. non-migrants at destination

A very different image emerges in Table 3, which compares migrants to the residents of the communities they join, our measure of relative migration outcomes. Once again bolded coefficients indicate that difference in parameter estimates between blacks and whites is statistically significant. Results for employment probabilities show that it is indeed associated with migration, but only among blacks. Black migrants are less likely to be unemployed than comparable peers in receiving areas, irrespective of the direction of the move. For example, the likelihood of non-employment for south-north migrants 0.82 times (exp(-0.199)) that of black non-migrants in the South and the same holds for north-south migrants (-0.069). Among whites migration is generally not associated with differential employment probabilities relative to local non-migrants.

In terms of occupational attainment, results show important differences from absolute considerations. There is only modest evidence of relative occupational upgrading among blacks moving south-north. Except for their lower representation in service occupations, black south-north migrants exhibit a very similar occupational distribution to the black northern non-migrants that they join. This is not the case for blacks moving in other directions. Results show that north-south migrants are 1.21 (exp(0.187)) and 1.18 (exp(0.167)) times more likely to be employed in managerial and technical occupations,

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respectively, than comparable black southern nonmigrants. Similarly, north-south migrants are only 0.91 (exp(-0.095)) and 0.86 (exp(-0.147)) time as likely to be employed in precision and operative occupations, respectively, than their counterparts already in the South. This regional variation is also clearly reflected in the pattern of occupational prestige scores. While south-north migrants average only 1.694 higher SEI relative to northern non-migrants, the relative gains for movement in the opposite direction is 3.2, or nearly twice as large. Thus even though north-south mobility does not place black men in higher occupational standing relative to peers left behind, it significantly improves their standing relative to the peers that receive them.

Among whites, on the other hand, the relative gains to migration are more balanced across regions. Net of personal characteristics, white migrants are consistently more likely to be employed in managerial occupations and less likely to be employed in low skilled occupations, such as precision and operatives, than comparable non-migrants in receiving regions. This pattern is reflected in occupational prestige scores, which show evidence of gains in all regional directions. It is important to note, however, that the gains to north-south migration are slightly less than those accruing to south-north migration and considerably less than movement to the other region, again in stark contrast to the pattern found among black men.

While comparing migrants with same-race non-migrants at origin and destination provides a better assessment of the impact of migration on occupational outcomes that accounts for the persistence of racial segmentation in the United States labor market, we also compare black and white migrants to the entire population of sending and receiving areas to relate the findings to broader process of social stratification. Results confirm that the same pattern of effects extends when we take the total population of sending and receiving areas as the reference group. For the sake of brevity, we present the results for representation in managerial and professional occupations. Predicted estimates show that 28 and 24 percent of northern and southern residents are employed in managerial occupations, respectively. For black north-south migrants, the percentage is 21 percent. Thus, comparing migrants against conditions in sending and receiving areas shows that while black north-south migrants were 7 percentage points less likely to hold a professional than the total northern population they left, they are only 3 percentage points less likely to be professionals than the southern population that receives them. Blacks migrating south-north, on the other hand, have a predicted probability of professional employment of 25 percent. This implies that while black south-north migrants were one percentage point more likely than their black and white southern peers work a professional job, they are 3 percentage points less likely to do so than the men they join in the North. In other words, even in comparison to the total area population, blacks moving north-south improve their relative but not absolute standing while the opposite applies to south-north migration.

The pattern of race-specific results is likewise confirmed among whites. Once again, whites benefit from migration irrespective of the direction of the move; white migrants are considerably more likely (predicted probabilities of 31-32 percent) to work in professional occupations than local residents of both sending and receiving regions. Thus, even though white northerners moving south expand the distance separating them from the local residents

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that receive them from 3 to 7 percentage points, both north-south and south-north moves result in considerable gains.

Socioeconomic determinants and regional differences in occupational attainment

It is also instructive to consider how our control variables affect occupational attainment. Table 4 reports results of the socioeconomic and regional differences in occupational prestige by race and according to absolute and relative specifications. For simplicity we report results only for the OLS models predicting occupational prestige since they are similar to the findings from the separate models of employment and type of occupation (available upon request). Regional differences in occupational attainment by race are important for understanding migration outcomes. Results show that blacks residing in the South average 3.05 points lower occupational prestige than those residing in the North. Among whites, on the other hand, the difference between the North and South is only 1.44. To illustrate the magnitude of these differences, a college-educated black man with five years of work experience would be predicted to work in an occupation with a Duncan SEI score of 53 if residing in the North compared to 50 if residing in the South. An identical white man would be predicted to work in an occupation with a Duncan SEI of 55 in the North and 54 if residing in the South. Thus, blacks have more to gain in relative terms than whites by moving south, and southern migration offers more opportunities for improvement than movement to the other region.

Table 4 also shows that while human capital and demographic factors predict occupational prestige in the expected direction, t-test comparisons indicate that there are significant differences in the strength of the effects between blacks and whites. For instance, while those with higher levels of educational attainment average higher occupational prestige, as one would expect, the effect is stronger among whites than blacks. Likewise, whites enjoy higher prestige as years of labor market experience increase while the same is not true for blacks. In fact, occupational prestige among black men appears to decline with time in the labor force, possibly reflecting cohort differences in occupational opportunities. Marriage and household headship raise occupational prestige while being disabled reduces it. While the direction of the effect is similar across groups, once again the payoff to these characteristics is greater for white than black men. Thus results are consistent with racial stratification perspectives on inequality that stress the continued salience of race to labor market outcomes.

Finally, the estimated effect of unobserved characteristics associated with both migration and occupational prestige is negative and statistically significant only in models predicting relative gains.[8] Since the effect captures the hazard of not migrating, the negative coefficient indicates positive selectivity; unobserved traits both increase the odds of migration and are also positively associated with relative employment rates and occupational standing. There is no evidence of selectivity in models predicting absolute occupational attainment.

[8]We report the estimates from the selection equation in Appendix C. The determinants of migration are not the main focus of our analysis but allow us to control for unobserved factors jointly affecting migration and occupational outcomes. Results mirror those of prior studies with the likelihood of migration is higher at intermediate ages and among those with greater educational attainment. Residents of areas with higher wages and homeownership rates are less likely to migrate, as are residents of the South.

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Discussion and Conclusions

This paper examines the occupational consequences of inter-regional migration during the 1995 to 2000 period for black and white men. We focus on occupational attainment, an aspect of social mobility that featured prominently in classical studies on migration but that has been neglected in recent years. We also broaden the view of social mobility to include both absolute and relative considerations, comparing the occupational attainment of migrants with both what they would have had if they had not migrated *and* with the occupational attainment of their local peers. And finally, we explore how absolute and relative occupational gains differ according to the regional direction of the flow as well as by race to directly connect socioeconomic returns with current patterns of regional migration, especially black migration to the South.

Overall, results strongly support the importance of taking a broader view of social standing that incorporates both absolute and relative considerations as well as a focus on occupations when evaluating the socioeconomic outcomes of migration. Our findings provide consistent evidence of absolute occupational gains associated with migration for both black and white men irrespective of the regional direction of the move. Migrants are more likely to work in high-skilled and professional occupations and have occupations with higher prestige than comparable individuals who did not migrate, even net of human capital characteristics and selection into migration. Recent studies that question the social mobility pay-off to migration based on the lack of wage or employment effects may be drawing overly pessimistic conclusions due to their neglect of occupational considerations. Even if migration is not associated with higher short-term wages, as some previous studies have suggested, movement into a higher occupational status is important for its potential to confer greater wage growth over time and is an important finding in its own right.

However, it is important to note that the regional pattern of absolute occupational gains is not consistent with the direction of contemporary migration flows. That is, when we compare north-south migrants to those who remained in the North, the absolute benefits to migration seem much larger among whites than blacks. Whites experience both greater upgrading across occupational categories and far larger increases in occupational prestige than blacks moving in same direction. The converse is also true for south-north migration, as black men more often gain from moves in this direction than whites. These racial disparities in absolute migration outcomes are illustrated most dramatically in occupational prestige scores, where the absolute gain from moving north-south is literally twice as large for white men as it is for black men, and the absolute gain from moving south-north is only significant for blacks. Overall, absolute patterns are more consistent with Blau and Duncan's observations from the post-war period than they are with the greater proclivity for black southern migration seen today.

When we examine migration outcomes from a relative deprivation perspective, on the other hand, racial variation in the occupational mobility consequences of migration reverse. When we compare migrants to non-migrants at destination we also see strong evidence that migration boosts occupational attainment for both black and white men regardless of the regional direction of the move and net of personal socioeconomic characteristics. However,

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the relative payoff to migration is substantially larger among black men moving from north to south than among those moving in the opposite direction. For white men, in contrast, relative occupational improvements are relatively comparable, irrespective of the direction of the move. Moreover, in relative terms the gains to north-south migration are much larger among blacks than whites.

Thus overall, our findings show that jointly considering absolute and relative dimensions provides a far more nuanced understanding of regional migration patterns than a purely status-maximizing approach alone. A thorough understanding of migration outcomes requires a careful consideration of the context of both sending and receiving areas. In the 1960s, Blau and Duncan stressed that migration had different implications for blacks and whites that were explained by their different starting points at origin and the social structure of destinations. Similar considerations apply today. While black in the North exhibit higher levels of occupational status than their peers in the South, they reside farther down in the occupational hierarchy because overall occupational attainment is higher in the North. By moving south, and into a setting marked by lower occupational prestige, blacks are able to improve their relative standing even in the absence of absolute gains. Whites, who start off higher in the hierarchy regardless of where they reside, have less room to gain by moving to a lower occupational prestige setting. Thus, while the socioeconomic forces undergirding growing migration to the South are complex and relate to broader processes connected with job locations and globalization, a main implication for black men participating in the flow is that it improves their relative social standing even more than direct occupational upgrading.

These findings offer mixed implications for racial stratification. At the national level convergence between blacks and whites with respect to occupational attainment has slowed in recent decades. Growing inequality and the assault on the public sector, an important niche for black middle class workers, both bode poorly for the acceleration of convergence in the near future. Previous research has shown that southward migration helps blacks escape from the conditions of segregation, concentrated poverty, and urban violence that mark their experience in the North (Crowder, Tolnay, and Adelman, 2001). The evidence presented here is suggestive that migration may also offer a path to occupational mobility, particularly in relative terms, which may be more difficult to achieve in the North. Together with evidence that the entry of positively selected northern blacks is also tempering racial inequality in the South (Vigdor, 2006), these findings suggest that current migration flows hold the potential to transform the geography of racial stratification in the United States. However, the fact that blacks receive a smaller absolute pay-off to southern migration suggests that this pattern holds limited promise for reducing racial inequality at the national level.

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Appendix

Appendix A

Descriptive statistics for models predicting occupational standing

	Absolute: Compared to non-migrants at origin		Relative: Compared to non-migrants at destination	
	Blacks	**Whites**	**Blacks**	**Whites**
Regional indicators				
Residence in 1995 or in 2000 (%)				
South	0.51	0.29	0.54	0.30
Other	0.06	0.22	0.06	0.22
Socioeconomic characteristics				
Education (reference = college graduate or more)				
Less than high school (%)	0.20	0.10	0.20	0.10
High school graduate / some college (%)	0.66	0.61	0.66	0.61
Labor market experience (years) (S.D.)	22.62 (10.64)	23.42 (10.65)	22.62 (10.64)	23.42 (10.65)
Married (%)	0.52	0.71	0.52	0.71
Household head (%)	0.65	0.82	0.65	0.82
Disabled (%)	0.18	0.10	0.18	0.10
Metro population size (S.D.)	767,116 (869,426)	535,313 (726,594)	767,116 (869,426)	535,313 (726,594)
N	231,662	561,869	231,662	561,869

Appendix B

Comparison of coefficients from race-specific and full sample models predicting SEI (See Table

	Race-specific models		Full Sample Model
	Blacks	**Whites**	
Movers according to direction of the move (relative to non-movers at origin)			
White			
South-North		0.083	0.123
South-Other		0.632	0.637
North-South		3.737 **	3.698 **
North-Other		2.802 **	2.762 **
Other-South		3.509 **	3.495 **
Other-North		2.304 **	2.323 **
Black			
South-North	3.295 **		3.468 **
South-Other	3.383 **		3.480 **
North-South	1.747 **		1.576 **
North-Other	1.410 *		1.337 **
Other-South	0.712		0.656

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	Race-specific models		Full Sample Model
	Blacks	**Whites**	
Other-North	1.232		1.280
Non-movers region of residence			
White			
North		--	--
South		1.439 **	1.166 **
Other		−0.315	−0.304
Black (relative to whites from the same region)			
North			0.783 *
South	−3.048 **		−1.665 **
Other	1.380 *		1.583 **
Soceconomic predictors	X	X	X
Race/Predictors interactions			X

Appendix C

Results from probit models predicting selection into migration

	Blacks	Whites
Age	−0.045 ** (0.006)	−0.080 ** (0.003)
Age-Squared	0.000 ** (0.000)	0.001 ** (0.000)
Education (reference = college graduate or more)		
Less than high school	−0.470 ** (0.029)	−0.385 ** (0.021)
High school graduate / some college	−0.278 ** (0.019)	−0.294 ** (0.015)
Metropolitan area characteristics in 1990		
Median wages	0.000 ** (0.000)	0.000 ** (0.000)
Percent unemployed	−0.086 ** (0.038)	−0.057 ** (0.019)
Percent home owner	−0.004 (0.006)	−0.012 ** (0.004)
Total population	0.000 (0.000)	0.000 (0.000)
Region: South	−0.694 ** (0.165)	−0.217 ** (0.079)
Other	0.201 * (0.124)	−0.048 (0.076)
Constant	2.050 ** (0.859)	2.546 ** (0.558)
Pseudo R-squared	0.089	0.047

** p<.05

* p<.10

Appendix D

Pearson correlation between SEI, migration status, and contextual level indicators

			Migrant from					
			South to		North to		Other to	
SEI	**Migrant**		**North**	**Other**	**South**	**Other**	**South**	**North**
Black men								

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			Migrant from					
			South to		North to		Other to	
	SEI	Migrant	North	Other	South	Other	South	North
Total population	0.128	−0.067	0.040	−0.020	−0.042	−0.026	−0.019	0.026
Median wages	0.136	−0.027	0.062	0.001	−0.049	0.003	−0.025	0.025
Percent unemployed	−0.031	−0.041	0.013	−0.013	−0.057	−0.013	−0.021	0.018
Percent home owner	−0.123	−0.007	−0.017	−0.001	0.021	−0.004	−0.001	−0.018
White men								
Total population	0.154	−0.040	0.033	−0.021	−0.017	−0.026	−0.010	0.035
Median wages	0.166	−0.036	0.046	−0.026	−0.046	−0.026	−0.038	0.036
Percent unemployed	−0.074	−0.034	0.011	−0.002	−0.065	−0.010	−0.024	0.014
Percent home owner	−0.168	−0.056	−0.005	−0.009	−0.021	−0.026	−0.023	−0.027

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Table 1

Migration, employment status, and absolute and relative social position by race and region of

North in 1995	Blacks			Whites		
	Non-Migrant	Migrant to		Non-Migrant	Migrant to	
		South	Other		South	Other
	(1)	(2)	(3)	(4)	(5)	(6)
Labor Force Status						
Unemp./Out of LF	14.0	10.3	5.7	5.0	5.3	4.5
Type of Occupation						
Managerial and Professional	18.7	20.3	20.8	30.3	39.3	38.5
Technical, Sales, and Administrative	20.6	21.6	26.2	20.2	23.5	23.2
Service	19.1	14.8	19.8	7.6	7.0	8.2
Precision Production, Craft, and Rep.	13.9	14.4	11.4	20.3	15.9	15.8
Operatives and Laborers	26.6	26.8	21.2	18.7	12.5	12.4
Occupational Prestige						
Duncan SEI	35.4	36.6	37.8	44.5	49.9	49.0
N	112,498	4,913	1,282	287,157	8,198	6,358
Percent migrating		4.1	1.1		2.7	2.1

South in 1995	Non-Migrant	Migrant to		Non-Migrant	Migrant to	
		North	Other		North	Other
Labor Force Status						
Unemp./Out of LF	13.8	7.2	4.8	6.6	3.4	3.4
Type of Occupation						
Managerial and Professional	12.0	27.2	20.9	26.6	40.3	34.5
Technical, Sales, and Administrative	15.1	24.2	23.0	20.5	21.6	22.4
Service	14.6	14.3	18.1	7.1	7.7	8.6
Precision Production, Craft, and Rep.	18.5	11.3	15.1	23.4	15.0	18.1
Operatives and Laborers	35.5	22.0	22.1	18.6	13.9	13.7
Occupational Prestige						
Duncan SEI	30.0	41.3	37.9	42.1	49.5	47.1
N	136,942	2,239	2,077	169,147	4,236	2,888
Percent migrating		1.6	1.5		2.4	1.6

Only 5.6% of the black population was residing outside the North and South regions in 1995. Results for the Other region category are reported in the multivariate analysis.

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Table 2

Summary results from probit and OLS models for the effect of migration on *absolute* occupational attainment

	Migrant from					
	South to		North to		Other to	
	North β_1	Other β_2	South β_3	Other β_4	North β_5	South β_6
Blacks						
Labor force status						
Unemployed/Out of the LF	**−0.234**** (0.047)	**−0.373**** (0.094)	**−0.038** (0.043)	**−0.270**** (0.082)	**−0.256**** (0.082)	**−0.019** (0.089)
Type of occupation						
Managerial and Prof.	0.222** (0.046)	0.184** (0.063)	**0.054** (0.037)	**0.006** (0.063)	0.100 (0.062)	**−0.014** (0.089)
Technical, Sales, and Adm.	**0.128**** (0.052)	**0.175**** (0.060)	0.092** (0.037)	**0.209**** (0.038)	0.010 (0.054)	0.034 (0.064)
Service	0.050 (0.047)	0.170** (0.050)	**−0.175**** (0.035)	0.044 (0.036)	−0.147** (0.058)	**−0.159**** (0.061)
Prec. Prod., Craft, and Rep.	−0.153** (0.050)	−0.030 (0.060)	**0.041** (0.029)	**−0.059** (0.044)	−0.082 (0.067)	0.028 (0.077)
Operatives and Laborers	**−0.174**** (0.050)	**−0.277**** (0.068)	**−0.028** (0.038)	−0.189** (0.054)	0.009 (0.065)	**0.009** (0.048)
Occupational prestige						
SEI	**3.295**** (0.781)	**3.383**** (0.884)	**1.747**** (0.610)	1.410** (0.744)	1.232 (0.958)	0.712 (0.847)
Whites						
Labor force status						
Unemployed/Out of the LF	−0.101** (0.045)	−0.159** (0.056)	0.093** (0.042)	0.087** (0.034)	−0.026** (0.051)	0.077 (0.051)
Type of occupation						
Managerial and Prof.	0.126** (0.031)	0.097** (0.030)	0.186** (0.025)	0.159** (0.022)	0.164** (0.036)	0.177** (0.030)
Technical, Sales, and Adm.	−0.040 (0.028)	0.017 (0.027)	0.106** (0.024)	0.101** (0.022)	0.028 (0.027)	0.074** (0.026)
Service	0.060* (0.035)	0.109** (0.036)	−0.052** (0.026)	0.036 (0.026)	−0.028 (0.035)	0.031 (0.040)
Prec. Prod., Craft, and Rep.	−0.170** (0.026)	−0.085** (0.031)	−0.046** (0.022)	−0.056** (0.023)	−0.114** (0.033)	−0.020 (0.025)
Operatives and Laborers	−0.007 (0.033)	−0.108** (0.042)	−0.211** (0.031)	−0.216** (0.028)	−0.012 (0.036)	−0.161** (0.037)
Occupational prestige						
SEI	0.083 (0.488)	0.632 (0.530)	3.737** (0.434)	2.802** (0.393)	2.304** (0.588)	3.509** (0.529)

Bolded coefficients indicate Wald test for difference in parameter estimates between blacks and whites statistically significant at p<.05

** p<.05

* p<.10

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Table 3

Summary results from probit and OLS models for the effect of migration on *relative* occupational attainment

	Migrant from					
	South to		North to		Other to	
	North β_1	Other β_2	South β_3	Other β_4	North β_5	South β_6
Blacks						
Labor force status						
Unemployed/Out of the LF	**−0.199**** (0.053)	**−0.251**** (0.092)	**−0.069**** (0.031)	**−0.187**** (0.078)	−0.106 (0.087)	**−0.310**** (0.072)
Type of occupation						
Managerial and Prof.	0.078 (0.045)	0.022 (0.069)	**0.187**** (0.031)	−0.014 (0.058)	0.161* (0.087)	0.132** (0.066)
Technical, Sales, and Adm.	0.044 (0.034)	−0.009 (0.055)	**0.167**** (0.030)	0.105** (0.040)	**0.201**** (0.058)	0.092* (0.050)
Service	−0.162** (0.046)	−0.053 (0.058)	0.029 (0.032)	0.026 (0.049)	0.046 (0.055)	−0.151** (0.059)
Prec. Prod., Craft, and Rep.	−0.013 (0.046)	0.117* (0.062)	−0.095** (0.022)	−0.050 (0.046)	−0.098 (0.075)	−0.070 (0.060)
Operatives and Laborers	−0.044 (0.042)	−0.062 (0.071)	**−0.147**** (0.026)	**−0.099*** (0.057)	**−0.209**** (0.043)	**−0.079** (0.059)
Occupational prestige						
SEI	1.694** (0.719)	1.149 (0.939)	**3.201**** (0.445)	0.716 (0.678)	**3.162**** (0.861)	2.003** (0.982)
Whites						
Labor force status						
Unemployed/Out of the LF	−0.020 (0.043)	−0.051 (0.059)	0.013 (0.041)	0.110** (0.035)	−0.022 (0.052)	−0.050 (0.052)
Type of occupation						
Managerial and Prof.	0.163** (0.030)	0.155** (0.035)	0.144** (0.022)	0.181** (0.027)	0.120** (0.027)	0.146** (0.032)
Technical, Sales, and Adm.	0.019 (0.029)	0.064* (0.034)	0.048** (0.023)	0.092** (0.026)	0.020 (0.028)	0.033 (0.028)
Service	−0.001 (0.037)	0.084** (0.039)	0.006 (0.027)	0.069** (0.029)	0.055 (0.042)	−0.065* (0.038)
Prec. Prod., Craft, and Rep.	−0.101** (0.027)	−0.027 (0.033)	−0.112** (0.022)	−0.065** (0.023)	−0.077** (0.027)	−0.105** (0.033)
Operatives and Laborers	−0.111** (0.033)	−0.152** (0.043)	−0.104** (0.031)	−0.157** (0.031)	−0.112** (0.036)	−0.069* (0.041)
Occupational prestige						
SEI	2.027** (0.472)	2.811** (0.721)	1.768** (0.404)	3.084** (0.528)	1.306** (0.509)	2.051** (0.535)

Bolded coefficients indicate Wald test for difference in parameter estimates between blacks and whites statistically significant at p<.05

** p<.05

* p<.10

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Table 4

Summary results from OLS models for the effect of socioeconomic characteristics on occupational prestige (Duncan's SEI)

	Absolute: Compared to non-migrants at origin		Relative: Compared to non-migrants at destination	
	Blacks	**Whites**	**Blacks**	**Whites**
Regional differences				
Residence in 1995 or in 2000				
South	−3.048** (0.352)	1.439** (0.464)	−2.123** (0.407)	1.635** (0.537)
Other	1.360** (0.774)	−0.315 (0.608)	0.023 (0.472)	−0.547 (0.597)
Socioeconomic characteristics				
Education (reference = college graduate or more)				
Less than high school	−35.198** (0.511)	−37.532** (0.361)	−33.848** (0.452)	−37.000** (0.447)
High school graduate / some college	−26.910** (0.346)	−26.427** (0.335)	−26.164** (0.318)	−25.991** (0.363)
Labor market experience	−0.268** (0.056)	−0.018 (0.050)	−0.164** (0.046)	0.059 (0.060)
Experience^2	0.003** (0.001)	0.000 (0.001)	0.002** (0.001)	−0.001 (0.001)
Married	2.461** (0.121)	3.240** (0.081)	2.460** (0.119)	3.261** (0.080)
Household head	3.510** (0.114)	2.535** (0.097)	3.515** (0.111)	2.542** (0.099)
Disabled	−1.467** (0.137)	−2.874** (0.091)	−1.476** (0.142)	−2.877** (0.091)
Metro population size	0.000** (0.000)	0.000** (0.000)	0.000** (0.000)	0.000** (0.000)
Lambda	2.571 (1.974)	2.698** (1.238)	−1.723 (1.482)	0.651 (1.477)
Constant	53.155** (2.769)	52.189** (1.840)	59.438** (2.244)	55.044** (2.220)
N	231,662	561,869		
R-squared	0.27	0.32	0.27	0.32

* p<.10

** p<.05